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On the Cover: Charles H. Faulkner, 2007 Southeastern Archaeological Conference Lifetime Achievement Award

EDITORS CORNER

We are pleased to present the fourth volume of Tennessee Archaeology as a joint “two-issues-in-one” for a special reason. With Volume 4, we host a special topical volume in honor of Charles H. Faulkner. The reader will note that not all of the articles in this volume are specifically about Tennessee sites or artifacts. However, all of these articles showcase the training, guidance, and mentoring provided to anthropology students by Dr. Faulkner during his decades of service at the University of Tennessee.

When we were contacted by Mark Groover and Tim Baumann about the possibility of producing a "festschrift" volume of Tennessee Archaeology, we both felt this was an appropriate place to celebrate the contributions and legacy of Charles Faulkner. As most dictionaries will show, a "festschrift" is a writing offered to commemorate or celebrate a respected and distinguished scholar on some special occasion during their lives. The special occasion resulting in this volume was Dr. Faulkner's "retirement", as most of the articles published here are versions of papers presented by his former students at a special symposium in his honor at the 2007 Southeastern Archaeological Conference held in Knoxville, Tennessee.

This journal is an appropriate place to honor and recognize Charles H. Faulkner because it also represents something of his legacy to Tennessee archaeology. The goal of Tennessee Archaeology has been to provide a state archaeological publication devoted to the archaeology of Tennessee. We follow in the footsteps of Dr. Faulkner, who almost single-handedly produced and edited the journal Tennessee Anthropologist for over two decades. That particular journal provided a publication outlet for much of our own research in the Nashville Basin during the 1980s and 1990s. When Tennessee Anthropologist ended in 2000, archaeologists across Tennessee expressed an interest in continuing that state publication legacy in some fashion. Tennessee Archaeology is the result of that interest through the Tennessee Council for Professional Archaeology.

In the first three volumes of Tennessee Archaeology, former students of Dr. Faulkner were authors or co-authors on 20% of the published articles and research reports. With Volume 4 that total rises to 40%. Charles Faulkner has left a legacy to all of us. While his own work has (and will) continue to stand on its own merits, the work of his students will expand upon and continue that legacy for many generations to come. We also expect that the "work of his works" -- the students of his students -- will grow, expand, and continue that tradition of excellence throughout Tennessee and other regions across the United States.

We thank Mark and Tim for their efforts in guest-editing this volume, as we turned over most of that work to them in gathering, editing, and forwarding these papers to us. We did complete reviews and technical editing of submitted papers as seemed necessary and appropriate, as well as make all formatting decisions. However, the editorial coordinators acknowledge that the bulk of the editorial work for this volume should be attributed to Mark and Tim. This volume would not be in your hands today without their efforts.

COLLEAGUE, MENTOR, AND FRIEND
Essays in Honor of Charles H. Faulkner

Timothy E. Baumann and Mark D. Groover

Charles H. Faulkner has been a faculty member in the Department of Anthropology at the University of Tennessee since 1964. During this time, he has made significant and extensive contributions to the study of North American archaeology, particularly in the state of Tennessee in the areas of settlement patterns and technology of the Woodland and Mississippian periods, cave and rock art studies, and historical archaeology of the Middle South and Appalachian culture. In recognition of his research, in 2001 Dr. Faulkner received the Ramsey Award for Lifetime Achievement in promoting the History of East Tennessee Through Archaeology, Research, and Teaching from the East Tennessee Historical Society. In 2005 he received the Career Achievement Award from the Tennessee Council for Professional Archaeology. In 2007 he was awarded the Lifetime Achievement Award from the Eastern States Rock Art Research Association. He was also the recipient of the Southeastern Archaeological Conference Award for Lifetime Achievement in Southeastern Archaeology in 2007.

During the first third of Dr. Faulkner's career in the 1960s and 1970s, he examined the prehistory of East and Middle Tennessee by directing site survey and excavations at several large and logistically challenging reservoir projects, such as the investigations at Nickajack, Tims Ford, Tellico, and Normandy reservoirs. The Normandy project alone resulted in eight major technical monographs. His research efforts during this time has enhanced our understanding of the Woodland and Mississippian periods in the Middle South, most notably through his studies of the Old Stone Fort, Owl Hollow, and the McFarland projects. These important studies have afforded new insights into Woodland-period residential architecture, Middle Woodland hilltop enclosures, and regional ceramic traditions.

In the 1980s, Charles Faulkner pioneered Tennessee cave and rock art research at the Eastman Rockshelter, Big Bone Cave, Mud Glyph Cave, and others. At Mud Glyph Cave, he conducted groundbreaking analysis of southeastern

rock art, bringing to light previously undocumented cave art traditions from the Mississippian period. Since his work at Mud Glyph Cave, an appreciable number of additional cave art sites have been documented in the region by his students and colleagues. In particular, Dr. Faulkner's work has influenced Dr. Jan Simek at the University of Tennessee to establish and direct the Cave Archaeology Research Team, which works to identify and document prehistoric use of caves in the southeastern U.S.

Beginning in the early 1980s, Charles Faulkner also embarked on a new research path into historical archaeology, exploring the life and culture of the historic residents of East Tennessee. His excavations covered a range of sites including frontier farmsteads (Gibbs House, Marble Springs), plantations (Ramsey House), forts (Sharp's Fort), industrial sites (Weaver Pottery), and urban gentry residences (Blount Mansion). Dr. Faulkner applied a meticulous approach to these studies, focusing on material culture, spatial patterns, architectural analysis, and historic preservation. In regards to the latter, the majority of his work was conducted in conjunction with historic house museums or local historical societies to promote historic preservation and to provide site interpretation to the public. Research at Ramsey House and at Blount Mansion also investigated for the first time the lives of enslaved African Americans in East Tennessee, which subsequently through his former student's research has expanded into the surrounding Middle South states. Overall, Dr. Faulkner's long-term research effort has created a knowledge baseline for the historical archaeology of East Tennessee and the Middle South that previously did not exist before his efforts.

The above brief summary of Charles Faulkner's archaeological research cannot fully convey the heft of his scholarship and the extent of his substantial contributions to North American archaeology. During his 45-year career at the University of Tennessee, he has been awarded over 45 grants and contracts, including repeated research support from the National Science Foundation, the National Geographic Society, the National Park Service, the Tennessee Valley Authority, the Tennessee Historical Commission, and the Tennessee Department of Transportation. He has supervised over 40 field investigations, and authored over 65 archaeological research reports. He has also published three books (*The Old Stone Fort: Exploring an Archaeological Mystery*, *The Prehistoric Native American Art of Mud Glyph Cave* and *The Ramseys at Swan Pond: An Archaeological and Historical Study of an East Tennessee Farm*), has authored over 90 formal papers on southeastern archaeology, consisting of book chapters, monographs, and journal articles in *Southeastern Archaeology*, *American Antiquity*, *Historical Archaeology*, *North American Archaeologist*, *Tennessee Anthropologist*, and others, and has presented over 50 conference papers at professional meetings. He has also provided scholarly leadership to the discipline, having served as editor of the *Tennessee Anthropologist* for 23 years and served on the editorial boards of the *Midcontinental Journal of Archaeology*, the *Proceedings of the Symposium on Ohio Valley Urban and Historic Archaeology*, and the University of Tennessee Press.

In addition to Dr. Faulkner's exemplary research achievements as an archaeologist, he has mentored an impressive number of students that have in turn contributed to the study and preservation of southeastern archaeology. He has served

as the chairperson on 38 M.A. degree committees, and as a committee member for 48 additional M.A. degrees. He has chaired 12 Ph.D. degree committees, and served as a committee member on 15 others. Dr. Faulkner's former students have in turn contributed to the advancement of archaeology, pursuing careers in cultural resource management, government agencies, and academia. Dr. Faulkner's students have benefited greatly from his detailed knowledge of archaeology and from his guidance. During their time at the University of Tennessee, many of his former students fondly recall his affable demeanor -- he is always glad to talk and take the time to help students with questions and challenges as they pursue their academic degrees. As one student cohort fittingly remarked, Charles Faulkner "is truly a respected and caring colleague, mentor, and friend." His influence upon the educational experiences of his students has likewise been recognized by the University of Tennessee. He has been named a Chancellor's Research Scholar, a Phi Kappa Phi Faculty Lecturer, and a Distinguished Professor of Humanities by the university.

In conclusion, Charles Faulkner's career achievements illustrate his exemplary performance and significant contributions as an archaeologist and scholar in Tennessee and North American archaeology. This edited volume was published in honor of Dr. Faulkner and consists of papers by his colleagues, friends, and former students. Most of the essays in this volume were first presented in an organized symposium at the 2007 meeting of the Southeastern Archaeological Conference in Knoxville, Tennessee. The contributing articles highlight the diverse research in prehistoric and historical archaeology that Dr. Faulkner has conducted and inspired in Tennessee and its surrounding states.

Organized alphabetically by author, the first article by Todd Ahlman applies a human behavioral ecology approach to studying Upland South historic farmsteads, arguing that this method allows for the "direct comparison of farmsteads to understand diachronic continuity and change." Paul Avery presents a study of the Florence Stockade, a Confederate prisoner-of-war camp in South Carolina, focusing on the functional relationship between artifact patterns and feature types. Using a case study of African-American foodways and "soul food," Timothy Baumann presents a new "web of identity model" to explain the formation and transformation of cultural identity.

Andrew Bradbury and Philip Carr discuss Early Archaic lithic use and habitation patterns in East Tennessee, arguing that current settlement models cannot be applied easily to this region because of physiographic differences and the lack of detailed site data. Tonya Faberson and Jennifer Barber focus on three large-scale urban archaeology projects in Lexington and Louisville, Kentucky, and Lawrenceburg, Indiana, examining residential patterning in the late nineteenth- and early twentieth-century of European-immigrant, African-American, and native-born white communities. Jay Franklin and Sierra Bow then describe the archaeological survey and testing of a small upland rock shelter on Tennessee's Upper Cumberland Plateau, attempting to establish a culture history sequence of the region with the use of luminescence dating. Mark Groover presents a summary of recent historical archaeology conducted at the Moore-Youse house and the Huddleston farmstead in Indiana. Alan Longmire then offers some preliminary thoughts on the study of the charcoal-based iron industry in eastern Tennessee. Jan

Simek and others summarize recent discoveries of previously unknown prehistoric rock art sites in eastern Tennessee, including the "oldest directly dated pictograph from the Eastern Woodlands." Mark Wagner and others document and interpret the Buffalo Rock site, a rock shelter in Johnson County, Illinois that contains early historic Native American pictographs of a bison, a crescent moon, a star/planet, and additional paintings. In the concluding article, Amy Young presents a study of the "cult of domesticity," tracing the emergence of the American middle class through an analysis of ceramic patterns, domestic architecture, and primary documents at two urban residences; the Blount Mansion in Knoxville, Tennessee and The Oaks in Jackson, Mississippi.

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SIFTING THROUGH THE BACKDIRT
An Interview with Charles H. Faulkner

Timothy E. Baumann and Charles H. Faulkner

This interview was conducted in June 2008 with Dr. Charles H. Faulkner to have him reflect on his career and his impact on the field of archaeology. Dr. Faulkner was born on October 16, 1937 in Plymouth, Indiana and grew up in Culver, Indiana. He attended Indiana University (IU) for his undergraduate and graduate training in anthropology, focusing on Indiana archaeology. Beginning in 1964, he spent most of professional career as a professor of anthropology at the University of Tennessee (UT), retiring in 2005. His research has included both prehistoric and historical archaeological studies primarily in Tennessee. He has been honored with numerous awards for his scholarly research and his professional/community service. His most recent honor was the 2007 Southeastern Archaeological Conference Award for Lifetime Achievement in Southeastern Archaeology.

Timothy Baumann [TB] – When and how did you first become interested in archaeology? What role did the Field Museum in Chicago play in your discovery of archaeology?

Charles Faulkner [CF] – Like a lot of kids, I collected arrowheads when I was a youngster. I grew up in northern Indiana where there were lots of sand dunes containing prehistoric artifacts exposed by the wind. One day a buddy and I came upon a "firepit" filled with prehistoric pottery. We lived near Chicago and the next time we went over there I took some of it along and showed it to Elaine Bluhm, archaeologist at the Field Museum, who excitedly exclaimed, "Why that is Hopewell (Havana) pottery, probably about 2,000 years old." I was hooked!

TB – Dr. Faulkner, you were raised in Culver, Indiana, as the youngest child of German/Czechoslovakian immigrants, Charles and Marie Faulkner. Your father was a tailor and your mother was a homemaker. Did they have any influence on your interest in archaeology and how did they react when you informed them that you were going to pursue this subject for your career?

CF – My Dad read a lot, especially magazines like National Geographic. He was fascinated with the world around him and early on I acquired an interest in geography, geology, and biology. I was the class goof-off in high school, but made pretty good grades so my parents expected me to go to college. However, my folks were very liberal and whatever I wanted to make of my life was up to me.

TB – You attended IU for your entire academic training from 1955 to 1963. Can you discuss your archaeological education at this institution? What types of courses were required and has this changed from today's coursework?

CF – IU had a small anthropology department at that time, but the faculty consisted of renowned anthropologists such as David Bidney, Harold Driver, George Neumann, and Carl Vogelin. I took classes from all of them because at that time the doctoral exam covered cultural, linguistics, physical, and archaeology. We all took the same exam, but if you were an archaeology major, you had to answer

FIGURE 1. Charles Faulkner taking a water break during the 1958 Angel Mounds Field School (*Courtesy Glenn A. Black Laboratory of Archaeology and the Trustees of Indiana University, Photo #002592).*

more questions in that field. And the entire faculty submitted questions and attended your orals (scary). This is one reason I have always considered myself an anthropologist first and archaeologist second.

TB - Until 1960, Dr. Glenn A. Black was the only archaeologist working exclusively in Indiana. Can you discuss your relationship with him and his influence on your career?

CF – Dr. Black (even today I can't call him Glenn) was a major figure in my college education. He was best known for his meticulous field work, and his insistence on careful and accurate recording strongly influenced me. His mantra (and mine) was "as you dig you destroy and you have one chance to get it out of the ground correctly."

TB – Your first field school was at Angel Mounds in southern Indiana (Black 1967). Can you reflect on this experience and discuss how this research project influenced your future graduate training?

CF – Many of the basic techniques I use today I learned at Angel Mounds. The only thing lacking was discussion about why we used the techniques we did and whether there were alternative methods. There seemed to be an unspoken belief that if you kept straight profiles and level floors, you would get all the answers. Dr. Black (bless his soul) would roll over in his grave if he knew I sometimes used a backhoe later in my career.

TB – You attended graduate school from 1959 to 1963 at IU. Why did you stay at the same institution as your undergraduate degree? Did you consider any other schools?

CF – I received a nice teaching assistantship and was interested in doing research in Indiana. In retrospect I do not recommend getting all degrees at the same institution, but I think students should be comfortable with the people they study under and the data they use. If it means staying in the same place, so be it.

TB – You completed your Master's thesis on an archaeological survey of Marshall County, Indiana in 1961 (Faulkner 1961a, 1961b) and then your Doctoral dissertation on Mississippian culture in the Kankakee River Valley of Indiana in 1970 (Faulkner 1970, 1972). Can you discuss this research and its significance to Indiana archaeology and your training as an archaeologist?

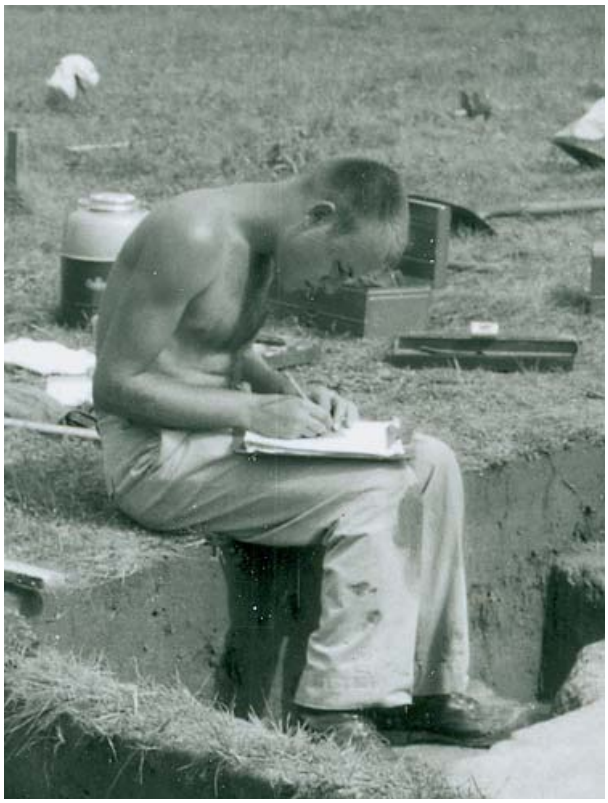

FIGURE 2. Charles Faulker taking fieldnotes at the 1958 Angel Mounds Field School (*Courtesy, Glenn A. Black Laboratory of Archaeology and the Trustees of Indiana University, Photo #001209).*

CF – My Master's thesis was based on a survey I did for the Indiana Historical Society (IHS). I got paid for it (a student being paid for field work was unusual in those days!) and the data was in hand. But I would do something different today! I recorded prehistoric artifact collections in northern Indiana at that time and got very interested in the prehistory of the Kankakee Valley. Archaeologists were still interested in the prehistoric ancestors of historic tribes and I wanted to find out who the prehistoric Miami, Potawatomi, etc. were. This, of course, was a much tougher task than I thought, but it stimulated my interest in ethnohistory, which eventually led me to historical archaeology later in my career.

TB – What role did the IHS play in Indiana archaeology and the development of your professional career and research?

CF – If the IHS had not paid me for doing research, I do not think I could have become an archaeologist. By today's standards, my family was poor, and I had to work at other jobs every summer when a paid archaeology position was not available (which was usually the case).

TB – In 1963, you accepted a one-year appointment as an Instructor in the Department of Sociology and Anthropology at St. Lawrence University in Canton, New York. How did this teaching experience prepare you for your professorship at the University of Tennessee? How would have your life been different if you spent your entire career in New York?

CF – My year at St. Lawrence University was one of the most pleasant experiences in my career. This is where I learned to love students and the classroom. I was only there a year since I was replacing someone on sabbatical. They wanted me to stay if he didn't come back. Fortunately I had to move on and accepted a position at UT. If I had stayed in New York, I would not have met my future wife Terry. That was the luckiest moment in my life.

TB – In 1964, you began your long and distinguished career at the UT. What factors influenced your decision to accept this position? How difficult was your transition from Indiana to Tennessee archaeology? What were some of your biggest obstacles in this change?

CF – I had read Thomas Lewis and Madeline Kneberg's (1946) Hiwassee Island and William Webb's (1938) Norris Basin report and knew there was a lot of archaeology to do in Tennessee. I hit the

ground running since in addition to my full time teaching load, I was also involved with the nascent contract program at that time. When I was not in the classroom I was in the spacious and well-equipped lab of the McClung Museum pouring over the marvelous TVA reservoir collections. I found no real obstacles since I love looking at artifacts, but what struck me was the vast amount of material from Tennessee sites. Where I mainly worked in Indiana if you found over a dozen sherds it was a big site.

TB – One of your first projects in Tennessee was at the Old Stone Fort site in Coffee County in 1966 (Faulkner 1968, 1997a). Can you discuss the "mysterious" nature of this site and the significance of this research in Tennessee archaeology?

CF – The "mystery" was purely a local phenomenon. The old idea that Indians were not capable of building such large earthworks was still alive and well in Tennessee largely due to a book that claimed the "fort" was built by Madoc the Welshman. J.B. Graham excavated the site and I wrote the report. There was nothing mysterious about our conclusions; the radiocarbon dates and construction techniques clearly demonstrated that it was built about 2,000 years ago by Middle Woodland people. I don't know how significant our findings were for Tennessee archaeology, but it solidified my research focus on the Middle Woodland period.

TB – How did the Old Stone Fort project influence your later research on Middle Woodland settlement and subsistence in the Owl Hollow and McFarland projects (Cobb and Faulkner 1978; Kline et al. 1982)?

CF – I think my previous answer basically covers this question. Once we knew the age and possible function of the Old Stone Fort, our next step was to find the habitation sites of these people and thoroughly explore them…hence the focus on the Woodland period in the Normandy Reservoir.

TB - In the 1960s and 1970s, you directed a series of large and complex archaeological surveys and excavations for both state and federal agencies. You are probably best known for your work with the Tennessee Valley Authority on the Normandy Reservoir Project from 1970 to 1975 (Faulkner 2009; Faulkner and McCollough 1973, 1974, 1976, 1977, 1978a, 1978b, 1983a, 1983b). Can you discuss the complexity of the Normandy Project as it relates to the research, logistics, and personnel? What have been the long term impacts of this project on Tennessee archaeology?

CF – The Normandy Reservoir was small enough to allow a strategic plan devised by Major McCollough and myself to strictly follow the basic sequential procedures of 1) Phase I intensive survey, 2) Phase II testing of those sites discovered in survey that would answer questions about subsistence and community/settlement patterning, and then 3) Phase III either conducted with intensive block excavation on buried middens or machine stripping of sites where cultural components were only preserved in the subsoil beneath the plow zone. Since no deeply buried Paleo/earlier Archaic components were discovered in the survey/testing phases, our research concentrated on the later Archaic, Woodland, and Mississippian occupation. Our excellent archaeobotany and zooarchaeology programs in the department provided special emphasis on subsistence studies. Up to this point, Tennes-

see archaeology largely depended on scattered "peek hole" units to try to answer questions about prehistoric settlement/subsistence patterns. We now had structure patterns and supporting features on habitation sites from the Late Archaic through the Mississippian periods in this area of Tennessee. Following the right procedures and under certain site conditions, extensive machine excavation of Tennessee sites is now standard procedure.

TB – Archaeological field work for the Normandy Reservoir and similar projects required large field crews. Can you share any good memories of the crew members and students that participated in these projects? Archaeology was not all hard work. What kind of activities took place afterhours on these projects in the 1960s and 1970s?

CF – Let me answer the previous question about personnel here. The Normandy crews were some of the most dedicated and hard working students I have had the pleasure to work with in my almost half century of archaeology. It tickled me in my later half-day field schools (often in the shade) when some students complained of the heat and exerting themselves. In Normandy, we worked eight hour days, often on several acres stripped to the hard red clay subsoil in 90 plus degree heat with few complaints. We were on the forefront of having women on our crews. Several times we had difficulty finding a field camp (I always insisted on having a roof over our heads) because the locals objected to men and women living together (shocking!). But we had our share of fun, too. The swim breaks in the Duck River, picnics at Rutledge Falls, the softball and touch football games between the UT and Bennie Keel's Wayne State University crews, the end of season goat roasts, raising the cow patty flag every morning at the Eoff site, a cold beer after a hot day in the field, and the weekly "dildo" award for goofing up (yes, political/social correctness was somewhat different in those days).

TB – Starting with Mud Glyph Cave in 1982, you pioneered Tennessee cave and rock art research (Faulkner 1982a, 1986). Since then, you have been directly responsible for or collaborated with colleagues and students to record and preserve additional cave art in the region (Crothers et al. 2002; Faulkner 1988a, 1988b, 1997b; Faulkner and Simek 1996, 2001; Faulkner et al. 1984, 2004; Simek et al. 1997, 2001a, 2001b). In recognition of your research and influence, the Eastern States Rock Art Research Association honored you in 2007 with their Lifetime Achievement Award. How did you become interested in cave and rock art studies? How did the local spelunkers assist in these investigations? Within this field, what research still needs to be done?

CF – I am not sure I pioneered Tennessee cave and rock art research, but I certainly collected enough data to demonstrate the presence of this heretofore hidden aspect of prehistoric lifeways in the state. I was always interested in prehistoric rock art, but when Mud Glyph Cave was discovered I dove headlong into crawling around underground looking for more evidence of this fascinating activity. Part archaeologist, part conservationist, I have always been concerned with the protection of significant sites in Tennessee. The bottom line is we would not have been able to carry out our research without the help of cavers ("spelunkers"). More research needs to be done on finding additional sites (which we know are out there)

so that we will have a sufficient body of data to begin to see patterns in this "art." I am a processual archaeologist and want to see, touch, and smell my data. We know when, and sometimes who, but quite frankly I am not sure we will ever answer the why question about this phenomena.

TB – In the early 1980s, you also embarked on a new research path into historical archaeology, exploring the life and culture of people in East Tennessee. What led to this major change? Was there any one person or event that spurred your transformation?

CF – I had always been interested in historical archaeology, but was frightened to take the plunge because there was so much to learn about historic material culture. I guess you might say I was forced into it. After Normandy I continued to do contract work, and in 1980 took on the mitigation of the Weaver Pottery site, which was discovered in Knoxville during in interstate construction. I eventually switched my teaching and research focus to historical archaeology since sites were literally out my back door, and I naively thought I could now answer such questions as ethnicity in the archaeological record. One of my students, Richard Polhemus, shepherded me through the intricacies of artifact identification in those early years and I eventually opened a historical archaeology lab with a sizable artifact type collection and started a historical archaeology program at UT.

TB – The Weaver Pottery site in Knoxville was your first major historical archaeology project (Faulkner 1981, 1982b). At this time, you were still a novice in historical archaeology. How were you able to shift from a prehistoric mindset to study a complex industrial site with an overwhelming amount of waster material? What difficulties did you encounter and in hindsight would you have done anything different?

CF – I had to deal with thousands of artifacts in the Normandy project. What some people thought were the mundane aspects of the past have always interested me. After months of studying the manufacture of salt-glazed stoneware, I enjoyed analyzing such things as kiln furniture which at that time was barely mentioned in archaeological reports. The difficulties included identifying unusual artifacts, but I always sought help from my historical archaeology colleagues. As to doing things differently, I would have spent more time sampling the awesome waster dump at the site and trying to dig deeper below the Weaver Pottery levels (we had a water table problem). As later construction proceeded at the site, an even deeper buried early 19th century pottery was revealed.

TB – In historical archaeology, the majority of your work has focused on East Tennessee heritage, working with historic house museums or local historical societies (e.g. Association for the Preservation of Tennessee Antiquities, Blount Mansion Association, Nicholas Gibbs Historical Association) to promote historic preservation and to provide site interpretation to the public. Why did you focus on local sites and heritage?

CF – My wife Terry, first got me interested in local history. After the Weaver Pottery site, I discovered that archaeology was neglected at local historic house museums. I thought this would be a good way to easily (and cheaply) take students in the field and so I began largely volunteering my time (sometimes funded) to

test around these houses (true “backyard” archaeology). I continued this work with a historic field school every summer, beginning in 1987. I have also been committed to public service, and I felt this would be an excellent way to show Tennesseans the importance of the historic archaeological sites that surrounded them.

TB – Within historical archaeology, you also initiated the study of enslaved African Americans in East Tennessee, particularly at the Blount Mansion and the Ramsey House sites, both in Knox County (Coxe 1998; Faulkner 2008; Hamby 1999; Patterson 1998). Why did you expand your research to cover this disenfranchised population? Can you summarize the significance of your research in this area?

CF – In my opinion, historical archaeology should concentrate on the disenfranchised (invisible) people in our nation’s history. Enslaved African Americans, women, and blue collar workers made up the bulk of our population through time, but until recently they were scarcely mentioned in the history books. Let us provide that venue. Also, to quote Charles Fairbanks, when he was asked why do “slave” archaeology he said “Because no one else had done it.” Bringing enslaved Knoxvillians to light demonstrated how important their contributions were to our local history.

TB – You met your wife Teresa (Terry) at UT in 1964. Together, you had two wonderful daughters, Kelly and Stephanie. How has your family supported and participated in your professional career?

CF – My family has always supported me with words and actions. I mentioned earlier that Terry got me interested in local history and for many years was one of my best workers on volunteer projects. She could work magic with her Marshalltown. Kelly started accompanying me in the field at the age of 12 and was one of my most dedicated diggers. Stephanie helped me in the lab and was like a Chinese artist in her cataloguing.

TB – One of your best friends and colleagues at the University of Tennessee was Dr. Norbert "Bert" Riedl, a folklorist who died suddenly on March 25, 1975. To honor his legacy, you co-edited a collection of papers in 1978 entitled "Glimpses of South Appalachian Folk Culture: Papers in Honor of Norbert F. Riedl" (Faulkner and Buckles 1978). Can you discuss your friendship with Bert and his influence on your career at the University of Tennessee?

CF – I don’t know where I would be if it had not been for Bert Riedl. I was a foot loose and fancy free bachelor when I interviewed at UT and was not that impressed with the fledgling department. After the formalities with the administration “suits,” Bert asked me over to his house for a one-on-one. Over a cold brew he told me that he thought the department had great potential and I realized I would enjoy being his colleague. He became my best friend and his enthusiasm for cultural anthropology kept me focused on being an anthropologist first. I was devastated when he passed away and I still miss him.

TB – After the death of Dr. James B. Griffin in 1997, you were invited to submit a tribute to him in the *Midcontinental Journal of Archaeology*, in which you describe Dr. Griffin as "one of the most important mentors" of your career (Faulkner 1997c:133). Can you describe in greater detail your relationship with Dr. Griffin and how he influenced your research?

CF – The "dog eared" condition of my "green bible" is testimony to how much I depended on his knowledge of North American prehistory (Griffin 1952). Also, Dr. Griffin was always prompt in answering the frequent letters of inquiry from a student still wet behind the ears. Like Dr. Griffin, I was very interested in prehistoric ceramics and he freely shared his knowledge and the collection in the Ceramic Repository at the University of Michigan with me. While he could put the fear of God into a graduate student presenting a conference paper, he was really a tender-hearted soul with a great sense of humor. I will never forget him telling jokes as several of us sat in a motel room during an old Ohio Valley conference in the 1970s. I laughed so hard I wet my pants.

TB – Over your 40-plus year career at the University of Tennessee, you have taught and influenced thousands of students, which has included 86 master's committees (chairing 38) and 27 doctoral committees (chairing 12). Can you reflect upon your relationship with your students? What was your teaching philosophy in the field, lab, and classroom? How has working with these students influenced your life?

CF – I had an open door policy with my students. What I miss most in my retirement is their company. I was always interested in their ideas and concerned with any problems they may have had. I figured our research was a partnership. My philosophy was pretty liberal, let them decide what they wanted to do in the field as long as they practiced good archaeological methods. Even if they decided to switch careers I supported their decision. All I wanted is that they be happy, productive professionals. My students never let me down. They were my professional life for over 40 years.

TB - No matter if you were conducting research on prehistoric rock art or historic farmsteads, you always called yourself an anthropologist first and then a prehistoric or historical archaeologist. Explain why you made this distinction and emphasized this approach to your students.

CF - Certainly my academic training at Indiana University had a lot to do with it. When I first came to UT I taught physical and cultural courses as well as archaeology. With the advances in the field that would be impossible now, but at that time it kept me focused on an anthropological interpretation of archaeological data. The conjunctive approach of Walter Taylor (1983) (one of my early heroes), the drawing together of all lines of evidence in archaeological interpretation became my mantra. That is why I urged my students to take cultural anthropology, physical anthropology, biology, geology and other courses that are relevant to understanding the past.

TB – Since the 1950s, how has archaeological research evolved or transformed (e.g., technology, theory, methods)?

CF – As some of you know, I am not a theorist, but a "dirt" archaeologist. A context freak, I like to see things come out of the ground. In today's training of young archaeologists I feel we have sometimes drifted away from intensive field training and accurate artifact identification and depend too much on number crunching and remote sensing. Eventually, the proof of the pudding is still accurate ground truthing and eyeball lab identification. I have also perceived that some prehistoric archaeologists seem to think anyone can

do historical archaeology. After all, the sites are all disturbed anyway, and all we have to do to identify artifacts is to check Ebay.

TB – During this same time period, how has the role of women changed in archaeology?

CF – As I mentioned earlier, women were first allowed on UT crews after I came there. The prevailing idea was that they could not stand up to hard work (e.g. shovel skimming, wheel- barrowing, etc.) and might corrupt the men. Through the years I have had women on my crews who could out-work and out-think some men I have known. Some of my most outstanding students have been women.

TB – In your mind, what has been your greatest archaeological accomplishment?

CF – Probably the Mud Glyph Cave project…This was a co-operative endeavor which brought together a lot of experts, and getting to know and work with outstanding professional archaeologists such as Patty Jo Watson, Jon Muller, Louise Robbins, and Jeannette Stevens and local cavers was truly inspiring.

TB – Do you have any regrets about your career? Would you have done anything differently?

CF – None whatsoever…I have been blessed with the people I have known and the opportunities I have had.

TB – Do you have any words of wisdom for the next generation of Tennessee archaeologists? What future research topics or questions need to be addressed?

CF – Three things come to mind. Always keep an anthropological perspective in your research. I forget who said "If archaeology is not anthropology it is nothing." Secondly, be trained in both prehistoric and historical archaeology before you tackle sites in either area. And finally, seek expert advice in the field and lab if you don't know the answers.

FIGURE 3. Charles Faulkner from the 1958 Angel Mounds Field School crew photo (*Courtesy Glenn A. Black Laboratory of Archaeology and the Trustees of Indiana University, Photo #002665).*

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UNDERSTANDING HISTORIC FARMSTEAD CONTINUITY AND CHANGE USING HUMAN BEHAVIORAL ECOLOGY

Todd M. Ahlman

The study of Upland South historic farmsteads has typically employed a normative approach where sites are placed in a comparative context with an ideal farmstead. Human behavioral ecology provides an approach that does not rely on the norm but allows for the direct comparison of farmsteads to understand diachronic continuity and change. In this study, an optimization model is developed using data from sites in Tennessee and the surrounding states. The model is explored further by in-depth analysis of the Tipton-Dixon farmstead, which was occupied from 1819 to 1969.

Over the past 20 years, historical archaeologists have turned to the Upland South cultural tradition model to explain cultural remains found during investigations of nineteenth century farmstead sites (Ahlman 1996, 1998, 2000; Ahlman et al. 1999; Groover 1993, 1998; Hill et al. 1987; Jurney and Moir 1987; Longmire 1996; McCorvie 1987; McCorvie et al. 1989; McKelway 1996; Moir 1987; Moir and Jurney 1987; O'Brien et al. 1982; Rotenizer 1992; Selby et al. 1984). To facilitate an understanding of the behaviors that created the archaeological record, historical archaeologists, employing Kniffen's (1965) and Newton's (1974) Upland South farmstead characteristics and archaeological data, have developed a set of traits considered characteristic of the traditional late eighteenth and early nineteenth century Upland South farmstead. These traits are what some call "theoretical traits" (Dunnell 1986; Lyman et al. 1997; O'Brien and Lyman 2000) because they represent the ideal traditional Upland South farmstead. The archaeological and historical studies that have addressed the Upland South farmstead typically have been normative in nature focusing on how archaeologists can fit individual eighteenth and nineteenth century farmsteads into the theoretical model of the ideal Upland South farmstead. Some (Ahlman 1996; Groover 1993) have pointed out that this model of the Upland South cultural tradition is atemporal and atheoretical because it fails to explain or understand culture change in a diachronic manner. Ahlman (1996, 2000) further notes that variation in the archaeological record among farmsteads has been largely ignored, especially those occupied into the twentieth century. When variation is acknowledged, it is usually attributed to ethnicity rather than random variation (Longmire 1996).

This essentialist approach of typological ascription fails to address population-wide variation. Unfortunately, many applications of the model to interpret past farmstead activities, mostly on the fringes of the Upland South culture region (Hill et al. 1987; Jurney and Moir 1987; McCorvie 1987; McCorvie et al. 1989; Moir and Jurney 1987; Moir 1987; O'Brien et al. 1982; Rotenizer 1992; Selby et al. 1984) have followed this path. These studies examine the persistence of characteristics of the traditional Upland South traits seen on nineteenth century farms in north-central Texas and southern Illinois maintained by people who migrated from Kentucky, North Carolina, Tennessee, and Virginia. The Upland South model, therefore, is used as an archetype for interpreting the archaeological record by comparing cul-

tural remains, primarily architectural remnants and archaeological features, to the traditional pattern to determine if a farmstead conforms to the model.

An effort to expand the Upland South model by Ahlman (1996) to include later farmsteads resulted in the delineation of trait sets termed transitional and modern. Some (Ahlman 1996; Cabak et al. 1999) have used modernization theory to explain the variation they identified in the archaeological record among the farmsteads examined. Modernization theory, however, did little to explain why some farm families were not pursuing modernization of their farmstead at all or at the same rate as other farm families.

The author proposes that variation among farmsteads is best explained with a model rooted in the tenants of human behavioral ecology. Human behavioral ecologists propose that through natural selection humans have the evolved capacity for phenotypic plasticity, which allows for the ability to weigh the short-term costs and benefits of a behavior and the adjustment of their behavior to maximize their fitness accordingly (Hames 1992; Krebs and Davies 1997; Smith and Winterhalder 1992; Winterhalder and Smith 1992, 2000). This paradigm acknowledges that human intent and innovation play a major role in artifact and cultural change. The proponents of human behavior ecology also advocate an individual perspective in their analysis. A central tenet of this paradigm is that culture reflects the accumulation of individual behaviors; therefore, it may be more appropriate to study behavior at an individual level rather than at the population level.

The model outlined here assumes that most farm families took one of two strategies: resource maximization or time minimization. Resource maximizers focus the bulk of their efforts on resource accumulation at the expense of other actions while time minimizers undertake a strategy where actions relating to resource acquisition and accumulation take a back seat to other actions such as leisure activities. The basis for this model is explained in detail below and the archaeological signatures for the different strategies are also outlined.

As noted above, diachronic change is frequently seen in the archaeological record of farmsteads and the model proposed here can also be effective in explaining this change through, of all things, continuity. As will be shown below, changes on the farmstead landscape and the modernization studied by Ahlman (1996) and Cabak et al. (1999) were a result of farm families undertaking the same strategy through time regardless of household, owner, or land tenure changes. An example of this continuity is given by examining the land history of the Tipton-Dixon House site (40LD179), an Upland South farmstead in east Tennessee that was occupied from around 1820 to 1970. The occupants of this farm all appeared to have undertaken a resource maximization strategy, which is reflected in the archaeological and historical records of the farm.

Human Behavioral Ecological Models

Darwinian evolutionary theory has been sparingly applied to historical archaeological situations (Ahlman 2000; Galle 2006; Neiman 1990; O'Brien and Lyman 2000), with most taking a selectionist perspective (Neiman 1990; O'Brien and Lyman 2000). The selectionist perspective is quite effective at identifying variation, but is not as proficient in explaining variation or change as evolutionary ecology. A human behavioral ecology model incorporating resource maximization and

TABLE 1. Human Behavioral Ecology Strategy Models for Upland South Farm Families.

Resource Maximization Strategies	
Strategy Description	**Archaeological Signature**
Focus time, energy and resources toward *both* agricultural *and* food production.	Relatively high occurrence of both agricultural and food production structures. Relatively high diversity among the farmsteads in the types of structures and features.
Focus time, energy, and resources on agricultural production rather than food production.	Relatively high occurrence of agriculturally related buildings relative to food production structures and features.
Focus time, energy, and resources on food production rather than agricultural production.	Relatively high occurrence of food production buildings relative to agricultural production structures and features.
Focus time, energy, and resources on other activities not related to agricultural or food production.	Relatively few outbuildings or features.
Time Minimization Strategies	
Strategy Description	**Archaeological Signature**
Focus time, energy, and resources on activities with a minimal investment in agricultural and food production.	Fewer structures and features relating to agricultural and food production relative to resource maximizers.
Focus time, energy, and resources on activities other than agricultural and food production; however, there is a relatively greater minimal investment in agricultural production than food production.	Relatively lower occurrence of agricultural production structures and an even lower occurrence of food production structures.
Focus time, energy, and resources on activities other than agricultural and food production; however, there is a relatively greater minimal investment in food production than agricultural production.	Relatively lower occurrence of food production structures and an even lower occurrence of agricultural production structures.
Focus time, energy, and resources on activities other than agricultural and food production. There is almost no investment in agricultural or food production.	There would be relatively few outbuildings.

time minimization strategies is suggested as a viable way to explain the variation seen among Upland South Farmsteads. In this model, which is primarily applicable to nineteenth and twentieth century farm families, resource maximizers focus their production toward the greatest return on their crop or product regardless of the amount of time required for the task (Table 1). The costs to a resource maximizer in this model are less time spent at child-rearing and immediate leisure activities, while the benefits include potentially greater immediate and accumulated wealth and, given the right strategy, more time for leisure activities later in life. This does not mean that there will be insufficient resources allocated for proper child growth and development, but rather there may be less time spent for nurturing and familial education relative to time spent in agricultural or food production. Resource maximizers tend to have larger plots of land and are more likely to undertake modernization improvements in an effort to obtain a greater return on their invested labor. The strategies are provided in Table 1 with the proposed archaeological signatures of these strategies using architectural and archaeological features. The

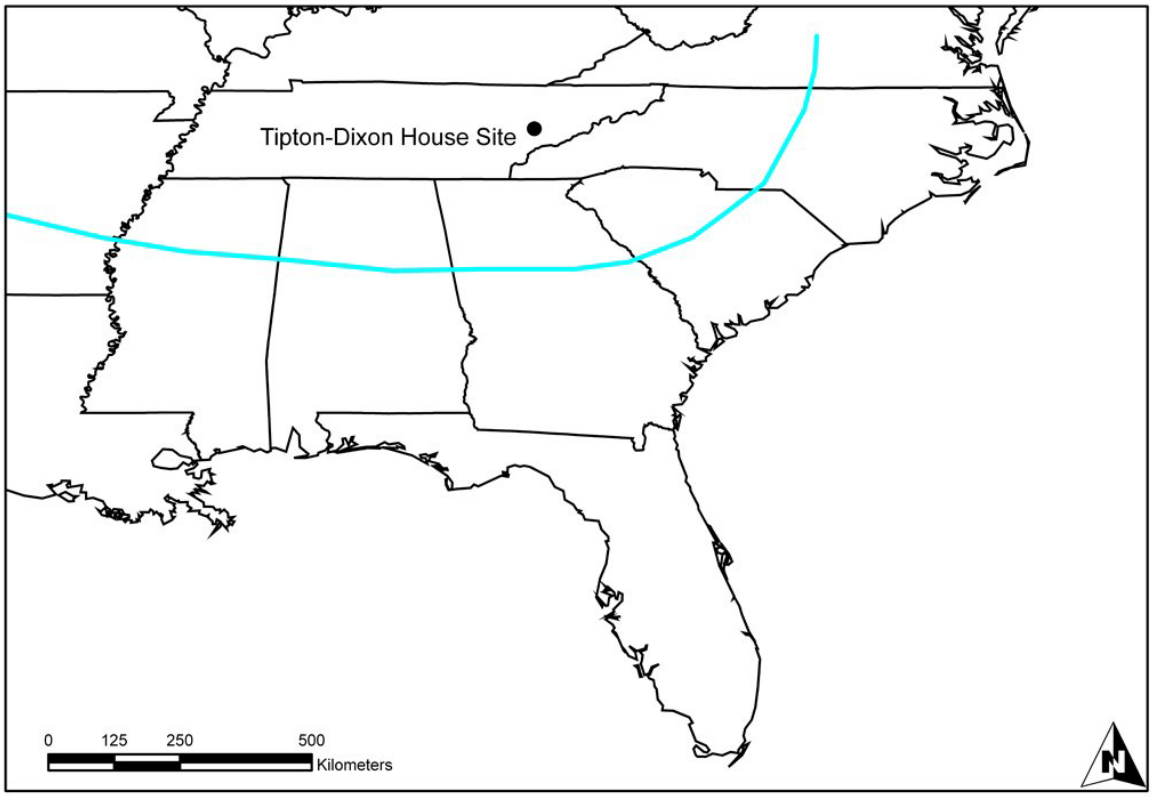

FIGURE 1. Location of the Tipton-Dixon House within the Upland South Cultural Tradition.

strategies are ordered from the highest relative potential payoff to a resource maximizer, which reflects an emphasis on agricultural and food production, to the one with the lowest relative potential payoff.

In this model, time minimizers tend to spend relatively less time in crop production and subsistence activities to focus on other behaviors. Because time minimizers are undertaking a strategy that probably provides the necessary resources for somatic growth and reproduction but not consistent surpluses, there probably is little surplus produced for commercial sale; therefore, the primary cost to a time minimizer is less accumulated wealth relative to a resource maximizer. The benefits of a time minimization strategy can be more time, energy, and resources available for investments in childcare and leisure activities; however, it does not mean that there will be equal or greater time invested into childcare relative to resource maximizers because the "extra" time may actually be allocated to leisure activities rather than childcare. Time minimizers tend to occupy smaller plots of land that produce less, and if the farm's occupants were tenants they were more likely to be transient. For these reasons, they have fewer motives tying them to the land, and therefore, it would be beneficial for them not to undertake costly modernization improvements.

This model takes into account several factors. The first factor is the relatively long time period, in historical archaeological terms, that the cultural tradition has been recorded in the archaeological record. This length of time, approximately 150 years from the beginning of the nine-

teenth century to the mid-twentieth century, would imply some degree of cultural change or at least phenotypic change. Second, is the wide geographical range of the tradition that extends from Southern Appalachia and includes portions of the Ohio Valley, Midwest, and the Mississippi Valley (Figure 1). Although this is technically all one cultural region, there is localized variation, especially related to agricultural production, which may have an effect on farmstead composition. Third, the model addresses the issues of social stratification, ethnicity, and gender. Finally, the model accounts for a wide range of variation among the farmsteads due to all of these factors.

The archaeological record of many Upland South farmsteads indicates the sequence of families and households that occupied them undertook similar strategies through time (Ahlman 2000). At these farmsteads the landscape typically exhibits structural and feature ratios over long periods of time that are indicative of one of the strategies in Table 1. The archaeological record at the Tipton-Dixon House site implies that the families that lived there undertook a resource maximization strategy as evidenced by the relatively high number of outbuildings and features indicative of agricultural and food production throughout the majority of the site occupation. The continuity in strategy selection over time at the Tipton-Dixon House site and other farmsteads demonstrates the heritability of a strategy among familial generations and site occupants.

The archaeological recognition of behavior associated with a strategy can be determined by examining architectural and archaeological structures and features most often corresponding with relevant behaviors and activities. The different structures associated with a behavioral strategy are listed in Table 2. Multiple activities may have occurred in some buildings, such as the dwelling, and the most common activity associated with that location is listed. Some buildings occur in more than one category because there is an equal likelihood that either activity occurred there. A good example is a chicken house, where poultry may have been raised for home consumption or sold to neighbors. Child rearing and leisure activities leave few architectural signatures and a relative lack of structures does not mean that these activities did not occur.

The traits listed in Table 2 are meant to represent the behaviors associated with the different strategies available to Upland South farm families; however, this list is by no means an exhaustive treatment of the types of buildings present at Upland South farmsteads. The traits representing the different strategies are non-inclusive and some traits occur in two or more sets (Table 2). Some behaviors are difficult to detect based on structural data alone because they do not leave structural remains. It is assumed that the absence or near absence of certain variables explicitly relating to agricultural and food production suggests that other activities were occurring, and implies the farm family had undertaken a strategy not directed at those behaviors.

The traits listed in Table 2 do not include all the traits likely seen among Upland South farmsteads. Table 3 lists the 25 most frequently occurring traits seen at Upland South farmsteads (Ahlman 2000). Certain traits that occur infrequently (<5 percent of the population) were concatenated into more inclusive categories. The concatenated trait categories include variables with similar functions that are indicative of like behaviors. For instance, the food storage trait category includes cellars, dairies, vegetable beds, potato sheds, and berry sheds.

TABLE 2. List of Structures and Features Associated with the Strategy Behaviors.

Agricultural Production	Food Production	Child Rearing	Leisure
Barn/Stable	Dwelling	Dwelling	Dwelling
Crib	Detached Kitchen**	Privy	
Pens	Root Cellar		
Hog House*	Wood Shed		
Chicken House*	Hog House*		
Sorghum Furnace	Chicken House*		
Blacksmith Shop**	Smokehouse/meat house		
Machine Shed	Shed*		
Shed*	Vegetable Bed		

* = Evidence for either strategy ** = Not used in statistical analysis

Continuity and Resource Maximization at the Tipton-Dixon House Site

The Tipton-Dixon House site (40LD179) is an excellent case for examining a resource maximization strategy as seen in the archaeological record, the continuity of a strategy undertaken by a series of families at a single farm, and the strong explanatory power of the human behavioral ecology model in explaining the landscape changes at the site. This well-documented, East Tennessee farmstead, occupied continuously from 1820 to 1969, is located on an older alluvial terrace of the Little Tennessee River in Loudon County, Tennessee. The site is on property purchased by Tennessee Valley Authority for the construction of the Tellico Reservoir in 1969 and was first identified in the late 1970s (Carnes 1980). Further archaeological investigations of the site were undertaken by the University of Tennessee, Department of Anthropology in 1997 and 1998 prior to the development of the site area (Ahlman 1998; Ahlman et al. 1999). The goals of archaeological research were to provide information about the historic yard layout to understand the activities that were performed there and learn more about the human behaviors that created them; to understand the construction sequence of the historic dwellings on the property; and to gain further information concerning enslaved African-Americans in an Upland South frontier and farmstead setting (Ahlman et al. 1999:19-23).

Historical Context of the Tipton-Dixon House Site

It is not currently known when the first Euro-American occupation of the Tipton-Dixon House site occurred, but it is suspected that the initial historic occupation of the site occurred in 1819 when William Dixon either purchased or was granted the land after the Cherokee ceded it

TABLE 3. List of Variables Used in the Farmstead Analysis.

Recorded Variable	Associated Behavior or Activity	Concatenated (Yes/No)	Concatenated Variable Name (if applicable)
Dwelling	Food Production, Child Care, Leisure	No	
Barn	Agricultural Production-facility for animal husbandry	No	
Corn Crib	Agricultural Production-storage of crops intended for animal feed or for commercial sale	No	
Hog House	Agricultural and Food Production-building for holding swine	No	
Cattle Shed	Agricultural Production-building for holding cattle	Yes	Barn
Chicken House	Agricultural and Food Production-building for holding chickens	No	
Sorghum Furnace	Agricultural Production-processing facility of sorghum to make sorghum molasses	Yes	Agricultural Processing
Blacksmith shop	Agricultural Production-facility for the construction and repair of agricultural implements		
Stable	Agricultural Production-barn type structure for holding horse, mules, and/or cattle	Yes	Barn
Machine Shed	Agricultural Production-facility for the repair and storage of agricultural implements	Yes	Garage/Machine Shed
Undifferentiated Shed	Agricultural and Food Production-typically a shed with an unknown function but probably served either function	Yes	No
Berry Shed	Agricultural and Food Production-facility to store surplus fruits	Yes	Yes
Detached Kitchen	Food Production, Child Care, Leisure-facility for cooking food and may serve as a leisure location in an informal manner	No	
Spring House	Food Production, Child Care-storage facility for surplus food crops and may serve as water source	Yes	Yes
Well House	Agricultural and Food Production, Child Care	Yes	Yes
Smoke house/meat house	Food Production-facility for curing and storing meat and other food products	Yes	No
Wood Shed	Food Production-facility for the storage of wood, typically for the house	Yes	No
Root cellar	Food Production-facility for the storage of surplus food crops	Yes	No
Vegetable Bed	Food Production-facility for the storage of surplus food crops		
Potato Shed	Food Production-facility for the storage of surplus food crops	Yes	Yes
Well/Cistern	Agricultural and Food Production, Child Care, Leisure	Yes	No
Silo	Agricultural Production-facility for the storage of surplus crops	Yes	No
Dairy	Agricultural Production-facility for milking cattle and/or storing milk products	Yes	Yes
Garage	Agricultural Production, Leisure-facility for storing and repairing cars and agricultural implements	Yes	Yes
Scale House	Agricultural Production-facility for weighing surplus crops	No	

(Ahlman 1998; Ahlman et al. 1999). Dixon was prominent in Monroe County politics and his house was the location for the first Monroe County Circuit Court in May 1820. Court was only held there once as Dixon apparently became ill and died shortly thereafter.

Sometime between 1820 and 1822, David Taylor acquired the property and in 1822 John B. Tipton purchased 640 acres from Taylor that probably contained the house site (Monroe County Deed A/36). In addition to serving as Circuit Court Clerk, Tipton was also a surveyor and planter

TABLE 4. Agricultural Production at the Tipton/Dixon House Site Based on United States Agricultural Censuses.

Year	Acreage		Crops			
	Improved	Woodland	Wheat Bushels	Corn Bushels	Oats Bushels	Hay Tons
1850	200	11,000	60	2,500	300	**
1860	230	13,000	248	1,200	**	12
1870	165	1,585	200	400	100	18
1873*	***	***	150	600	150	***
1880	60	115	180	500	150	**

Year	Livestock				
	Horses	Cattle	Sheep	Swine	Poultry
1850	11	38	40	100	***
1860	5	27	42	38	***
1870	7	12	49	10	***
1873*	2	5	36	10	***
1880	4	11	28	31	90

Year	Other					
	Cotton Bales	Wool Lb.	Irish Potatoes Lb.	Sweet Potatoes Lb.	Butter Lb.	Molasses Gallons
1850	**	**	**	20	100	**
1860	150	60	20	150	200	**
1870	**	100	5	40	**	**
1873*	***	***	***	***	***	***
1880	**	100	5	5	50	10

* Information from John B. Tipton's estate inventory.
** Apparently none produced.
*** No information provided.

who held some very large tracts of land. According to federal agricultural censuses he is listed as owning over 11,000 acres in 1850 and 1860 (United States Bureau of the Census [USCB] 1850, 1860a); however, most of this land was unimproved mountain land. By 1870 Tipton had disposed of a large amount of this land, much to his children (Loudon County Will Book A), as he is listed as only owning 1,740 acres and 165 acres of his holdings were cultivated (USCB 1870).

During Tipton's tenure the farm's production was diversified, with several different grain crops and types of livestock (Table 4) (USCB 1850, 1860a, 1870). The primary crops were corn, wheat, and oats. Tipton and his family also raised numerous stock animals, which were probably sold at market. It appears that there was production for the household such as potatoes and butter and surplus goods were

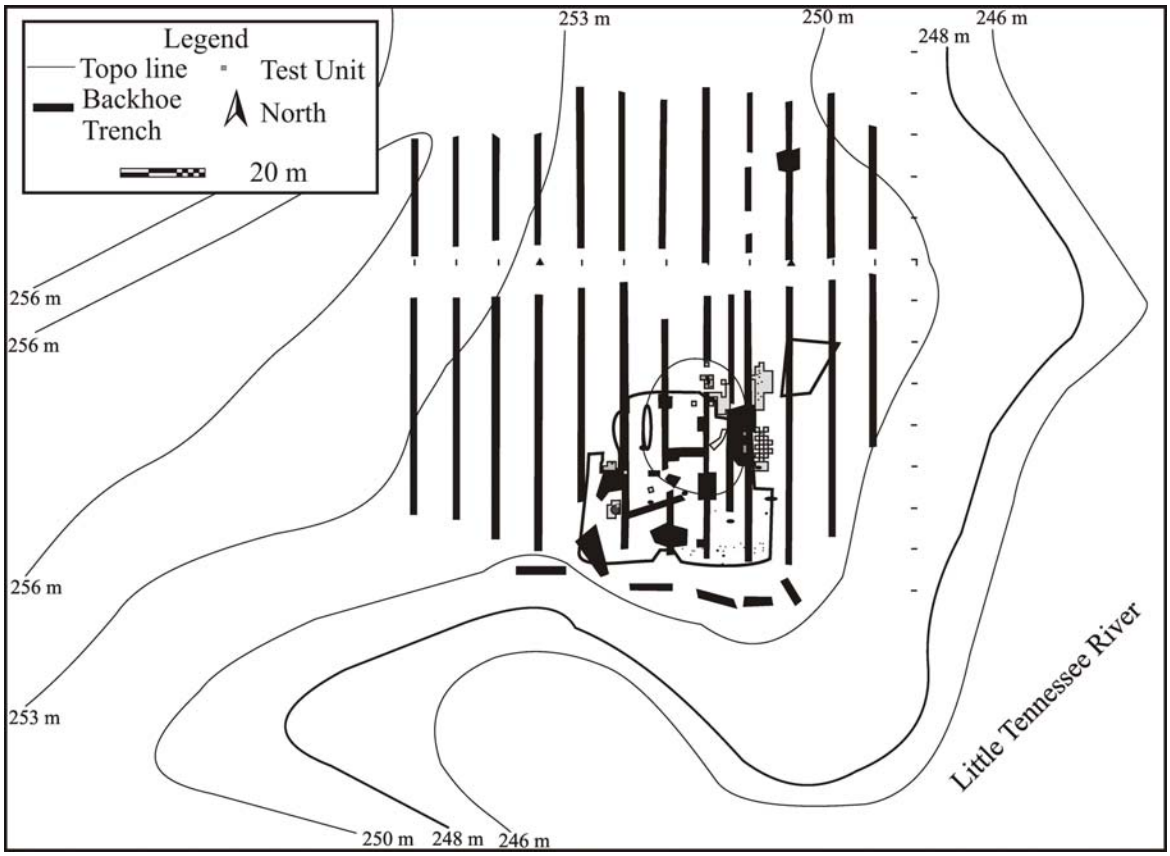

FIGURE 2. Archaeological investigations at Tipton-Dixon House site.

sold outside the home. The drop in production between 1860 and 1870 probably relates to Tipton selling off much of his property and the end of slavery.

The property stayed in John B. Tipton's possession until his death in 1873, at which point it passed to his wife Louisiana Wear Tipton (Loudon County Will Book A). He also gave some of his land to his sons Malcom and Gilbert, while the remainder of his children received money. His will also stipulated that following Louisa's death his children Caswell and Aurelia were to split the home place.

According to the 1880 agricultural census, Louisa farmed 175 acres with 60 acres in cultivation (USCB 1880). The farm continued to be diversified with grain crops and livestock remaining important and the continuing production of fruits and vegetables. The census reports that Louisa paid out $250 in farm labor and hired for 52 weeks of work. Louisa held onto the property until her death in 1893, at which time Caswell and Aurelia split the 375-acre home place. Caswell gained control of the north 175 acres of the property, while Aurelia received the 170 acres containing the house and ferry landing plus 30 acres on the south side of the river with the other ferry landing (Loudon County Deed 14/259).

Aurelia apparently lived in the house with her brother John and it appears that several hired farm laborers lived on the property (USCB 1900). Aurelia never married and upon her death the Tipton heirs sold the property and divided the proceeds. In December 1909, T.T. Webb and J.K. Walters of Hawkins County, Tennessee, purchased the land (Loudon County Deed 20/277). It is not apparent if Webb or Walters lived on the property during this time. Webb, Walters, and their

respective wives then sold the property to Sam R. Cusak in May 1914 (Loudon County Deed 29/331). According to the 1920 census, Cusak lived on the property with his wife, children, mother-in-law, and a nephew (USBC 1920).

Cusak sold the property to Sam Sparks in January 1931. Apparently Sparks could not keep up the payments, and in 1933, C.P. and Laura Taliaferro assumed the remainder of the note and took control of the property (Loudon County Deed 37/348). In 1937 the Taliaferros also purchased the land that Caswell Tipton had inherited (Loudon County Deed 39/462). When C.P. Taliaferro died he willed one-half the property to his wife Laura and the other half to their daughter Elizabeth (Loudon County Will Book B). In 1939 Laura Taliaferro died and willed her share of the property to Elizabeth (Loudon County Will Book B/Loudon County Deed 40/512).

Sometime between 1939 and 1963 Elizabeth Taliaferro married Rueben T. Sharp and rented the property to a succession of renters. They sold the property to J.D. and Sarah Lee in 1963 (Loudon County Deed 75/190). In 1970 the Lees sold the property to TVA, after which the farm was abandoned. The buildings were demolished in the late 1970s.

Archaeological Investigations

The initial archaeological survey of the site involved general surface reconnaissance of the site area and controlled surface collection of a "designated area [that] was plowed" (Carnes 1980:29). This survey recovered 1,619 historic artifacts that dated from the early nineteenth century through the mid to late twentieth century. In December 1997, the University of Tennessee was contracted to conduct an archaeological evaluation of the site to assess its eligibility for inclusion in the National Register of Historic Places. Under an agreement between TVA and the Tellico Reservoir Development Association, the site was subject to compliance with Section 106 of the National Historic Preservation Act prior to development of the site area.

The archaeological evaluation involved the excavation of mechanically stripped trenches and the hand excavation of 1 x 1 m test units. The data recovery involved the mechanical stripping of the backyard area of the house and the hand excavation of 85 1 x 1 m and four 1 x 2 m test units. Approximately 1400 square meters of the project area was removed by mechanical stripping (Ahlman 1998; Figure 2).

The archaeological investigations identified 50 features (Figure 3), 54 possible postholes, and recovered 14,249 historic artifacts (Ahlman 1998; Ahlman et al. 1999). Seven features dated to the prehistoric occupation of the site, four features were determined to be non-cultural stains, and five stains identified as features were later determined to be postholes. Ten stains initially identified as postholes were determined to be either rodent burrows or tree stains upon excavation. The majority of these artifacts date from the late nineteenth through the mid-twentieth century. The most frequent artifacts were curved glass (*n*=5,793) followed by nails (*n*=3,102), ceramics (*n*=1,666), flat or window glass (*n*=1,325), metal objects (*n*=1,226), miscellaneous objects (*n*=855), and construction material (*n*=295).

The remains of eight structures and five structurally related features were identified during archaeological investigations. The interpretation of the structural remains and feature function came from the recovered artifacts, feature characteristics, and the TVA land acquisition map

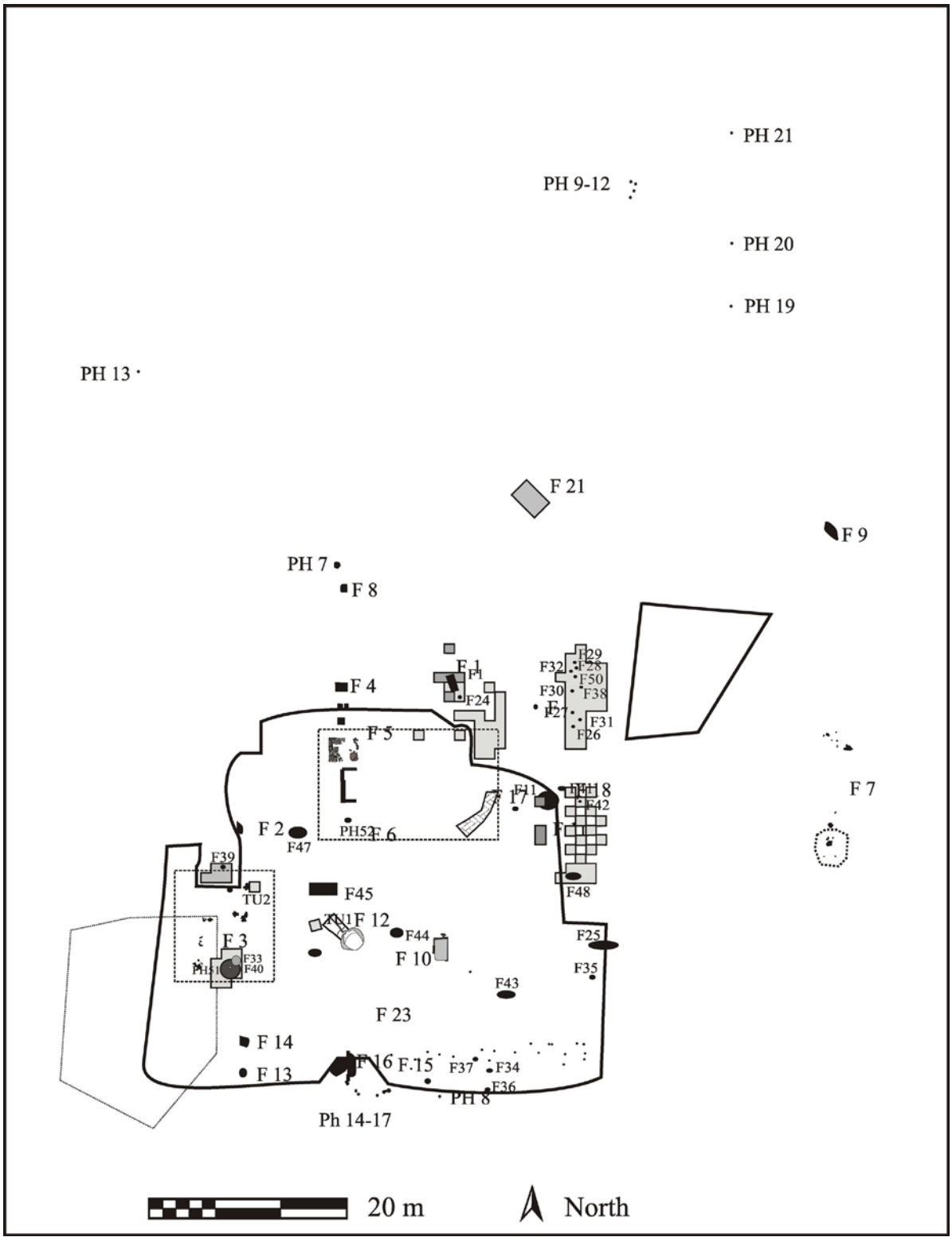

FIGURE 3. Identified features during archaeological investigations.

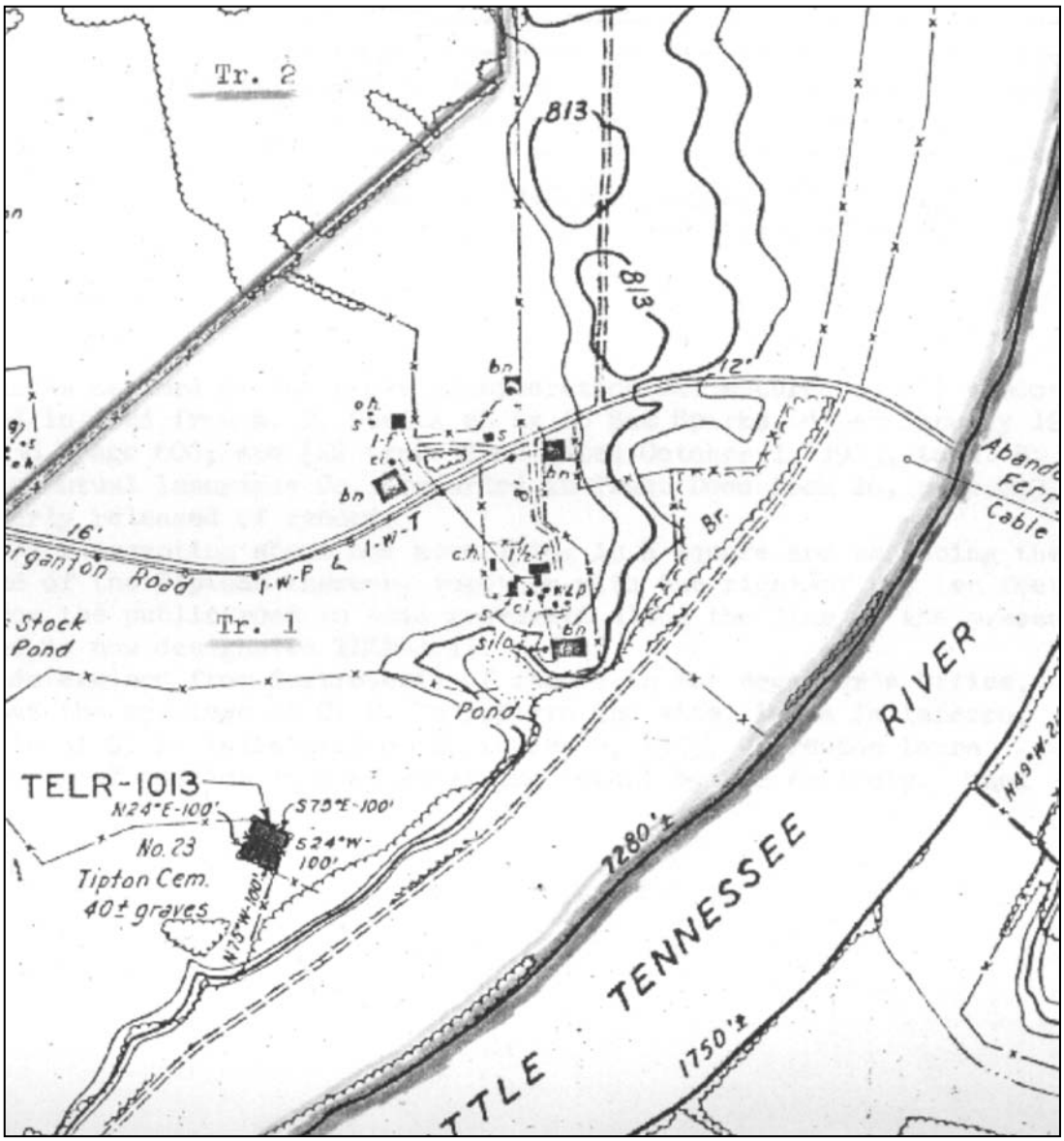

FIGURE 4. Tennessee Valley Authority land acquisition map 421K506-10 showing 1960s layout of the Tipton-Dixon House site (*Courtesy of The Tennessee Valley Authority, Knoxville, Tennessee*).

of the property that was produced in 1967 (Figure 4). Additional information on structure location and function came from Larry and James R. Lane, who lived at the site from 1942 to 1955 (Ahlman 1998; Ahlman et al. 1999).

Farmstead Layout

Through a synthesis of a variety of data sources, a chronology of the farmstead layout has been established (Ahlman 1999; Ahlman et al. 1999). This sequence corresponds to the major site occupations (Table 5). These occupations do not necessarily occur with household change or reflect a change in the strategy undertaken by the farm's occupants but rather are variations in the manner that this strategy was pursued.

TABLE 5. Major Occupation Periods at the Tipton/Dixon House Site.

Period	Years	Major Occupants
Early Farmstead	1819-1820s	William Dixon, Tipton Family
John B. Tipton Tenure	1820s-1873	Tipton Family
Late 19th-Early 20th Century	1873-1939	Tipton Heirs, S.R. Cusak, Sam Sparks
Mid 20th Century	1939-1969	Lane Family, other tenants

Early Farmstead (1819-late 1820s). This period coincides with the William Dixon and early John B. Tipton occupation. Very little is known about this period because there is scant archival and archaeological data. The farmstead layout did center around the early log cabin that faced the Little Tennessee River (Figure 5). The only other known structure during this period is the African-American dwelling to the east of the log cabin. There were probably other buildings and features associated with agricultural and food production during this period but it appears that later activities in the house yard obscured much of the information relating to these early structures and features.

John B. Tipton Tenure (1820s-1873). During John B. Tipton's occupation from the 1820s to 1873, the farmstead went through a lengthy period of expansion and dispersal where new buildings (Figure 5) were constructed reflecting the Tipton's growing political importance and the families' efforts to increase agricultural and food production. By 1830 the early log cabin had been replaced by a one-story brick house that faced the Little Tennessee River. By the late 1840s, a frame addition was added to the brick house becoming the facade of the house that now faced the Morganton Ferry Road. The shift in the facade reflects the change in approach to the farm as well as what might be perceived as Tipton's wealth display to travelers along the road.

Numerous buildings appear on the farm's landscape during this period. Agriculturally related buildings include a corn crib, hog house, and barn. The barn and hog house were probably built after the frame addition was added because these buildings lie between the house and the river. In addition, the African-American slave dwelling persists through the Antebellum Period as evidenced by Tipton's slave quarter listed in the 1860 census (USBC 1860b). This building appears to be used through the 1860s, at which time it was removed from the landscape.

There is sparse structural and artifact evidence to interpret the behaviors that occurred in the yard around the house. No features or structural remains relating to food production were identified during the archaeological investigations. The remains relating to these structures were probably obscured by later activities in the rear yard and by TVA's demolition of the structures in the 1970s. It can be assumed that there was a smoke house or meat house on the property at the time of Tipton's death because he is listed as owning 1,500 pounds of bacon at that time.

While structures and features generally associated with activities relating to food production were typically performed in the yard, they appear to have been located further away from the dwelling than expected. There is a suggestion that these structures were located to the south of the dwelling near a spring because no well or cistern dating to this time period was recorded during the excavations (Ahlman 1999; Ahlman et al. 1999). This

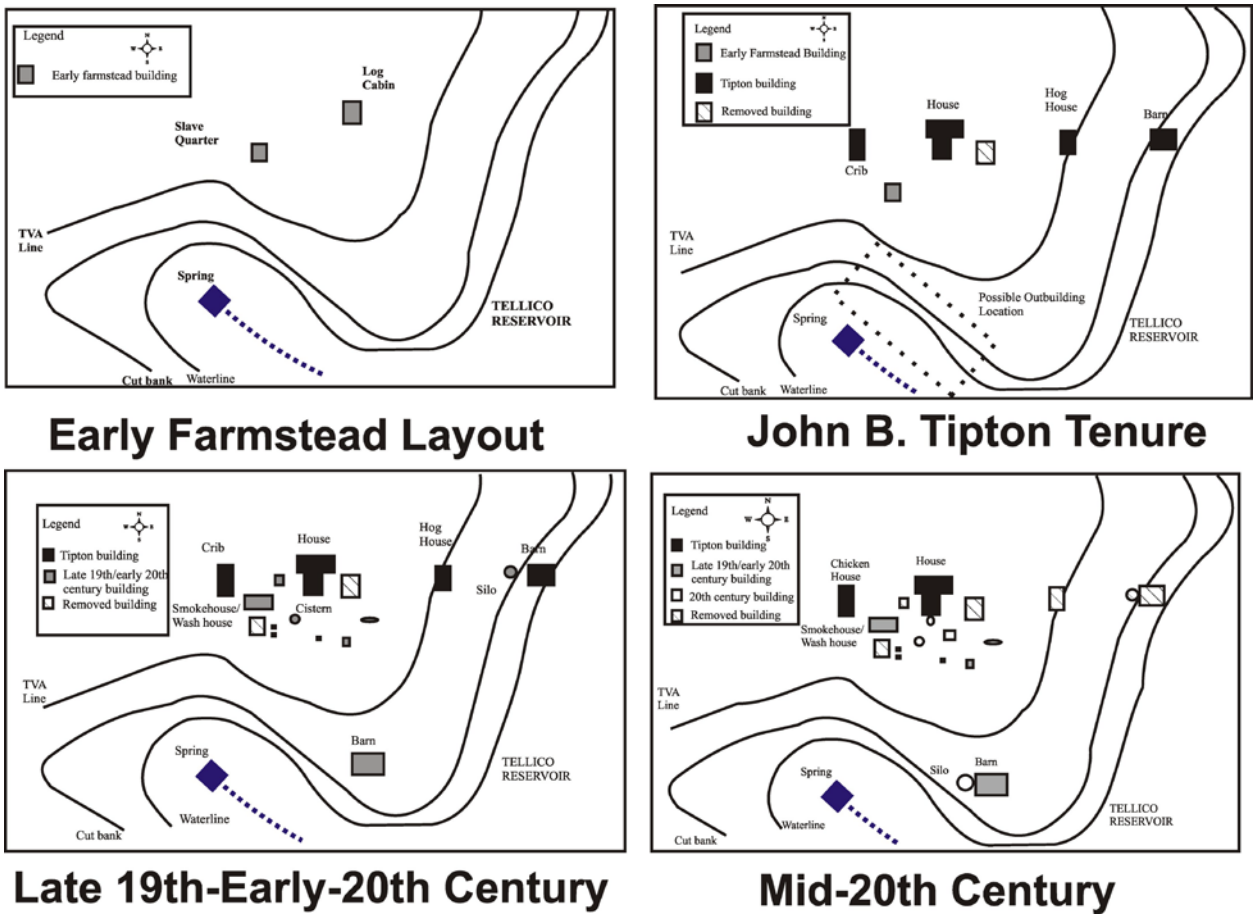

FIGURE 5. Changing layout of the Tipton-Dixon House site.

area of the site is located on TVA property and was not investigated because this area will be preserved from development. A surface collection from the exposed Tellico Reservoir beach produced stoneware and curved glass sherds that date to the mid-nineteenth century (Ahlman 1998). Relative to the amount of this material recovered on the remainder of the site, these artifacts suggest a higher concentration of human activity and disposal occurred during this period here.

Late Nineteenth–Early Twentieth Century (1873-1939). During the late nineteenth and early twentieth centuries, when the site was occupied by the Tipton heirs and a subsequent series of owners who probably lived at the site, there is a continued dispersal of the farm buildings as well as the addition of numerous other buildings (Figure 5). Structures that persisted from the earlier period include the barn, crib, and hog house while the slave quarter was removed. Another barn was added south of the house and a silo was built adjacent to the first barn. There is evidence for privies located closer to the dwelling as well as a cistern near the kitchen. A two pen shed, which housed a smoke house and wash house, two other smoke houses, a sorghum processing furnace, a smithy, and a chicken house were also constructed near the dwelling.

An increase in the sheet midden size and density dating to this period was noted during the archaeological investigation (Ahlman 1999; Ahlman et al. 1999). This increase is probably attributable to

the greater proximity of the support structures to the dwelling as a result of the construction of the cistern. The addition of a readily available water source would facilitate the performance of these activities in the yard. Ahlman (1999) hypothesized that the construction of a cistern and the subsequent moving of the food production structures closer to the dwelling was initiated by Louisa or Aurelia Tipton following the death of John B. Tipton.

Middle Twentieth Century. The occupation during this period more than likely coincides with a series of tenants at the site. The primary source of information for this period comes from conversations with Larry and James R. Lane (see Ahlman 1998) and the 1967 TVA land acquisition map of the property. During this period, the older barn and silo were removed and a new silo was constructed near the newer barn (Figure 5). The hog house was abandoned and removed as indicated by the 1967 TVA land acquisition map. The crib was either removed or converted into a chicken house. The chicken house constructed in the earlier period became a coal shed. The cistern was abandoned and replaced by a well and pump adjacent to the dwelling. A small root cellar was constructed that probably replaced or supplemented the cellar or cellars under the house. It was also during this period that the house was electrified and indoor plumbing was installed. The Lanes remember the farm being mechanized by the time their family occupied the place, and the farm remained mechanized throughout the mid-twentieth century. The sheet midden around the house appears to have been the densest during this period of occupation.

Resource Maximization Strategy by Tipton-Dixon House Site Occupants

Several prior reports suggested that the Tipton-Dixon House site was an atypical Upland South farm (Ahlman 1996, 1999, 2000; Ahlman et al. 1999). First, they argue that there were few outbuildings during the initial historic occupation, although this may actually be characteristic of Upland South farmsteads with early occupations. They also note that the symmetrical layout of the farm during John B. Tipton's tenure is not like the typical Upland South dispersed layout. This layout is more like a Georgian symmetrical farmstead layout and it was suggested that Tipton, and other wealthier farmers in East Tennessee, attempted to emulate the upper class farmsteads on the Southern Coastal Plain and elsewhere by creating a symmetrical farmstead layout that denoted wealth. They speculate that it was not until the late nineteenth century that the farmstead began to have a layout more typical of Upland South farms. This dispersed layout continued, through several different configurations, until the farm was purchased by TVA and demolished.

The argument posited by Ahlman et al. (1999) is a valid line of reasoning because the typical Upland South farmstead to which they compared the Tipton-Dixon House site is based on a normative model, which does not exist but is a theoretical construct of archaeologists. The evidence from the Tipton-Dixon House site, and other farmsteads in the Upland South, indicates that there is a small range of variation in the occurrence of different building and feature types within farmsteads in the Upland South (Ahlman 2000). This variation suggests that the Tipton-Dixon House site is more like other Upland South farmsteads then previously suspected. This similarity relates to the re-

source maximization undertaken by the farmstead's occupants.

During John B. Tipton's early occupation, there appears to have been few buildings on the farm landscape. Based on the evolutionary ecology model outlined above, this configuration is characteristic of a time minimization strategy; however, within 15 years of initial historic settlement of the property the farmstead apparently expanded to include several outbuildings and a new dwelling. This occurrence suggests that John B. Tipton and his family were developing a resource maximization strategy where the payoffs included greater wealth and prestige, eventually translating into more buildings on the property. This is further supported by Tipton adding onto his house in a manner displaying his wealth and prestige. John and Louisa Tipton had a relatively large family of 17 children; however, Tipton still purchased enslaved African-Americans. This suggests that Tipton needed a large labor force to care for his crops and livestock. By 1860, Tipton had one of the largest land holdings in Monroe County and was a prominent citizen in local politics (Sands 1989). Therefore, the undertaking of a resource maximization strategy by the Tipton family paid off in wealth and prestige in the local community. By the time Tipton died, he had dispersed a majority of his wealth and land among his children.

Following John B. Tipton's death the farmstead landscape changed as Louisa and Aurelia Tipton apparently rearranged the house yard in a manner that they conceived to be more convenient to them. Because Aurelia never married and had no children of her own and the other Tipton heirs owned their own property, Louisa and Aurelia hired laborers to work on the farm. This strategy seems to have been beneficial because the 1880 census indicates that the farm was producing almost as much as it was in 1870 when the Tipton's owned and cultivated more land.

Because Aurelia Tipton had no heirs, upon her death the farm left the Tipton family's hands, thus ending some 80 years of tenure by one family. Aurelia's apparent choice of not marrying and having children appears to be a maladaptive behavior because it ultimately meant that the property passed out of the Tipton family; however, human behavioral ecology models do not assume that the actors will always choose strategies that have long-term reproductive fitness pay-offs, which is why there is a range of strategies. It is postulated that to Aurelia, the operation of the farmstead may have had a greater short-term payoff relative to a long-term payoff of having children to maintain the family's possession of the farmstead.

In the early twentieth century between 1909 and 1939, the configuration of the farmstead indicates that the owners and occupants of the farmstead maintained the resource maximization strategy followed by the Tiptons. The succession of relatively short-term owners, however, suggests that the resource maximization strategy did not have the payoff for these people as it did for the Tiptons. This can be deceiving because the owners may have undertaken other strategies, such as speculating in the real estate market, and the long-term ownership of the property was not part of this strategy.

The strategy seemed to work for S.R. Cusak as he owned and occupied the farm for 27 years. During his tenure at the farm, he and his wife had at least three children (USCB 1920). The reason for his selling the property to Sam Sparks is unknown, but it may have been as a result of the effects of the Depression suggesting that the strategy did not have a long-term

benefit for the Cusak family. The Lanes, however, remembered Cusak being around the farm during their tenure, which suggests Cusak may have been a farm manager after he sold the property.

Apparently the resource maximization strategy, if adapted, did not pay off for Sam Sparks because he could not maintain making the payments on the farm and he had to sell the property within two years of acquiring it. Based on the events that transpired after Sparks sold the property, it seems that C.P. and Laura Taliaferro purchased the property with the goal of providing their daughter security after their deaths. Elizabeth Taliaferro, and later with her husband Rueben T. Sharp, appeared to have a manager operate the property with tenants and sharecroppers. The Lanes were one of the tenant families on the property from 1942, when they moved to the property from the nearby Cherokee Reservoir area, until 1957, when they moved to a different house on the Taliaferro property. The farm's layout during the family's tenure and their remembrances, indicates the family had undertaken a resource maximization strategy. The Lane family was large, with over eight people living in the house during the time they occupied the property, providing adequate labor for agricultural and food production. The various farm improvements they engaged in, attempts at greater agricultural production through mechanization, and emphasis on food production by the family indicates they continued the tradition of resource maximization.

Following the Lane occupation of the farmstead, various tenant families occupied it until TVA acquired the property in 1969. The layout of the farm based on the 1967 TVA land acquisition map indicates that many of the behaviors undertaken by earlier residents of the property continued to be in place. The barn, silo, and sheds indicate that agricultural production was still important. These improvements are direct indications that food production was still being conducted in the house yard because the building identified by the Lanes as a wash house/smoke house was still standing at the time of acquisition. The electrification of the house and outbuildings probably meant that some of the activities formerly undertaken in the yard were now accomplished in the house. The recovery of prepackaged food wrappers and containers (Ahlman et al. 1999) suggests that the occupants were purchasing these goods and could afford to do such because of the wealth generated by the resource maximization strategy.

Throughout the historic occupation of the Tipton-Dixon House site, the occupants of this farmstead undertook a resource maximization strategy that focused simultaneously on agricultural and food production. Although there were changes in the farmstead layout during the different periods of occupation of the farm, there was continuity through time in the strategy undertaken by the farm's occupants.

Conclusion

Human behavioral ecology models can be very useful for studying social stratification, ethnicity, gender, and race because they can take into account the perspective of an individual and their intentions. For these reasons, a human behavioral ecology perspective was employed in this study to develop a model accounting for the differences among Upland South farmsteads. The resource maximization and time minimization strategies developed in this study are broadly defined but not meant to be inclusive of the behavioral range undertaken by Upland South farm families. The strategies

that are developed are based on those activities where the farm family focused the majority of their time, energy, and resources. The resource maximization strategies included farm families that focused their time, energy, and resources at both agricultural and food production, at agricultural production rather than food production, at food production rather than agricultural production, or at activities other than agricultural and food production. The time minimization strategies were similar; however, there was a greater investment of the family's time, energy, and resources in activities other that agricultural and food production.

To demonstrate the continuity of a strategy undertaken by a farm's occupants, an in depth analysis of the Tipton-Dixon House site in East Tennessee was conducted. This analysis depicted a farm where the occupants had undertaken a resource maximization strategy that focused simultaneously on agricultural and food production for close to 150 years. The sheer number and diversity of structures and activities areas at this site during this time indicate that the occupants of the site were maximizing returns for both agricultural and food production.

Several questions arise from these results that pertain to the core issues of human behavioral ecology of phenotypic plasticity and human intent: Why was a specific strategy undertaken by the family(ies) that occupied an individual farmstead given the numerous constraints acting on the family? How did the farmstead occupants weigh the costs and benefits for undertaking such a strategy? More importantly, did these families weigh the costs and benefits of their behaviors such that they realized that the strategy that they pursued would have either a positive or negative effect on their long term relative fitness? The social and environmental constraints acting on a farm family, which ranged from localized topography that could limit the acreage available for production to cyclical weather patterns, to property ownership, and tenure class, required a farm family to weigh its options in relation to short-term goals rather than long-term relative fitness. Did a family realize that their short-term goals would translate into a long-term strategy? No, the long-term results of a specific behavioral strategy are actually the accumulation of the results from short-term goals. Some behaviors, in a post hoc analysis, appear to have been initiated with long term fitness enhancing (or depreciating) goals in mind; however, they too may have been initiated as short term goals and represent the accumulation of results from these short term behaviors. Certain long-term goals, like constructing a barn or making house improvements, were obviously implemented with the intention of having a positive effect on some aspect of the family's life; however, these "improvements" may have had the opposite result of the intended outcome resulting in financial hardships and shortages of needed time, energy, and resources for such things as investment in childcare. The modification of a farm family's behaviors as a result of changing social and ecological environmental constraints, which probably occurred quite frequently, is an example of phenotypic plasticity. These behavioral modifications may not have long term positive affects on fitness, but appear to be beneficial in the short term.

The "how" behind weighing the costs and benefits of a specific behavior is the most difficult question to address because human behavior will ultimately have a long term affect on fitness. Basically, a family had to address a multitude of questions, such as: Would having a large

number of children be beneficial to the family's ability to increase production? Or, would this decision cause an even greater drain on already thin energy and resources? Important here is the role of intent in the decision making process, and what did the person or family intend to do. Did a family intend to have a large number of children to provide a ready labor force, or did a family have fewer children because of limited resources? A family may intend to cultivate more acreage in the long term; however, to achieve this goal they must have a larger labor force which would mean either having more children or hiring more labor. Either way would require more time, energy, and resources but the latter provides a short-term solution, while the former provides a long-term solution. To accomplish both goals, labor may be hired in the short term until the family's children are old enough to work on the farm. These solutions are also based on an individual's or family's perception of short term costs and benefits rather than long term relative fitness decisions.

The occupants of the Tipton-Dixon House site are an excellent example of strategy continuity and the concepts of phenotypic plasticity and human intent that are crucial to human behavioral ecology explanations and provide further insight into the questions and conclusions posed immediately above. During John B. Tipton's early occupation of the Tipton-Dixon House site there are few outbuildings at the site; however, within 10 to 15 years there were numerous outbuildings on the farm's landscape and within a 30-year period Tipton was one of the largest landholders in Monroe County. These factors obviously had an effect on his fitness because he and his wife had 17 children and the family was prominent in Monroe County politics and society. The large Tipton family was a ready labor force; however, none of them were probably old enough to do farm work until the 1830s. It can be assumed that the enslaved African-Americans who worked the farm provided all the labor until the children were old enough to help around the farm. It is probably impossible to predict the Tipton family's motivation behind undertaking a resource maximization strategy while others in the Little Tennessee River Valley did not; however, it is obvious that Tipton had social motivations by the time he moved to Monroe County (he was the county's first Circuit Court Clerk). By acquiring large tracts of land (reportedly it took him three days to ride across his property [Sands 1989]) he was solidifying his social position, but at the same time he was preparing what could be considered a "nest egg" for his children following his death. As stated previously, childcare is a life-long investment and it seems that Tipton had invested for his children's well being after his death by purchasing large tracts of land and parsing it out to his children following his death. Tipton also intended to demonstrate his wealth and social status by adding onto his house and changing the facade from the Little Tennessee River, which was the main thoroughfare through Monroe County until a good road system was built in the 1820s, to the well-traveled Morganton Ferry Road that passed in front of his house. He further attempted to convey his wealth and prestige by arranging his outbuildings in such a manner that emulated wealthy farmers in the Northeast. Once the mechanisms were in place at the Tipton-Dixon House site, it seems that the subsequent occupants continued the resource maximization strategy that John B. Tipton and his family had implemented.

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CAMPS TOLERABLY WELL POLICED: ARTIFACT PATTERNS AND FEATURE FUNCTION AT THE FLORENCE STOCKADE

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Excavations in the camp of the Confederate guards at Florence Stockade revealed a large number of features in a wide variety of forms. The 179 excavated features produced nearly 6000 artifacts. The relationship between the artifacts and the features from which they were recovered was an important analytical tool in interpreting the site. This paper presents a brief discussion of how the artifact patterns vary within and between feature types, how they reflect the function of a specific feature and how those patterns were influenced by various factors.

As the Union Army under General William Sherman marched across the South during the summer of 1864, the Confederate government faced a number of crises. Not the least of which was the issue of the 33,000 Union prisoners of war held at Camp Sumter near Andersonville, Georgia. By August, Sherman's forces were close enough to the camp that it was susceptible to cavalry raids. Fearing the release of the prisoners should the camp be attacked, the Confederates began shipping those that were healthy enough to travel to Savannah and Charleston to be held until other facilities were prepared. With more than 7,000 Union prisoners in Charleston and more arriving daily, the situation was becoming critical. A site far enough away from the front to be secure but accessible by rail was needed, and the small village of Florence, South Carolina met these criteria. Located over 100 miles east of Columbia at the intersection of three rail lines, Florence was safe from the Yankees for the moment and had the means to bring in the prisoners.

In a field surrounded by pine forest and swamps about one mile southeast of Florence, a group of slaves under the direction of Major Frederick F. Warley of the Second South Carolina Artillery began construction of the stockade on September 12, 1864. Construction had just begun when the first of the initial 6,000 prisoners arrived on September 15. The prisoners were gathered in an open field near the tracks and surrounded by guards, consisting of just over 100 men from several South Carolina reserve battalions and armed locals. The guards were rushed at least once and hundreds of prisoners escaped. Most were recaptured within a few days. The reserves were reinforced by a few cavalry troops and an artillery battery, which helped to prevent further mass escapes. The stockade was completed in November 1864, but the prisoners were marched inside by the end of September (King 1974; Snell 1996).

The Florence Stockade, a smaller copy of the post at Andersonville, was constructed of logs set vertically into the ground with a small stream running through the center (Figure 1). To prevent the prisoners from tunneling out, a deep moat was excavated around the perimeter of the stockade and the soil piled against the outside wall, creating a parapet on which the guards were stationed. Platforms for artillery pieces were located at the corners and the main gate. A shallow ditch or short rail fence placed 10 to 12 feet inside the outer wall marked the "dead-line." Any prisoner crossing this line would be shot without warning (OR II, VII 1899:1097-1099; Snell 1996:62).

For the unfortunate prisoners who were transferred from Andersonville to

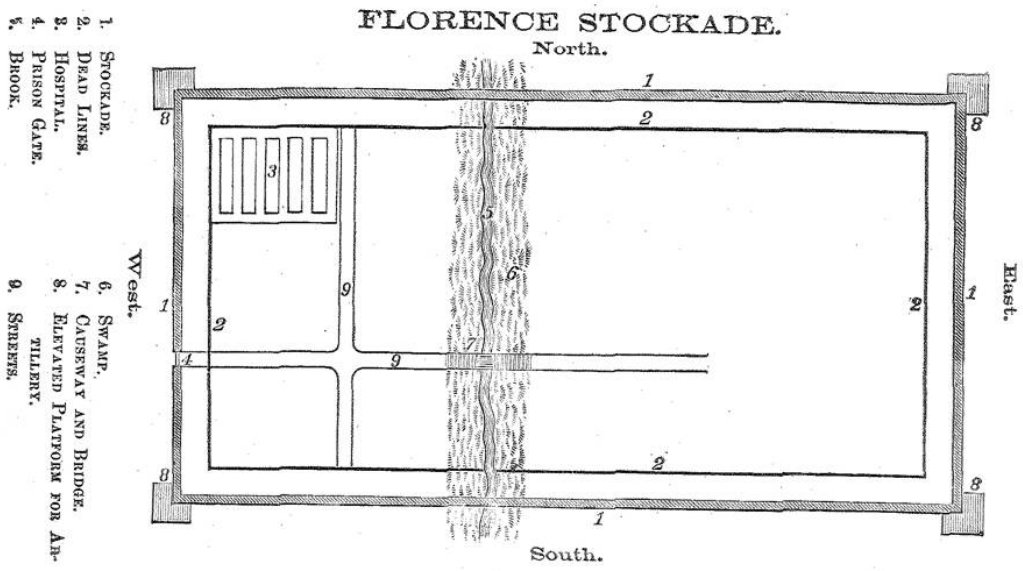

FIGURE 1. Plan map of the stockade (Kellogg 1868:318).

Florence, the conditions were no better. No shelter was provided with the exception of a few pine boughs left from clearing the site. The prisoners who were able created whatever shelter they could, often digging a hole large enough to lie down in which was covered by shelter halves if they were fortunate enough to have such, or pine boughs. Those who lacked the strength to create their own shelter, or a comrade willing to share shelter, simply lay on the open ground (Kellogg 1868:319; Snell 1996:66). Only uncooked rations were issued and no cooking utensils were provided (Hoster ca.1865). The poor quality of the rations combined with the constant exposure to the elements and generally unsanitary conditions lead to rampant disease. By mid-October, over 12,000 men were being held in the stockade (OR II, VII 1899:972-974).

As the prison population grew, so did the number of guards. Approximately 1,600 guards were in camp at the stockade in mid-October (OR II, VII 1899:972-974), and by November 5, 1864 the guard force was reported to include a total of 1,832 men, with 1,528 fit for duty (OR II, VII 1899:1097-1100). The guards at Florence included a mix of regular army veterans and conscripted reservists. By the end of September, elements of the 5th Georgia Infantry arrived to reinforce the reserve battalions already in place. The Georgia regulars were later reassigned and left Florence on November 18th. They were soon replaced by 90 members of the 55th Georgia Infantry (Woods 1947:4, 9, 11). Both the 5th and 55th were veteran combat regiments, each suffering high casualties before being removed from the lines. The 5th Georgia lost over half of its number at Chickamauga, while the majority of the 55th was captured at Cumberland Gap (National Park Service [NPS] 2006).

The majority of the guards were attached to one of the five State Reserve

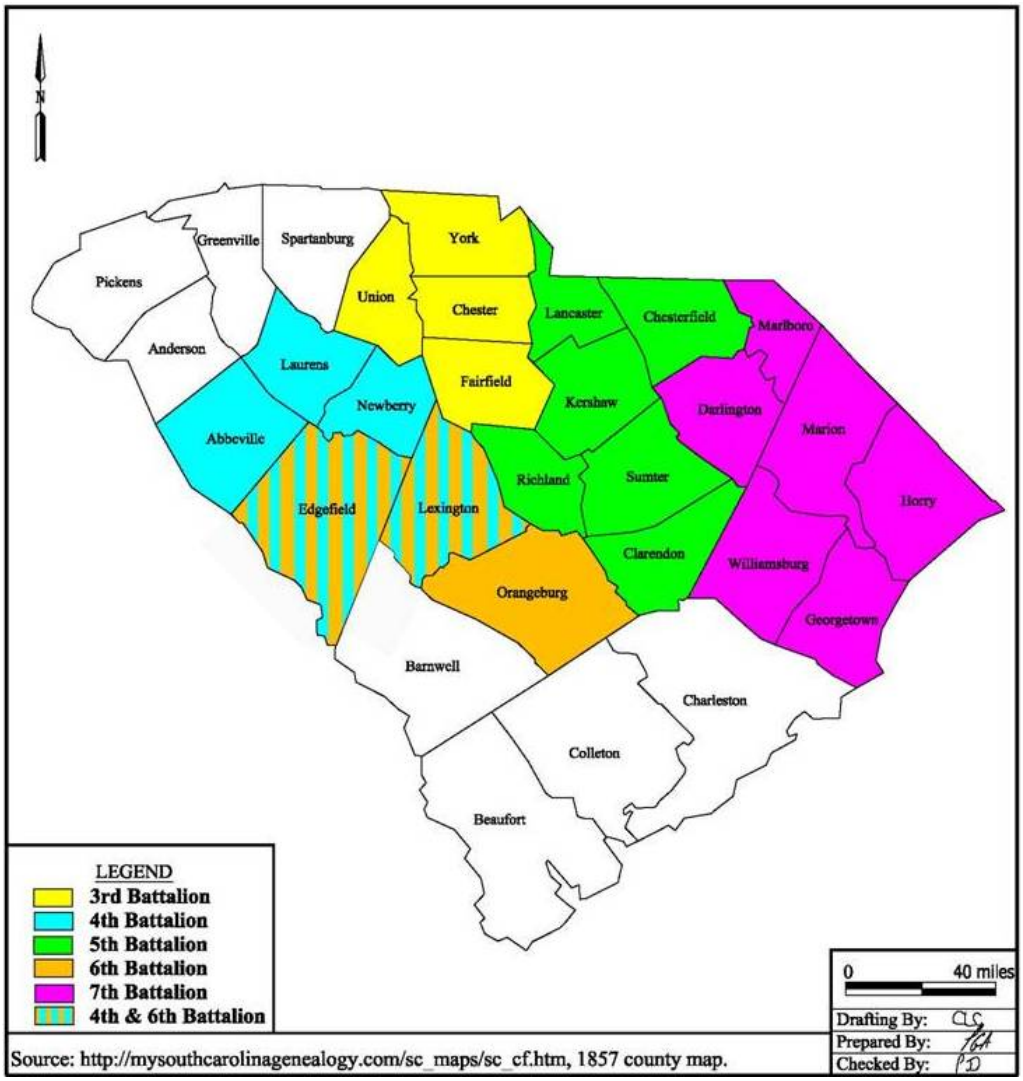

FIGURE 2. Map of South Carolina showing the counties of origin of the State Reserves who served as guards at the stockade.

Battalions detailed to the Florence Stockade. Made up of conscripted men either too old or too young to serve in regular army units, the State Reserves bore the brunt of guarding the stockade throughout its existence. Of the 1,832 reported in camp on November 5, approximately 1,200 of them were members of the 3rd, 4th, 5th, 6th or 7th State Reserve Battalions (OR II, VII 1899:1097-1100). The men of these units came from counties across the state of South Carolina (Figure 2) and received minimal training before being placed on duty guarding the prison.

After taking Savannah, Georgia in December 1864, Sherman's army turned toward South Carolina. As the Yankees neared Columbia in February 1865, the Confederate government realized that they had nowhere safe to ship the prisoners at Florence. Therefore, it was decided that the prisoners would be paroled. The 7,187 prisoners remaining in the stockade were first transported to Goldsborough, North Carolina where they were paroled, and then into the Federal lines at Wilmington. The first group left Florence on February 15, and by the beginning of March

the stockade was empty (OR II, VII 1899:449-454). Upon leaving Florence, prisoner Ezra Ripple of the 52nd Pennsylvania Infantry wrote (Snell 1996:138-139), "…our hearts were so full of joy that we could not act like sane persons, but would cry and laugh and hug each other, and do the most foolish things, in our unutterable joy."

Florence National Cemetery

The harsh conditions, lack of supplies, shelter, and adequate food combined with the already weakened conditions of many of the prisoners led to a staggering death toll. Of a prison population that never exceeded 15,000 men during the five and one-half month occupation of the stockade, over 2,700 died. The dead were buried in a small cemetery initially, but this soon became inadequate. A plantation owner north of the stockade provided space for large trenches to be excavated that were used for the burial of the Union prisoners. Each soldier's information was recorded in a death register and a number assigned. Each grave was marked with a wooden plank bearing the number of the deceased. The register was lost after the war and no complete record exists of those who are buried there or their exact burial locations (Congressional Record 1868:982-985; Rusling 1866). Today,

FIGURE 3. Florence National Cemetery today. The large open area is where the burial trenches for the prisoners are located.

each trench is marked with only a single marker inscribed with the number of soldiers interred in the mass grave (Figure 3).

The burial trenches are now part of the Florence National Cemetery, which is overseen by the Department of Veteran's Affairs, National Cemetery Administration. The original National Cemetery is centered around the trenches north of National Cemetery Road, but has since expanded to a large tract south of the road. Over 9,000 soldiers and their spouses, representing every major conflict and period of peace since the Civil War, are interred within the National Cemetery.

Archaeology in the Camp

In 2005, the U.S. Department of Veteran's Affairs planned to expand the Florence National Cemetery. The proposed 10-acre expansion area, located south of the existing cemetery, included a portion of site 38FL2, the Florence Stockade (Figure 4). Although the project area was

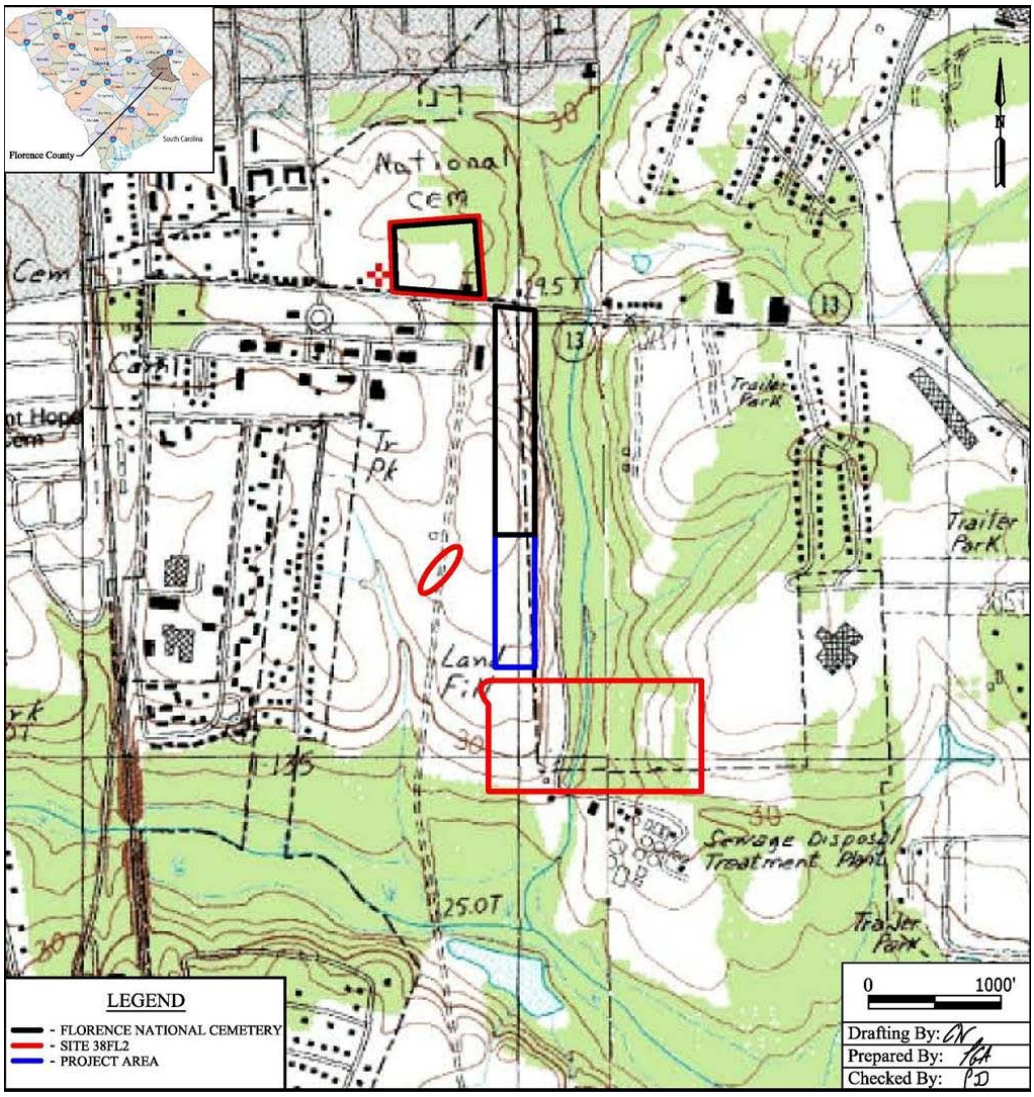

FIGURE 4. Site location map.

north of the stockade itself, it was believed that part of the support system for the prison was located between it and the cemetery. Phase II archaeological testing (Grunden and Holland 2005) was conducted on the expansion area prior to construction, although ground clearing had already taken place. Testing revealed the presence of numerous Civil War-period features, but did not reveal the function of the area.

During the spring and summer of 2006, MACTEC Engineering and Consulting conducted a Phase III archaeological data recovery project in the area examined during Phase II investigations (Avery et al. 2008). The research design called for stripping the plowzone from the nine-acre portion of the project area within the boundaries of site 38FL2, the recording of all features discovered, and the excavation of 150 site features. The small tract adjoining the southern edge of the existing cemetery that was determined to be outside the site boundary was also monitored while construction was taking place. The types of features present and their locations revealed that the area had been part of the camp of the Confederate guards.

Features

Five hundred and twenty-one features were recorded during Phase III investigations, including the 149 features previously recorded during testing. During the data recovery project, 179 features were excavated, although some of these features were determined to be trees or other non-cultural disturbances. The excavated features were assigned to one of 10 general categories based on size and shape in both plan and profile. Feature types included structures, trenches, privies, slit trenches, wells, pits, posts, trees, other disturbances and prehistoric pits. While some categories provided more specific typological or functional information, such as privies or posts, others required further specification, such as structures, trenches and pits.

Mapping of the structural features at Florence revealed that the camp was arranged in company streets (Figure 5), but apparently did not strictly follow military rule. The location of the structures strongly influenced the positioning of the other features. Military regulations dictated how a camp was to be arranged, but these rules were often changed based on terrain, the number of men encamped, and the duration of the occupation. For the Civil War soldier in camp, shelter took many forms (ranging from a shelter half to a log cabin) depending on the season, the tactical situation and length of deployment. The guards at Florence were far from the front and were there for a relatively long period of time which extended into the winter.

Excavated features revealed that several structural types were constructed. Three curved, shallow trenches likely marked the location of Sibley tents. Measuring approximately 18 feet in diameter, Sibley tents were conical in shape with a round base. They were often placed on top of a short wall of vertical logs that were placed in a trench. Sibley tents could accommodate at least 12 men, but they were expensive and heavy, so they were relegated to use by rear echelon troops through most of the war (Nelson 2006; Whitehorne 2006). Each of these trenches had an elongated protrusion perpendicular to the main trench that probably marks an entryway.

More permanent structures included dug-outs or semi-subterranean huts and possibly small log cabins. With sawn lumber scarce, logs were the basic

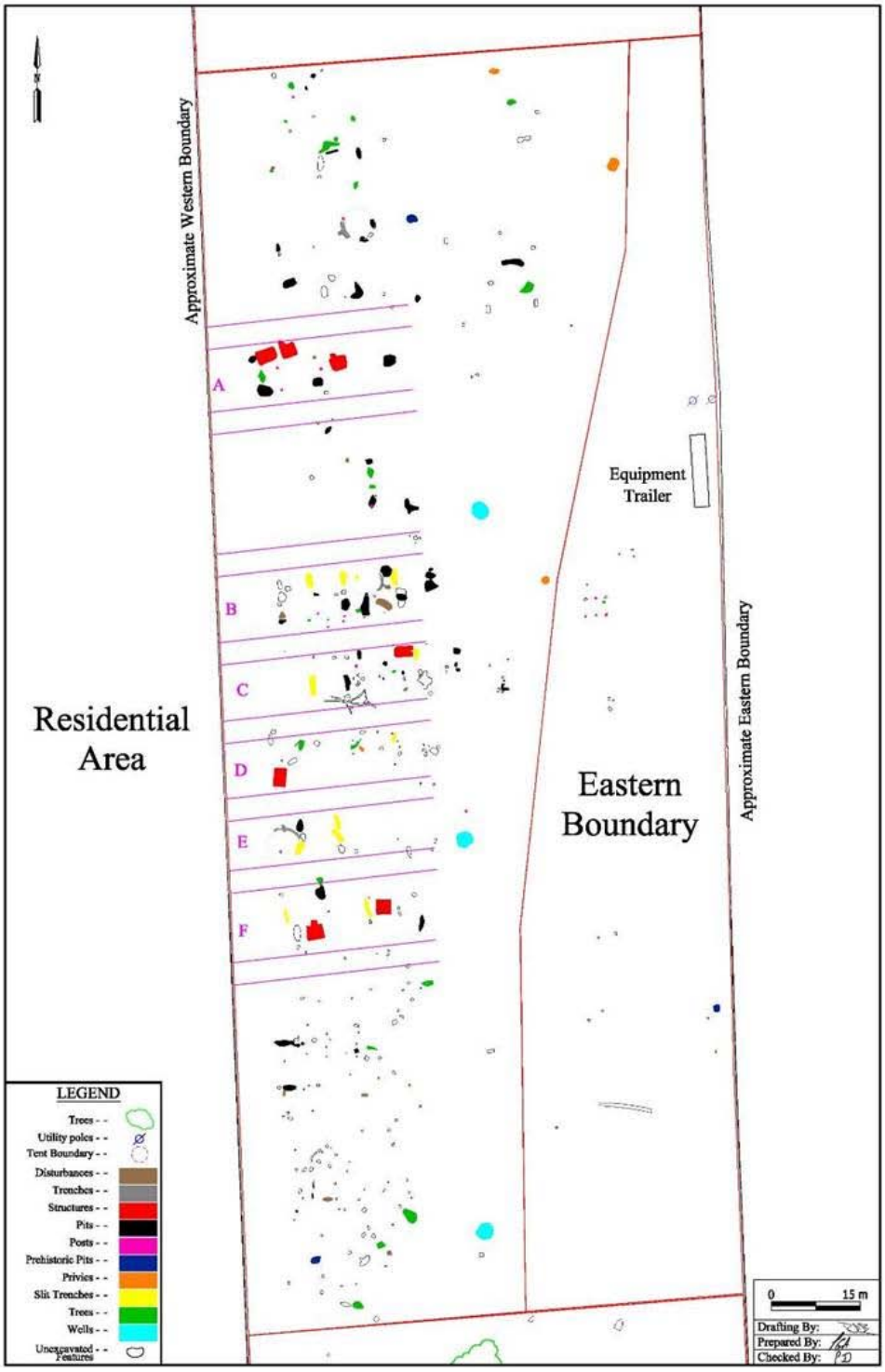

FIGURE 5. Feature location map showing the location of the residential blocks.

building material for these structures. Semi-subterranean huts consisted of a hole excavated three to four feet into the ground with short log walls on the surface. A roof, usually consisting of combined shelter halves or pine boughs, was placed on poles across the top of the wall. The dirt walls and floor were clad in boards if available. Chimneys were typically placed at a gable end of the hut and were

FIGURE 6. Feature 223 prior to excavation.

constructed with bricks, mud coated barrels or boxes, or sticks and clay (Nelson 2006; Whitehorne 2006). Feature 223 (Figure 6) was a clear example of a semi-subterranean hut. Measuring 10 feet by 10 feet and extending to a depth of 38 centimeters below the truncated ground surface, this hut was one of the largest structures recorded and was the deepest. Burned wood located on the floor of the structure, including fragments of bark and possible boards, may indicate that the walls or floor were covered as described above. The hearth of this hut was extremely well-preserved.

Similar features were also excavated but were generally much more shallow than the better preserved examples. These may represent cabins constructed above a shallow excavation or may simply indicate that more of the feature was lost to plowing. One large example, Feature 540, may have been used as a guard house based on its location north of the main residential area and its large size. This structure measured approximately 10 feet by 15 feet and had a small pit cellar near its center.

The most common features recorded at Florence were pits, which ranged widely in shape, size and profile. Specific functions were determined for some, but the purpose for most of them was unclear. Many appear excavated specifically for the disposal of refuse, while others may have served as sources of fill or other unknown functions. One pit, Feature 215 (Figure 7), appears to have been excavated specifically for the disposal of trash as it was basin-shaped and contained discrete layers of artifact-rich fill. Two other features appear to have been used as a source for clay based on their shape and depth. Feature 217 was excavated well into the hard, red clay subsoil and was bell-shaped in profile. Wooden planks

FIGURE 7. East profile of Feature 215. Note the concentration of organic soil and large artifacts at the base of the pit.

were located on the base of the pit, which may have been used as a work surface. Feature 425 lacked the bell shape, but was dug well into the clay. Clay was widely used in the construction of stick or barrel chimneys and was not readily available in this area of the camp. An easy solution would have been to dig through the soft sand to the clay that lay below.

Clues to the function of another pit were provided by a historic photograph. Feature 286 was a long narrow pit with larger, oval ends. The base of one end was baked hard and a concentration of ash and charcoal was noted within the rest of the pit. The feature was presumed to have been used for cooking, but the specific functional details were unclear from the feature alone. The image of a soldier with the 153rd New York cooking on an oval stove presented in Figure 8 illustrates one possible functional interpretation for the feature.

Artifacts

In addition to providing a wealth of information on the material culture of the Confederate soldiers stationed at Florence, it was hoped that the 5,828 artifacts recovered would provide some information on the function of the excavated features. Specifically, the distribution of the different artifact groups among the features was examined with that goal in mind. South's (1977) functional groups

were used as a basic framework for the artifact analysis. Although South's groups were designed for domestic assemblages, it was deemed appropriate for this project due to the site's overall domestic function within a military framework. As for the distribution of the artifacts, the average number of artifacts from each group was calculated for each feature type to provide the basis for the distribution of each group. The locations of certain individual artifact types were also examined in order to assist with the interpretation of feature types and the location of activity areas within the site (Table 1).

Activities Group artifacts were most frequently located in pits. This is likely due to the recovery of a large number of metal fragments as a result of the discard of sheet tin items in refuse pits. The relatively high frequency of these materials recovered from the structures can most likely be accounted for in the same way.

The Architectural Group was more evenly distributed among the various types of features, but the majority of the material was recovered from the wells. The vast majority of the rest of the assemblage was recovered from pits, privies and slit trenches and the structures. Most of the architectural artifacts consisted of nails and brick fragments that were common across the site. The presence of these materials in the wells and pits is primarily from the dumping of refuse, although the base of at least one well was probably lined with a wooden crate or box held together with nails. Likewise, one of the privies was apparently lined with a wooden crate (Figure 9). The bricks and nails recovered from the houses may represent primary deposits derived from efforts to improve the structures with board walls and brick hearths.

FIGURE 8. Member of the 153rd New York using a cook stove in 1862 (photo from the Brady Collection, Library of Congress).

TABLE 1. Artifact Group Frequencies by Feature Type.

Feature Type	Activities	Architectural	Arms	Clothing	Kitchen	Personal	Tobacco Pipes
Disturbance/Tree	1 1	1.8	0.7	0.0	2.3	1.6	0.0
Structure	23.9	19.5	37.6	50.0	12.7	30.1	24.0
Pit	53.5	25.2	26.0	34.2	48.7	22.2	64.0
Post	0.08	0 3	0.7	0.0	15.0	3.2	0.0
Privy/Slit Trench	16.3	21.4	14.9	13.2	8.0	34.9	4.0
Trench	1.6	0 3	1 3	0.0	0.8	4.8	0.0
Well	3 52	31.5	18.8	2.6	12.5	3.2	8.0
TOTAL (%)	**100**	**100**	**100**	**100**	**100**	**100**	**100**

The majority of the Arms Group artifacts were recovered from houses and pits. The artifacts recovered from the houses consisted primarily of ammunition components, such as percussion caps and bullets. Such small items were easily lost. While ammunition was recovered from pits, canteen

FIGURE 9. Feature 535, a rectangular, wood-lined privy.

parts (Figure 10) and cartridge box parts (Figure 11) contributed to the assemblage from the pits, where these items were intentionally dumped.

Exactly one-half of the Clothing Group artifacts was recovered from structures, although this figure is primarily due to the relatively large number of buttons and button fragments directly associated with the burial in Feature 95. If the buttons from Feature 95 are omitted, the majority of the Clothing Group would have been recovered from pits, followed by privies and slit trenches. It would be expected to find these items in the houses as this would have been where the maintenance of clothing took place, and buttons were certainly easy to lose if dropped. Those buttons found in pits suggest that they were

FIGURE 10. Confederate drum canteen recovered from the base of Feature 502, one of the wells.

FIGURE 11. Cartridge box tin recovered from Feature 425, a large clay extraction pit.

intentionally disposed of, while those buttons in privies and slit trenches may have been lost while unfastening and fastening garments.

Kitchen Group artifacts were encountered in all feature types but were most commonly recovered from pits. Most of these materials were fragmentary glass containers and ceramic vessels probably thrown into the pits after they were broken elsewhere. However, a few pits appear to have been directly associated with the preparation of food. The high frequency of items from posthole fill was unexpected and consisted almost exclusively of container glass.

Artifacts from the Personal Group were somewhat evenly distributed within privies and slit trenches, houses and pits, although they were recovered from all feature types. The majority of the personal

FIGURE 12. A hard rubber comb.

FIGURE 13. Representative types of ammunition recovered from the camp. The two balls on the left are .69 caliber. Note the uncut sprue left from casting the ball in the upper left. The buckshot in the center are .31 caliber and were likely components of .69 caliber buck and ball loads favored by guards. The minie-ball and round ball on the right are .54 caliber.

materials was located in privies or slit trenches and were likely lost from pockets or disposed of intentionally. Artifacts recovered from the houses were more likely lost. Broken tines from hard rubber combs (Figure 12) were the most common recovered personal artifact and were primarily located in pits and houses.

Only a small number of Tobacco Pipe fragments was recovered, with the vast majority of these artifacts located in pits. No intact or complete specimens were recovered, indicating that they were broken elsewhere then disposed of in the pits. The next most frequent location for pipe fragments was in houses, which more likely represents their location of use and possibly breakage.

Artifact Patterning

The distributions of some specific artifact types were selected to determine if patterns were evident that might provide relevant interpretive information about the camp. This approach was of little analytical value using artifacts such as nails or container glass that were distributed widely across the site. Therefore, smaller assemblages and those with specific functions were examined.

Although a very small number of window glass sherds was recovered, the locations where they were found is informative. All of the sherds were located in structures, with 12 of the 13 fragments coming from Features 223 and 540. This distribution may indicate that these structures were built with glazed windows. It was common for officers on extended duty (such as winter quarters) to place windows in their cabins or huts, using window frames scavenged from other buildings (Nelson 2006; Whitehorne 2006). This activity was much less common among enlisted men. Feature 540 was large in planview but shallow, which may indicate a fairly substantial cabin or guardhouse built primarily above the ground surface. As described above, Feature 223 was the largest of the subterranean huts and apparently had board walls. These two features appear to represent substantial structures and may very well have included glazed windows.

Besides small buckshot, only two calibers of bullets were recovered (Figure 13). The .54 caliber bullets were likely used in either Mississippi/Palmetto rifles or Lorenz rifles. The .69 caliber balls could have been fired by a wide variety of older weapons, but were likely used in Model 1842 muskets (Coates and Thomas 1990). This disparity in weaponry may indicate the presence of different units of infantry. However, a single reserve unit might be issued a mixture of weapons based on availability, especially late in the war. The distribution of the dif-

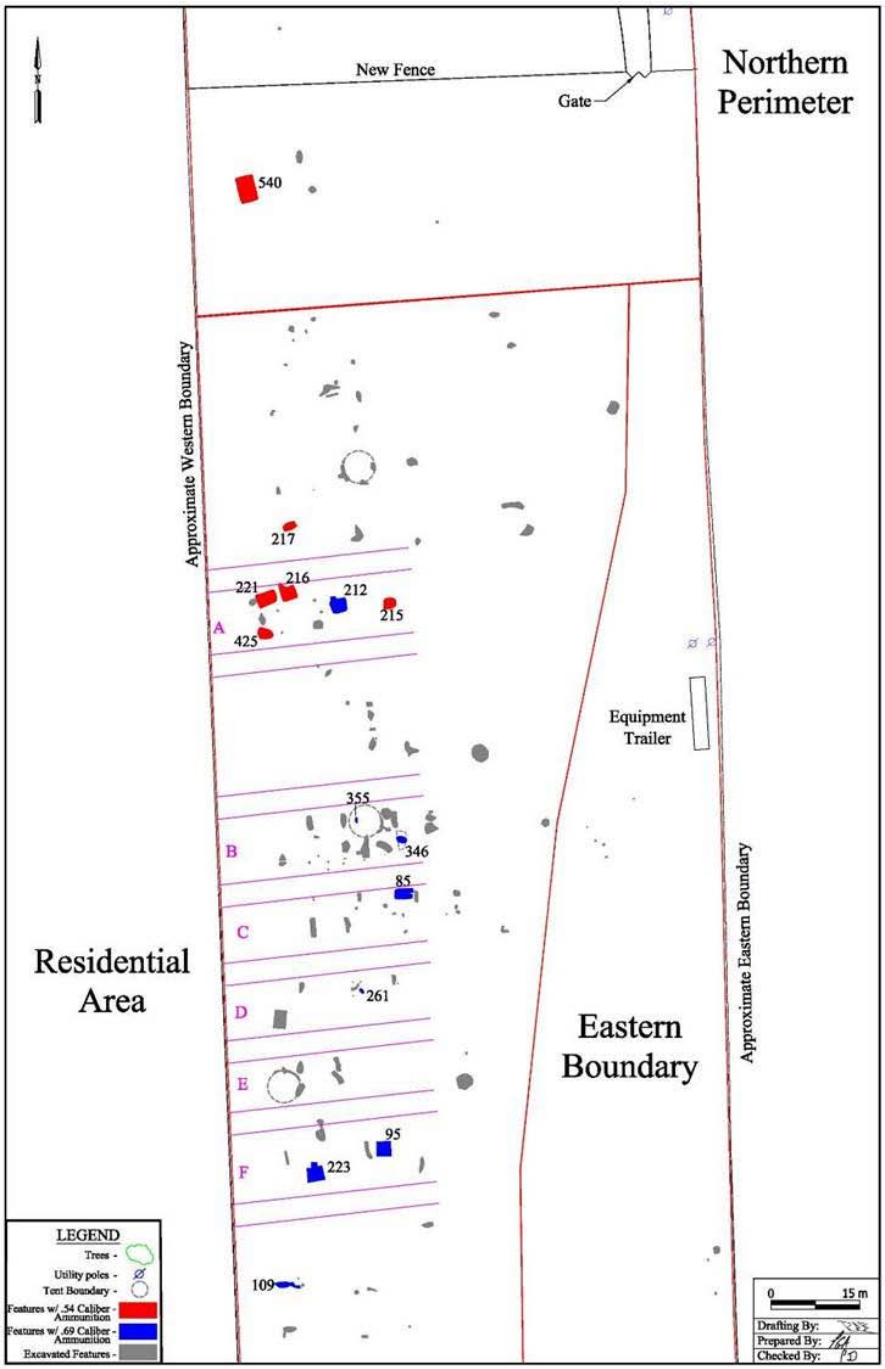

FIGURE 14. Distribution of .69 caliber and .54 caliber ammunition across the site.

ferent calibers further suggests that at least two different units were present in the portion of the camp investigated (Figure 14). The .54 caliber ammunition was concentrated in the northern portion of the site, specifically in and around Block A. This type was recovered only from structures and the large pits encountered in this block. One .54 caliber minie ball was recovered from Feature 540 within the northern perimeter of the site as well.

The .69 caliber ammunition was much more widely dispersed across the site than the .54 caliber bullets. Ammunition in

FIGURE 15. Blue transfer-ware plate recovered from the base of Feature 493.

this caliber was recovered from as far south as Feature 109 and as far north as Feature 212. These bullets were recovered from a wider variety of features as well, including structures, pits and a privy. This may indicate that this caliber was more commonly in use, at least in this portion of the camp. It is interesting to note that no features contained both .54 and .69 caliber ammunition. Two .69 caliber balls were recovered from Feature 212 located in Block A immediately adjacent to two features that contained .54 caliber bullets. While no real evidence exists, the presence of differing ammunition calibers within the same block may indicate that different units occupied this area over the time the camp was in use.

The distribution of Kitchen Group artifacts was somewhat more problematic due to the large number of artifacts. In fact, no effort was made to pattern the container glass as it was recovered from every type of feature across the site. Ceramics, however, provided a better opportunity for analysis. The distributions of refined wares and utilitarian stoneware were plotted separately. Refined ceramics were widespread, but were concentrated in the northern area of the site, including Block A. All of the wells contained small amounts of refined ware, including a blue transfer printed plate (Figure 15). Ten sherds from another blue transfer ware plate were recovered from Feature 239 that represents a slit trench associated with a possible Sibley tent in Block E. The concentration of these materials in the structures and associated pits in the Block A area may mark a different status between the soldiers who lived on this block as opposed to the others. What this dif-

FIGURE 16. Stoneware jug recovered from Feature 502. The decorative motif is known as the "broken flower", commonly found on vessels made by Thomas Chandler in the Edgefield District of South Carolina between 1840 and 1852 (Joe Joseph, Pers. Comm.).

ference represents is unclear, but could be interpreted that the soldiers in this area of the camp held a higher status (possibly due to rank) than those to the south. Another possibility is that these soldiers were relatively new recruits that arrived from home carrying their private dinnerware.

Stoneware was much more common than refined wares and more widely distributed. However, it was concentrated in the northern portion of the camp that includes Block A. Stoneware was recovered from Features 223 and 95, but only single sherds. Two wells (Features 518 and 502) produced stoneware, but these tended to be larger sherds and more complete vessels, such as the nearly complete jug (Figure 16) and jar recovered from Feature 502. The largest number of sherds was recovered from Feature 376, a pit in Block B that produced 162 sherds from a single vessel. Likewise, the 22 sherds recovered from Feature 425 represented two vessels deposited in two discrete areas of the feature. What the distribution of stoneware indicates is unclear, although it could simply mean that more of this material was in use on the northern end of the site.

Kitchenware, those items used to store, prepare and consume food, was widely scattered from as far south as Feature 485 and north to Feature 217. Utensils were recovered from Features 212, 215, 223, 239 and 248. Most of these items were forks or spoons, but a folding corkscrew was located in Feature 223. Two fragments of a kettle or dutch oven were recovered from Feature 217 while a portion of an iron spider skillet was located in Feature 518. The remaining kitchenware consisted of a nearly complete tin can and fragments of another can. The actual number of tin cans and other food containers should probably be much higher as a very large number of tin fragments were recovered that could not be identified as to form or function.

Conclusions

The distribution of the artifact groups among the various feature types provided valuable information for defining general activity areas across the camp. This distribution also produced some intriguing evidence as to which military units were living within the project area. Less successful was the determination of feature function. The main difficulty was the lack of obvious primary deposits within the features. While some primary deposits were certainly encountered, they were often impossible to separate from the secondary refuse dumped into the features at a later time. This practice is not a major concern with the more obvious features,

such as the structures, privies or wells, where the feature morphology is usually sufficient to determine its function. But in features (such as the pits) where the main function cannot be determined by shape alone, the lack of primary deposits makes any interpretation of function much more problematic. Many of the pits, for example, may well have been intended as a receptacle for secondary debris, but in many cases this cannot be assumed. In other cases, the artifacts can be misleading, as with several post holes that contained complete liquor bottles and animal bone. Secondary functions combined with secondary deposits can certainly lead to confusion.

The excavations conducted in the campground of the Confederate guards at the Florence Stockade provided a unique opportunity to examine the day-to-day life of rear echelon soldiers during the latter days of the Civil War. The short period of occupation and the relatively small number of men who inhabited the campground provided a discrete sample of documentary, spatial and material data that is being analyzed in great detail. While much has been written by and about the Union prisoners who suffered and died within the prison walls, the Confederate guards have remained conspicuously silent through history. Our work within their camp has shed some light on them and the conditions under which they served, and it is my hope that this research will serve as a starting point for more archaeological studies in the future.

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THE WEB OF CULTURAL IDENTITY: A CASE STUDY OF AFRICAN-AMERICAN IDENTITY AND "SOUL FOOD"

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A new model of cultural identity is presented as a tool to visualize the complexity of personal/group identity formation through social interaction and stratification. In this model, artifacts are seen as remnants of this identity process, but they do not create identity by themselves. Instead, they can be used by an individual or a group to create and reinforce kinship and community relationships or to deny full citizenship of others through segregation and racial stereotypes. Foodways probably provide the best evidence to explain this model and to understand past cultural identities. A case study on African-American identity as seen through "soul food" is offered from two sites in Missouri's Little Dixie Region.

Identity is a complex cultural construct that is formed and transformed over time through social interaction and stratification. Using a case study of African-American identity as seen through "soul food," a new analytical model is presented to visualize this cultural process of identity formation. The term "soul food" is used today to describe African-American cooking traditions that extend back to the days of enslavement and formed through a creolization of African, European, and Native American foodways (Blanks 1984; Bower 2008; Ferguson 1989; Franklin 2001; Mitchell 1993; Whitehead 1984, 1992; Williams-Forson 2007, 2008). The procurement, preparation, and consumption of food have been used by African Americans and European Americans to define various levels of black identity. As enslaved citizens or as free domestic servants in white households, cooking and food consumption formed and reinforced gender, class, and racial stereotypes. Within the black household and community, foodways have been used to define African-American ethnicity. Zooarchaeological data from a Missouri slave/tenant context at the Oak Grove Plantation and from a nearby postbellum African-American community in Arrow Rock, Missouri, provide a case study into the various and changing levels of cultural identity from slavery to freedom.

The Web of Cultural Identity

Food in human culture can provide a visible representation of social interaction and identity (Brown and Mussell 1984; Caplan 2007; Counihan and Kaplan 2007; Counihan and Van Esterik 2008; Cussler and de Give 1952; Gabaccia 1998; Pilcher 1998; Twiss 2007b; Warner 1998; Watson and Caldwell 2005; Williams-Forson 2008; Xu 2007). The common adage of "we are what we eat" is an oversimplification of food and identity formation/transformation (Twiss 2007a). Instead, cultural identity should be studied through "the interactions of food, gender, race, class, and power" (Williams-Forson 2008:343). Food by itself has no true meaning until it is viewed within its cultural theater or web of social interaction. To understand this process, a new model has been created called the Web of Cultural Identity (WCI) (Figure 1). The WCI is configured with five concentric rings with six cultural levels of interaction that range from the most intimate at the individual (1) to the broadest at the global environment (6). These culture levels are then crosscut by ten lines of social stratification, which

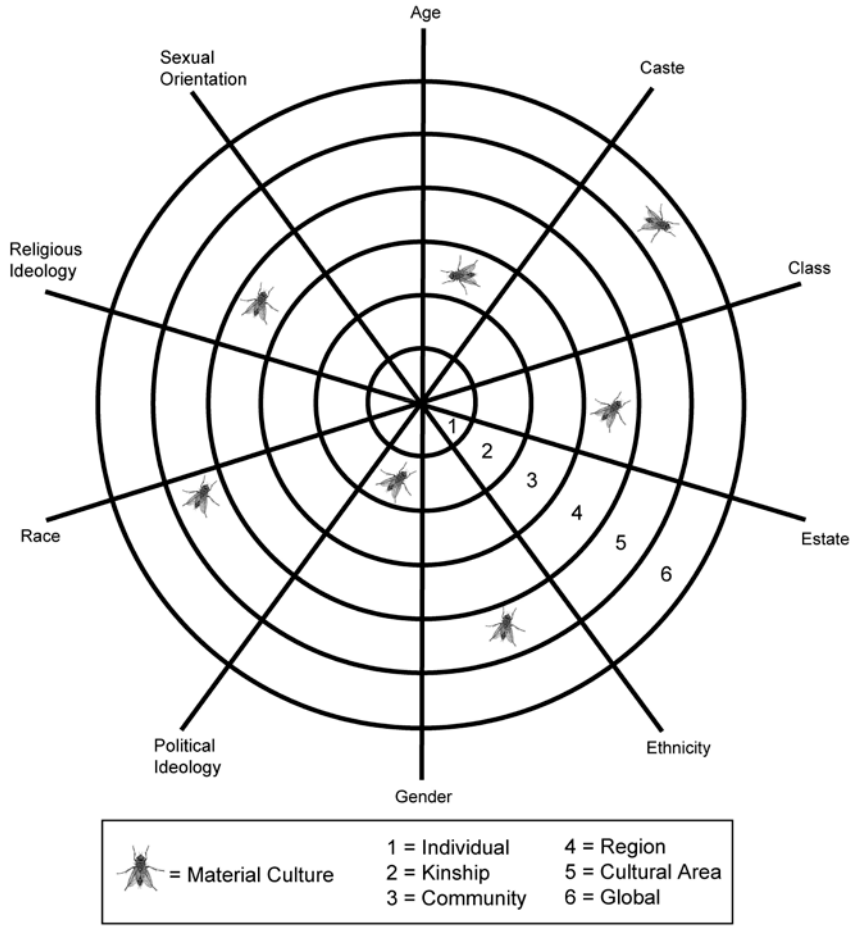


FIGURE 1. The Web of Cultural Identity (WCI)

include age, caste, class, estate, ethnicity, gender, political ideology, race, religious ideology, and sexual orientation. These stratification levels and their definitions expand upon on the work of cultural anthropologist Gerald Berreman (1972, 1981), whose research has focused primarily on comparative social inequality on a global scale.

Social identity can be created at all eight levels of social stratification and is formed and transformed constantly with each new encounter and social interaction. No single social stratification line can truly be linked to an identity. Each line of social stratification can affect the formation of identity, but never equally and it can be both extrinsic and intrinsic in its formation. Caught within the web between the cultural levels of interaction and the forms of social stratification are the flies that represent material culture, which includes foodways. In a living culture, we might be able to see the effects of social interaction and stratification on material culture, but in an archaeological context all we have left is the dead flies or the material by-product or mediums of these social relationships. Thus, defining artifacts to a single level of social stratification (e.g., ethnicity) or to a single level of interaction is problematic and oversimplified. The WCI model can help to conceptualize the complexity of interactions that has

formed and transformed the African-American tradition of "soul food."

What is Soul Food?

The term "soul food" was coined in the 1960s as an outgrowth of ethnic pride and revitalization of African-American identity (Bower 2008). The "soul" represents the historical formation and psychological sense of African-American identity. The creation of the African-American community in the United States truly began during the Middle Passage on slave ships to the New World (Mintz and Price 1992). On these ships, enslaved Africans were torn away from their family, friends, and cultural homelands and were forced to develop new kinship and community bonds that were not based on genetic or ethnic/tribal affiliations. Once in the New World, these enslaved Africans struggled against the trading block that separated mother from child and husband from wife to develop and maintain these new kinship and community bonds. This struggle for personal and community identity continued after emancipation as newly freed African Americans faced Jim Crow laws that prohibited or hindered property ownership and religious and educational facilities, as well as business and social establishments (Lewis and Lewis 2009).

The social interaction between Africans and Europeans in the New World was primarily a power relationship of dominance (master) and resistance (enslaved). In reaction to enslavement and racism, African-American cooks, predominantly women, utilized their imagination and resourcefulness to create new recipes and dishes forming a traditional foodways pattern now called "soul food." This food tradition fulfilled nutritional needs of the body as well as sociocultural and psychological needs of the soul creating personal and community identity in the face of oppression.

The "food" of soul food consists of preparation styles and diet (Table 1) (Ferguson 1989; Fisher 1995 [1881]; Harris 1989, 1995; Jones 1996; Joyner 1971; Mitchell 1993; The National Council of Negro Women 2000; Opie 2008; Tillery 1996, 2002; White 1998; Whitehead 1992; Williams-Forson 2001, 2006, 2007, 2008; Woods 1999). Pork and chicken are the most common soul food meats, including cuts that are typically the most economical. From the pig, these inexpensive elements are the ears, feet, heads, intestines, and backs and for the chickens the wings, necks, backs, feet, heart, and liver. Pork grease or hot spices are also important in cooking the soul food staples of chicken, fish, and potatoes as well as vegetables like collard or turnip greens (Whitehead 1992:98). Corn and sweet potatoes are a favored component used in cornbread, grits, hominy, and sweet potato pudding or pie. Wild game are also an important element on the soul food menu and included deer, duck, fish, geese, guinea hen, opossum, rabbit, squirrel, and turkey (Blanks 1984; Ferguson 1989; Franklin 2001). Drinks and desserts are best known for their high quantity of sugar.

An etic or outsider's perception of soul food is filtered through racial, class, and gender classification or stereotypes, which were often associated with the "mammy" figure, fried chicken, chitterlings, and watermelon. The "mammy" figure will be forever characterized by Hattie McDaniels in her Academy Award winning performance in the 1939 movie *Gone With the Wind* (Bogle 1997:86-94; Turner 1994:43). This fictitious character of the happy, simple slave or domestic cook is a romantic view of the nineteenth century by white America. This perception began

TABLE 1. Whitehead's (1992:102) Non-exhaustive List of Traditional Black Core, General Traditional, and Non-traditional Foods in the Present Southeastern United States.

Traditional Black Core Foods	**Traditional Foods External to the Black Core**	**Non-traditional Foods Now Present in the South**
Pig tails/ears/feet/heads/backs	Bacon/sausage	Processed and canned meats, fish
Neckbones	Hams/ribs/chops/loins/roast/shoulder	Hot dogs
Heads/backbones	Chicken breast/legs	Hamburgers
Liver	Nonfish seafood	Cole slaw
Kidney	Beef/steak/roast	Noodles, macaroni, spaghetti
Brain	Raw apples/peaches	Doughnuts
Chitterlings	Bananas	Honeybuns
Fatback/salt pork/side meat	Oranges	Instant cereals
Chicken wings/necks/backs/feet	Lemons	Prepackaged biscuits, rolls, cornbread
Wild game	Cheese	
Fish	Cookies	Soups
Eggs	Fish	Applesauce
Collard/mustard/turnip greens	Raw tomatoes	Grapefruit
Cabbages	Beef stew	Margarine
Okra	Honey	Chocolate milk
Peas and beans	Lettuce	Fruit juice
Sweet potatoes	Pickles	White bread
White potatoes	Butter	Carbonated beverages
Corn		
Poke salad		
Cornbread		
Biscuits		
Pies/cakes/cookies		
Rice		
Whole milk		
Butter milk		
Coffee		
Tea		
Onions		
Molasses		
Jelly/jams/preserves		

during slavery and persists today. At the 1893 Columbia Exposition in Chicago, a pancake flour company hired Nancy Green, a black cook, to give demonstrations of making pancakes and to tell stories of the Old South as the mammy character "Aunt Jemima" (Turner 1994:49). This image of Aunt Jemima, along with Uncle Ben, can still be found in the grocery store, perpetuating the racial, class, and gender stereotypes of African-American identity.

Because of these persistent racial ideologies, historical interpretations of African-American diet at museums and in publications must be critically evaluated to ensure that they do not inadvertently provide evidence that could support these stereotypes. For a case in point, archaeological evidence of enslaved African American diet, which included melon seeds, was collected from the slave village at the Carter's Grove plantation in Virginia. This foodways data, including the watermelon, was then used in first person historical interpretations of enslaved African American life in reconstructed slave homes by the Colonial Williamsburg

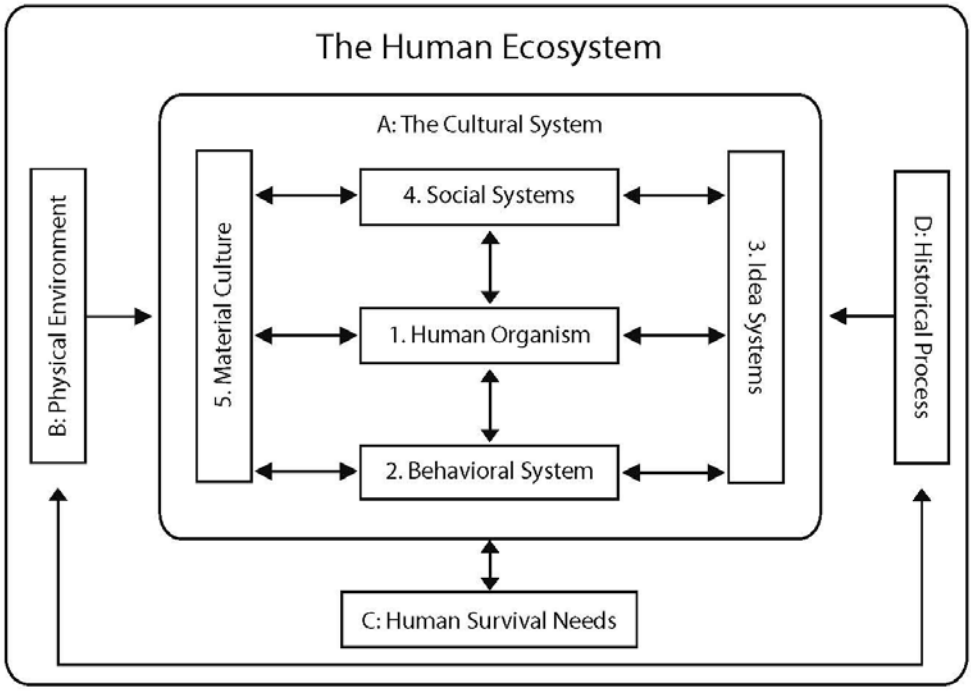


FIGURE 2. The Cultural Systems Paradigm (Redrawn and adapted from Whitehead 1992:96).

Foundation. The use of these melons was quickly removed after they were identified by African-American staff as a racially imbued item that could reinforce these old stereotypes (Gable et al. 1992:802).

An emic perspective of soul food is linked to African-American ethnic traditions and heritage that define and bind an individual with a family or community. This was best highlighted in the 1997 20th Century Fox movie *Soul Food*, in which an African-American family is brought together by a weekly Sunday dinner. At these dinners, the food and the conversations around this meal provided a multigenerational bonding mechanism that renewed kinship and community ties. Consciously and unconsciously, these bonds were historically grounded, reflecting on previous generations and traditions, and provided a present identity and a foundation for future personal and community identity development. In the end, all cultures have their own soul food that helps to frame one's sense of self. The next question is "how can we document the formation and transformation of African-American identity in the archaeological record?"

African-American Foodways Research

Anthropological research on African-American foodways has included historical/folklore studies documenting early African-American life and traditions (Genovese 1974; Hess 1998; Hilliard 1972; Joyner 1971, 1984; Poe 1999; Williams-Forson 2001, 2006, 2007, 2008), ethnographic field work that was often associated with clinical nutrition (Blanks 1984; Jerome 1969; Whitehead 1984, 1992) and archaeological investigations (Ascher and Fairbanks 1971; Barber 1976; Crader 1990; Cheek and Friedlander 1990; Cressy 1985; Franklin 2001; Gibbs et al. 1980;

McKee 1987, 1999; Otto 1984; Reitz 1986, 1987, 1994; Reitz et al. 1985; Scott 2001; Tuma 1998; Warner 1998, 2000; Yentsch 1994, 2008; Young 1993). The ethnographic fieldwork of Tony Whitehead (1984, 1992) and his former student Delilah Blanks (1984) focused on the formation of African-American subsistence patterns and their impact on contemporary African-American nutrition and health. In particular, they worked with multigenerational African-American families in North Carolina to understand their continuing and changing food habits. From this research, Whitehead created "The Cultural Systems Paradigm" (CSP), an ecological model that emphasizes the sociocultural context of historical processes that have formed and transformed African-American foodways (Figure 2). The CSP helps to explain "food behavior as a part of a cultural system by allowing us to note *what* the food is (content) and who is participating in its use, as well as how (participation and method), when and with what regularity (routinization), and where (location) a group's, household's, or individual's food is acquired, prepared, preserved, distributed and consumed" (Whitehead 1992:97). The application of this paradigm can provide a mechanism to better understand the cultural milieu of soul food. Whitehead (1992:101-102) concluded that soul food was produced through the following cultural processes:

1) African foods brought by slave ships and foods and other components of the African foodways created by the African servants;
2) Sociocultural processes that resulted in the integration of African, European, and Native American foodway systems;
3) A rural physical environment that has long supported traditional African and European foods now a part of the southern food system;
4) Persistent economic and political marginality for African Americans;
5) The emergence of social, ideational, and organic (taste) preferences for patterns related to traditional southern foodways;
6) The universal tendency for foodways to meet human needs other than mere nutrition.

Information compiled through this ethnographic research has resulted in a historical understanding of African-American foodway traditions and the development of preventative health care to address the high occurrence of diabetes, stroke, and hypertension in the contemporary African-American community.

Archaeological studies have focused primarily on foodways from enslaved contexts rather than free African-American sites and have fallen into two categories: 1) diet/nutrition and 2) social stratification (e.g., class, ethnicity, gender, race). The archaeological study of African-American diet has been at the core of African-American archaeology since its inception by Charles Fairbanks (1974) in the 1960s at the University of Florida. Historical documents, like planter's diaries or account books, often outline food rations given to their enslaved African Americans, such as salted pork and molasses. Some historians have used these records to argue that enslaved African-American's diet and health were extremely poor, lacking an adequate caloric and vitamin intake and resulting in severe health problems (Fogel and Engerman 1995). Archaeological excavations of slave quarters have shown that a slave's diet was not limited to the planter's rations, but included more diverse foods including domestic animals or produce raised in adjacent animal pens or gardens and wild resources gathered or hunted in nearby fields and forests (Fairbanks 1974; Singleton 1991). The faunal assemblage from slave/tenant households

at the Levi Jordan plantation in eastern Texas supports this statement and also suggests a dietary shift to a greater reliance on domesticated animals over time from slavery to tenant occupations (Brown and Cooper 1990:14-15). A similar trend of decreased wild resources over time was found at the Mabry Plantation site in East Tennessee (Young 1993).

Dietary patterns have also been compared between the enslaved, overseer, and planter households at the Cannon's Point Plantation in Georgia to determine status and ethnic differences (Otto 1977; 1984). Otto observed that wild resources provided nearly 50 percent of the slave's protein and that the enslaved and overseer faunal remains were normally processed with cleavers for "one-pot" meals (e.g., stews, gumbos). This is in contrast to the planter's household, which typically had sawn bones for individual cuts of meat. Linked to this processing difference, the enslaved households had a statistically higher frequency of bowls than flatware when compared to the planter assemblage, which had more plates than bowls. These processing and vessel form differences suggest that stews and gumbos were more frequently eaten by the enslaved.

Banded and transfer print decoration were also significantly different by social position with the former associated with the enslaved and overseer households and the latter with the planters assemblage. Otto argues that these faunal and ceramic differences reflect both status and possibly ethnic differences on the Cannon's Point Plantation, but I would argue these patterns are probably not visible on all plantation or other African-American contexts over time (e.g., urban, postbellum, northern states).

The overall quality and quantity of food that enslaved African-Americans acquired can contrast greatly. This statement is carried by Amy Lynne Young's (1993) faunal research at the Mabry Plantation and her comparative analysis of selected Southeastern plantations, which addressed the diversity of diet and the cuts of meat from both planter and slave contexts. She concluded that "diets on plantations varied depending on the local environment" and that "plantations along the coastline gave slaves and planters greater access to estuarine resources and thus created a more diverse diet than inland plantations" and on the Mabry plantation that "there was no significant difference between the cuts of domestic meat consumed" by the enslaved and planter families, but the slave component had a greater diversity of wild resources (Young and McKelway 2000:200). In contrast, sites like Cannon's Point Plantation indicate a distinct difference in the percentage of species and cuts of meat between the enslaved and planter households (e.g., pork vs. beef) (Otto 1977, 1984). According to Gibbs et al. (1980:179), this variation in enslaved African-American diet was affected by eight factors:

1) the location of the plantation within a given state;
2) the size of the farm or plantation;
3) the personnel directed to issue food;
4) the frequency with which food was distributed;
5) the ability of slaves to raise their own food or steal it;
6) the personnel allowed to prepare the food;
7) the status of the slave; and
8) cooking utensils.

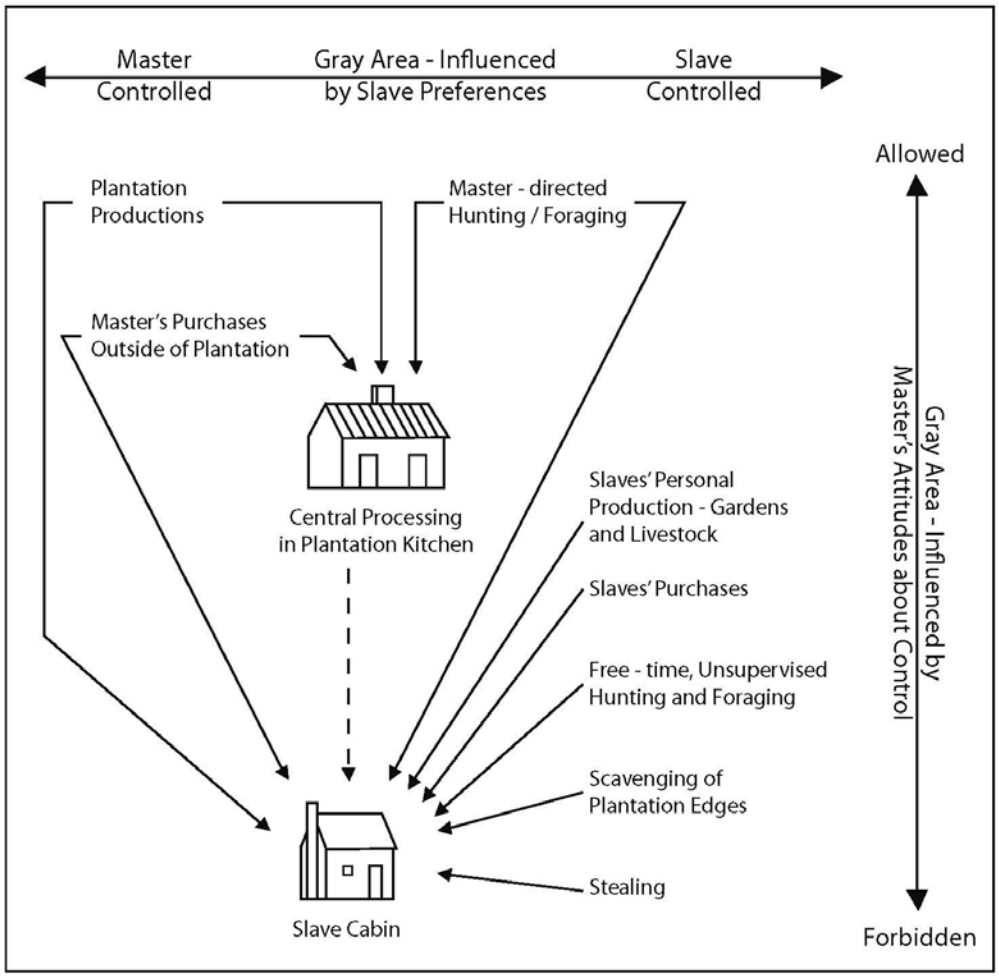


FIGURE 3. Sources of food in the diet of plantation slaves (Redrawn and adapted from McKee 1999:239, Figure 11.2)

Similarly, Larry McKee (1999) provided a glimpse into the enslaved African-American foodways system with his model of food acquisition on southern plantations (Figure 3). In this diagram, food is placed as the medium between planters and enslaved citizens, revealing their power and resistance relationship. As you move from left to right in McKee's model, there is a shift from master to slave control. From top to bottom, there is a transition from allowable means to disallowed methods of obtaining food. In the center of this model are two forms of food distribution via a central kitchen and direct rations to the slave cabins. McKee's model is similar to the proposed WCI model in that it is attempting to explain the underlying social interaction between master and slave. Despite this similarity, his conceptual diagram is still lacking in that it does not address the complex inner workings between the planter's family and domestic cook/servants in the "Big House" nor does it speak to the changing or diachronic relationships from slavery to freedom as well as the complex hierarchies within the African-American community.

Other social stratification studies of African-American diet have focused on these more complex social relationships of racism, ethnicity, gender, and class.

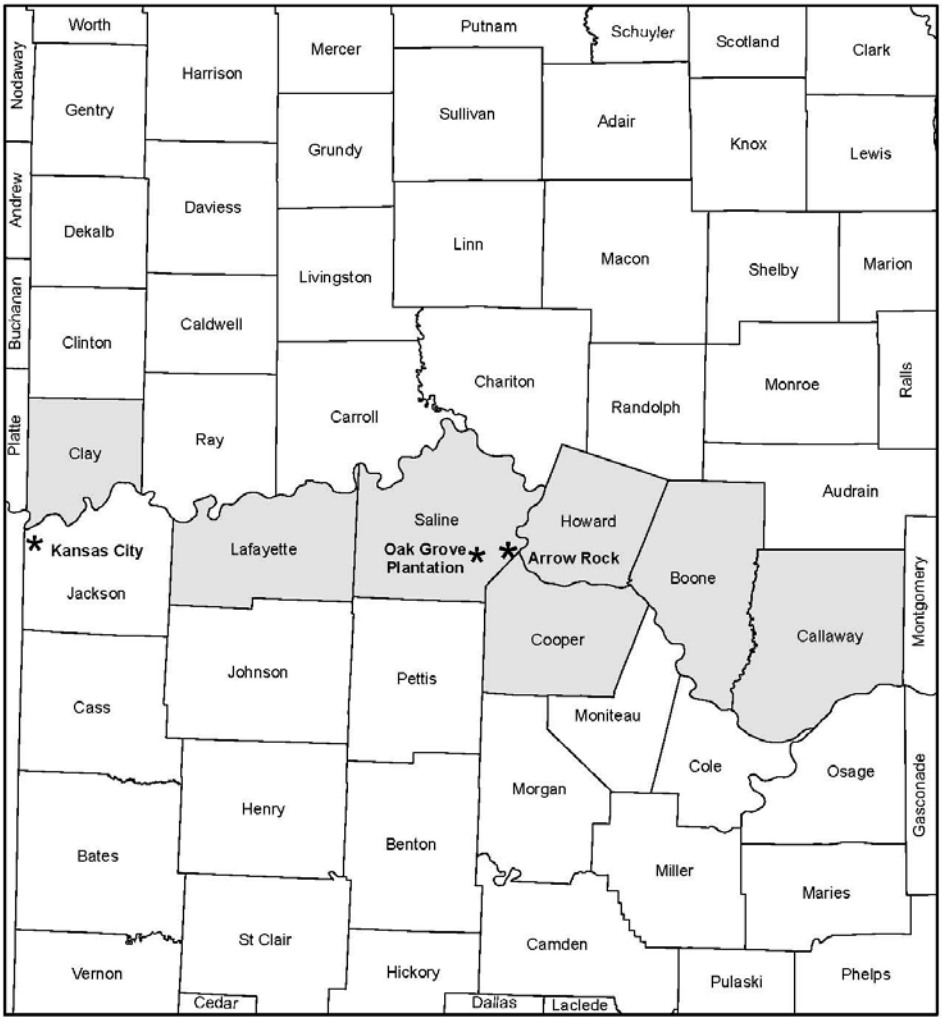


FIGURE 4. Map of Missouri's "Little Dixie" counties shaded with the locations of the Oak Grove Plantation and Arrow Rock, Missouri

For example, the work of Elizabeth Scott (2001) at the Nina Plantation in central Louisiana provided evidence for how economics and ethnicity affected the diet of pre-Emancipation and post-Emancipation African Americans. Differences were best represented by the changing proportions of meat cuts, species of animals, and ceramic forms (Scott 2001:684). In particular, distinct ethnic foodway patterns were identified between the French planters and antebellum African-American residents (Scott 2001:688). French planters had access to both high and low-quality cuts of beef and ate very little pork. In contrast, antebellum African Americans at Nina Plantation consumed little beef, but had access to all varieties of pork cuts. This evidence partially supports the ethnic origins of pork as a staple in "soul food." Similarly, research data from urban and postbellum contexts has documented a preference for pork by nineteenth century African-American communities in Washington, D.C., Annapolis, Maryland, Alexandria, Virginia, and now in Missouri

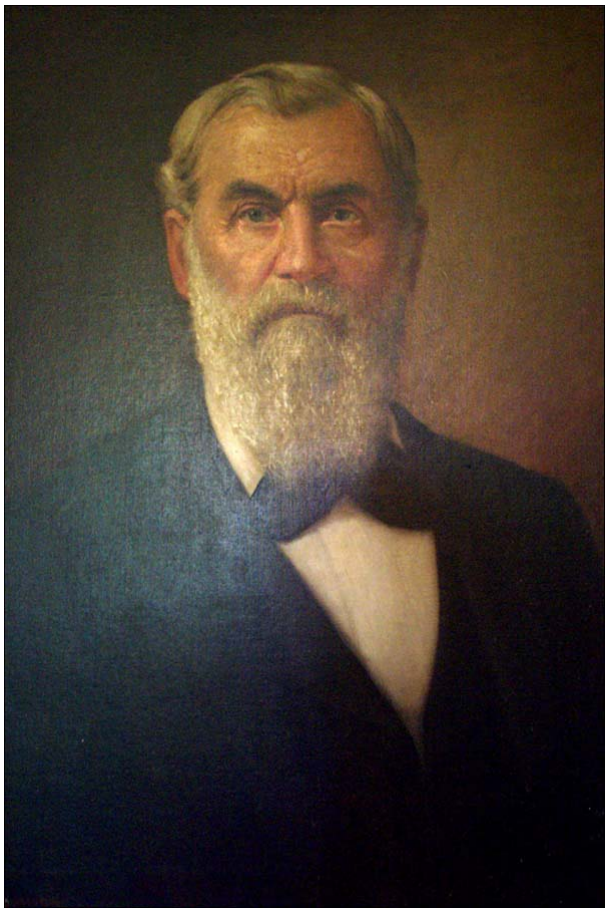


FIGURE 5. Portrait of George A. Murrell

(Cheek and Friedlander 1990; Cressey 1985; Warner 1998, 2000; Baumann 2001).

Soul Food In Missouri's Little Dixie

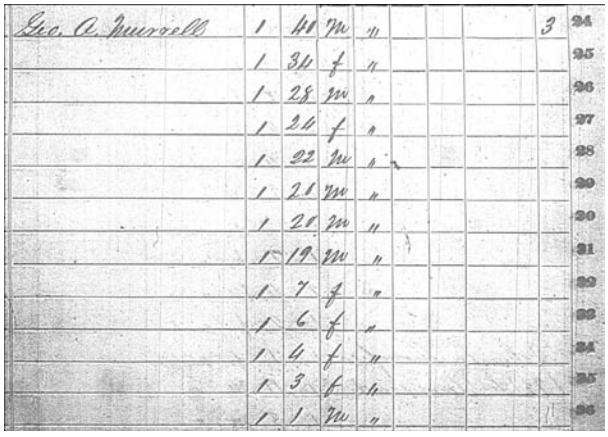
The “Little Dixie” region is located in west central Missouri within its historic plantation district (Hurt 1992; Marshall 1981) (Figure 4). This region was settled after the Louisiana Purchase primarily by Upper South immigrants from Kentucky, Tennessee, Virginia, and the Carolinas. These immigrants established a diverse agricultural system that used enslaved African Americans to produce cash crops of tobacco and hemp. Data from two archaeological studies within this region of a slave/tenant household at the Oak Grove Plantation and at the nearby postbellum

FIGURE 6. Contemporary view of the Planter House at Oak Grove Plantation

African-American community in Arrow Rock, Missouri, provide empirical information on African-American foodways and identity.

Oak Grove Plantation

Oak Grove Plantation was started by George A. Murrell, an immigrant from Barren County, Kentucky in 1852 (Figure 5). He constructed a Greek Revival style frame house by 1859 and it has remained in the family until the present day (Figure 6). The 1860 U.S. census recorded that Oak Grove was inhabited by of George Murrell and his wife Sophia, a European-American laborer (who may have served as an overseer), and 13 enslaved African



Geo. A. Murrell	1	44	M	"				3	24
	1	34	F	"					25
	1	28	M	"					26
	1	24	F	"					27
	1	22	M	"					28
	1	21	M	"					29
	1	21	M	"					30
	1	19	M	"					31
	1	7	F	"					32
	1	6	F	"					33
	1	4	F	"					34
	1	3	F	"					35
	1	1	M	"					36

FIGURE 7. 1860 Census of enslaved African Americans on the Oak Grove Plantation.

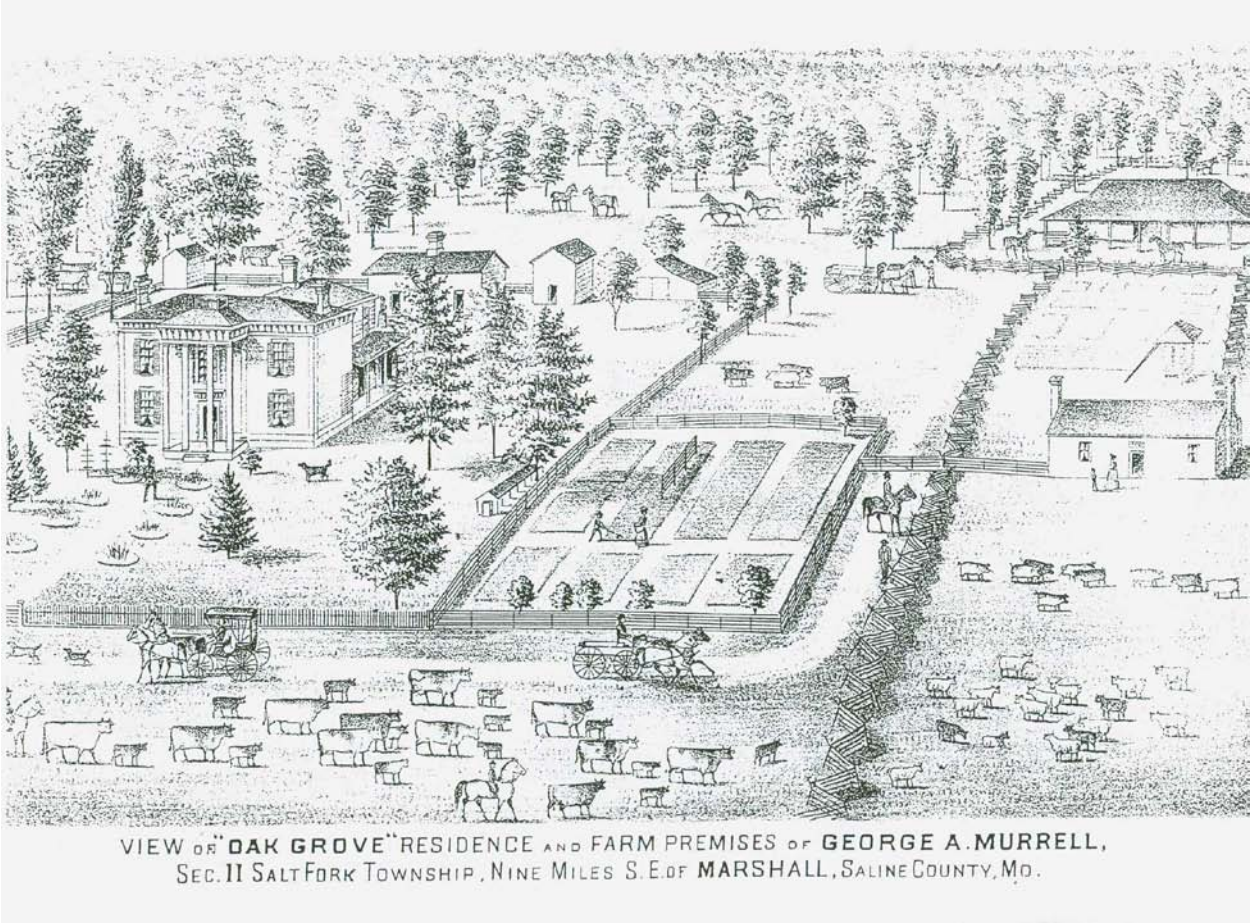


FIGURE 8. 1876 "Bird's Eye View" drawing of the Oak Grove Plantation (Missouri Publishing Company 1876)

Americans (Figure 7). The slaves lived in three separate quarters with two likely occupied by slave families headed by a male and female with five children divided between them, and the third household consisting of four teenage or young adult males. Historic records cannot substantiate if any of the possible family ties are genetically bound or created between unrelated persons in reaction to the slavery system. What is known is that the slave community extended beyond Oak Grove and included a network of kin and social relationship with other slaves on neighboring farms. For example, in 1863, George Murrell (1863) recorded in his account book that one of his male slaves had permission to visit his wife, who was enslaved on the nearby Marmaduke plantation, two nights a week. In slavery or freedom, African Americans struggled to form and maintain these family and community bonds against the oppression of European Americans.

In the 1880 U.S. census, George Murrell is recorded as living with his second wife Sarah, his sons Leonard and William, a niece Sada Ingram, and two female African-American domestic servants, Martha Spece and Rina Scott. Census records and oral history indicate that two to three African Americans continued to work on Oak Grove Plantation until the early twentieth century.

Insights into the Murrell family and their African-American servants' subsistence can be partially discerned from an 1876 "Bird's Eye View" drawing of the

FIGURE 9. Close-up of the Servant's Quarters behind the Main House in the 1876 "Bird's Eye View" Drawing of the Oak Grove Plantation (Missouri Publishing Company 1876)

farm and the U.S. agricultural census (Missouri Publishing Company 1876) (Figure 8). The 1876 Oak Grove drawing was created in a county atlas and illustrates an active farmstead landscape with representations of eleven people and numerous animals, including 28 cows, 17 sheep, 14 horses/mules, 13 pigs, 2 dogs, and some possible beehives. Additional subsistence related features in this image include a smokehouse, which is still standing today behind the main house, and a large garden, which likely fed both the white and black families on this farm.

When compared to the agricultural census, this historic drawing appears to be a fairly accurate representation. The 1860 U.S. census recorded the Murrell farm with 640 acres worth $12,800. Livestock at this time included 17 horses and mules, 7 milk cows, 5 oxen, 12 other cattle, and 100 swine. Cultivated food crops included 200 bushels of wheat, 3000 bushels of corn, 600 bushels of oats, 6 bushels of peas/beans, and 40 bushels of potatoes. Other farm products included 350 pounds of butter, 10 tons of hay, and 10 bushels of grass seeds. The Oak Grove plantation also grew 350 tons of hemp, of which Missouri was the number one producer in 1860 (Hurt 1992). The 1870 U.S. census documented 308 acres of land worth $12,000 with 9 horses, 6 mules, 6 milk cows, 40 other cattle, 28 sheep, and 70 pigs. Secondary products from these animals included 40 pounds of wool and 400 pounds of butter. Agricultural products included 600 bushels of wheat, 1500 bushels of corn, 150 bushels of oats, 5 bushels of peas and beans, 20 bushels of potatoes, 5 bushels of sweet potatoes, and 75 dollars of orchard fruits.

Dietary data was also collected from 2003 archaeological excavations, which focused on a two-room slave/tenant quarters behind the main house (Figure 9). This structure, which is now razed, was a single story frame building with two rooms and a central chimney. Written records and family lore put forward that this building was utilized by enslaved and then freed African Americans. The fieldwork consisted of 22 units (3' x 3') that uncovered a limestone foundation measuring 37' x 18' with a central brick chimney and fire hearth measuring 15' x 15' in size (Figure 10). Evidence of joist piers as part the foundation and the extended fire hearth suggested that the rooms had wooden floors. Overall, excavations focused on the western wing of the two rooms because the eastern room was

FIGURE 10. View of the 2003 excavation of the Servant's Quarters (foundation is outlined in yellow)

severely disturbed by a large maple tree. The front doorway of the western wing was identified by two limestone steps and a limestone entryway or platform. Interior investigations of the two-room quarters expected to find a pit cellar, which have been identified in similar African-American structures in the Upper South (Neiman 1997; Samford 1999), but no pit was located. Artifacts uncovered from the interior included ammunition, beads, ceramics, a fishhook, sewing related artifacts, a wine bottle, a whiskey flask, and faunal remains.

The faunal assemblage was recovered from both dry screening with ¼" mesh and flotation samples producing a total of 868 animal bones (Table 2). The preservation of the animal bones was very good as many smaller mammal and bird skeletal elements were recovered. With no pit cellar documented, the proposed raised wooden floor likely acted as a filter preventing the deposition of any faunal material that was too large to slip between the floorboards. A similar depositional process was identified at the Levi Jordan Plantation in East Texas (Brown and Cooper 1990). This resulted in 42 percent of the Oak Grove faunal remains being tiny, unidentifiable fragments.

Of the identifiable sample, mammals account for the highest frequency group within the assemblage (Miller 2004). Of these, pig (*Sus scrofa*) was the most common taxa with 36 specimens represented primarily by molars and phalanges. Cow (*Bos taurus*) elements were found in two units with a single cow femur and six fragments from a single large long bone shaft, which were from a hand-carved bone bracelet with high polish.

TABLE 2. Faunal Assemblages from the Oak Grove Plantation and Lots 106 and 121 in Arrow Rock, Missouri.

TAXONOMIC CATEGORY	Oak Grove	% Taxa	% Total	Lot 106	% Taxa	% Total	Lot 121	% Taxa	% Total
Amphibians									
Anura *(indt. toad/frog)*				2	50.0%	0.3%			
Bufo sp. (indt. toad)				2	50.0%	0.3%			
Total Amphibians	0		0.0%	4	100.0%	0.6%	0		0.0%
Bird									
Indeterminate Bird				47	95.9%	7.2%	719	98.8%	33.0%
Anas sp. (duck)							6	0.8%	0.3%
Gallus gallus (domestic chicken)				2	4.1%	0.3%	2	0.3%	0.1%
Meleagris gallopavo (turkey)	1	33.3%	0.1%						
Passeriformes (song bird)							1	0.1%	0.0%
Tympanuchus cupido (c.f. prairie chicken)	2	66.7%	0.2%						
Total Birds	3	100.0%	0.3%	49	100.0%	7.5%	728	100.0%	33.4%
Fish									
Indeterminate Fish	5	83.3%	0.6%	54	67.5%	8.3%	22	84.6%	1.0%
Aplodinotus grunniens (freshwater drum)	1	16.7%	0.1%	3	3.8%	0.5%	1	3.8%	0.0%
Carpiodes sp. (Indt. sucker)							3	11.5%	0.1%
Cyprinus carpio (carp)				22	27.5%	3.4%			
Pylodictis olivaris(flathead catfish)				1	1.3%	0.2%			
Total Fish	6	100.0%	7.0%	80	100.0%	12.2%	26	100.0%	1.2%
Invertebrates									
Bivalvia (indt. bivalave)	32	19.9%	3.7%	1	0.6%	0.2%	187	35.3%	8.6%
Gastropoda (land/freshwater snail)	129	80.1%	14.9%	169	99.4%	25.8%	343	64.7%	15.7%
Total Invertebrates	161	100.0%	19.0%	170	100.0%	26.0%	530	100.0%	24.3%
Mammal									
Indeterminate Mammal				66	42.9%	10.1%	285	58.5%	13.1%
Indeterminate Large Mammal	41	12.6%	4.7%	3	1.9%	0.5%	2	0.4%	0.1%
Indeterminate Med. - Lg. Mammal				15	9.7%	2.3%	96	19.7%	4.4%
Indeterminate Medium Mammal	11	3.4%	1.3%	5	3.2%	0.8%	13	2.7%	0.6%
Indeterminate Sm. - Med. Mammal				2	1.3%	0.3%	2	0.4%	0.1%
Indeterminate Small Mammal	29	8.9%	3.3%	11	7.1%	1.7%	13	2.7%	0.6%
Bos taurus (domestic cow)	2	0.6%	0.2%	4	2.6%	0.6%	2	0.4%	0.1%
Canis familiaris (dog)	1	0.3%	0.1%						
Didelphis marsupialis(opossum)				14	9.1%	2.1%			
Felis domesticus (domestic cat)	1	0.3%	0.1%				1	0.2%	0.0%
Marmota monaz(woodchuck)	2	0.6%	0.2%	1	0.6%	0.2%			
Rattus sp. (indt. old world rat)				2	1.3%	0.3%			
Rodentia (indt. rodent)	193	59.2%	22.2%	2	1.3%	0.3%	6	1.2%	0.3%
Scalopus aquaticus (eastern mole)				1	0.6%	0.2%			
Sciurus sp. (indt. Squirrel)	4	1.2%	0.5%	2	1.3%	0.3%	1	0.2%	0.0%
Sus scrofa (domestic pig)	36	11.0%	4.1%	19	12.3%	2.9%	57	11.7%	2.6%
Sylvilagus floridanus (eastern cottontail)	6	1.8%	0.7%	7	4.5%	1.1%	9	1.8%	0.4%
Total Mammal	326	100.0%	38.0%	154	100.0%	23.5%	487	100.0%	22.4%
Reptile									0.0%
Testudines (indt. Turtle)				1	100.0%	0.2%			
Total Reptiles	0		0.0%	1	100.0%	0.2%	0		0.0%
Indeterminate									
Indt. Bird/Mammal	0	0.0%	0.0%	35	17.9%	5.4%	26	6.4%	1.2%
Indt. to class	372	100.0%	43.0%	161	82.1%	24.6%	381	93.6%	17.5%
Total Indeterminate	372	100.0%	43.0%	196	100.0%	30.0%	407	100.0%	18.7%
TOTAL FAUNA	868		100.0%	654		100.0%	2178		100.0%

Additional domestic animals recovered included a dog (*Canis familiaris*) (n=1) and a cat (*Felis domesticus*) (n=1) represented by a single tooth for each.

Wild mammal resources identified were eastern cottontail (*Sylvilagus floridanus*) (n=6), woodchuck (*Marmota monax*) (n=2), squirrel (*Sciurius* sp.) (n=4), and a sizeable rodent category (n=197). Historical accounts suggest that the first three species may have been hunted/trapped by African Americans in order to supplement their diet. The rodent category was not taxonomically identified because they were mostly intrusive mice that were not part of the diet.

The remainder of the mammal bone quantified into small (rabbit and smaller size), medium (raccoon size), and large (deer and pig size) animals. Small mammals had a NISP of 29, medium mammals a NISP of 11, and the large mammal group had a NISP of 41 (Miller 2004). The small and medium groups were likely made up of dietary or economically important animals. The large group probably represents deer and pig and consists almost entirely of small rib fragments, which prevented identification to the species level.

The bird remains from the site comprise 14.5 percent of the assemblage (n=147), but only two species of bird were identifiable at the taxonomic level; a turkey (*Meleagris gallopavo*) and two prairie chickens (*Tympanuchus cupido* c.f.). Eggshell was also very common. The remainder of the avian skeletal material, 13 percent of the assemblage, was too fragmented to identify to species, but this higher percentage may correspond to chicken, which was a core element of soul food.

Fish resources made up an extremely small portion of the assemblage consisting of six fish specimens with only one identifiable to a species; freshwater drum (*Aplodinotus grunnien*). Invertebrates were plentiful, but not all are associated with human consumption. Twenty three freshwater mussel shells were collected across the site with three complete specimens recovered as a cache at the junction of the west doorway's front steps and the foundation. This cache was likely deposited after they were eaten on the front stoop or inside the quarters, but they may have also been used as tools, for shell button manufacturing, or possibly set as a house charm associated with African-American traditions (Leone 2005; Price and Hastings 1998). A large quantity of small snail shell fragments (n=129) were also documented, which can be linked to the natural habit of snails congregating near structure foundations.

In conclusion, a zooarchaeological analysis of the structure unfortunately gives us only a glimpse into the dietary or economic basis for the inhabitants. The proposed wooden floor would filter all but the small bones and fragments away from the soil. Unfortunately, the lack of a root cellar also impedes contexutal analysis from a specific feature. This structure's multiple functions as a possible summer kitchen for the main house, as well as a residence for slaves, and then freed African Americans, also limits a clear interpretation of the diet, but important trends were uncovered in the analysis. Both wild and domestic fauna were aspects of the site occupants' subsistence. Comparing the written documents with the archaeological data, pig was the most common identifiable species in both written and archaeological records. In contrast, cattle, horse/mule, and sheep are not represented equally between these data sets suggesting a differential access to food and/or a preference for pork over other animals. The large number of avian fauna also argues for a heavy reliance, but most were not identifiable to a species. Only turkey and prairie chicken could be positively identified, but domestic birds, like chicken and duck, were likely contributing resources. The sheer number of rodents lends credence to the presence of a wooden floor, creating a crawl space that would provide a perfect habitat for multiple rodent species. Do these dietary trends with a reliance on pork and avian species and the presence of wild resources continue into the postbellum period in the neighboring town of Arrow Rock, Missouri?

Arrow Rock, Missouri

After the Civil War, Missouri's African Americans did one of four things (Baumann 2001). Many continued working in agricultural pursuits for their former masters like those at Oak Grove Plantation. Others moved out of Missouri, a "slave" state, into towns in neighboring "free" states such as Kansas, Iowa, and Illinois. Still others created their own Missouri towns, like Pennytown in Saline County. Lastly, African Americans moved into existing Missouri cities or towns, like Arrow

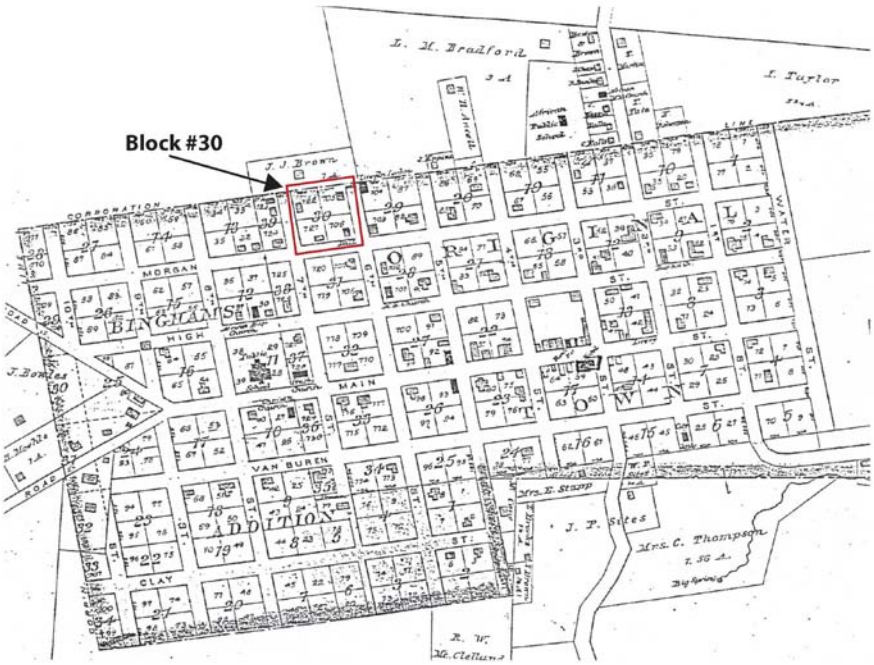


FIGURE 11. 1896 Map of Arrow Rock, Missouri with Block #30 labeled (Northwest Publishing Company 1896)

Rock, creating their own segregated neighborhoods. No matter if they settled in a rural or urban environment after the Civil War, blacks struggled against Jim Crow laws to develop their own communities.

Arrow Rock, founded in 1829, is located in west-central Missouri on the western bluffs of the Missouri River in Saline County and approximately 10 miles east of the Oak Grove Plantation (Figures 4 and 11). During the antebellum period, Arrow Rock was a major Missouri riverport and a starting point on the Santa Fe Trail in Missouri's plantation district with an 1860 population of approximately 1000 citizens (Dickey 2004; Fisher et al. 1988; Hamilton 1972; Prouse 1981; Van Ravenswaay 1959). The town of Arrow Rock was not recorded separately on the U.S. census until 1880 when 77 African Americans were listed, constituting 25 percent of the town's population of 305. By 1910,

FIGURE 12. African-American family in Arrow Rock, circa 1915 (Source: Missouri Department of Natural Resources)

Arrow Rock emerged as a strong African-American community with 44 percent of the town's population (Figure 12).

Beginning in 1996, an archaeological project was started to document Arrow Rock's postbellum African-American community. Excavations have explored multiple households, an African Methodist Episcopal (AME) Church, a schoolhouse, a speakeasy, an emancipation day picnic field, a restaurant/bar, and a Masonic lodge, called the Brown Lodge No. 22 of Ancient Free and Accepted Masons (Figure 13). Faunal remains presented below come from the Brown Lodge and an African-American residence on city block 30, lots 106 and 121 and represent foodways from both public and private contexts (Figure 14).

Oral histories from former African-American residents of Arrow Rock documented foodway patterns at the Brown Lodge and in the African-American community in general. Thelma Conway, the former wife of William Huston Van Buren, worked as a waitress in the Brown Lodge in the 1940s and 1950s. She stated that during this time "hamburgers, hot dogs, rabbit, fish, and chicken" were served, as well as barbecued raccoon on some occasions (Conway 1997).

More detailed information was recorded in these oral histories about household foodways. Ruth Perry (1996) stated "we had a sow and…sometimes had sixteen pigs and we raised our own meat…we cured the hams and sausages…we fried them down… put them in quart jars…we didn't have the deep freeze in those days, but we had to fry all that stuff down… we'd put up beans and cabbages and can tomatoes…we raised our own potatoes…bury the potatoes in the winter time… put straw in there and [then] get out the potatoes for the week and leave the others in the hole."

FIGURE 13. Brown Lodge No. 22 of Ancient Free and Accepted Masons in Arrow Rock, Missouri

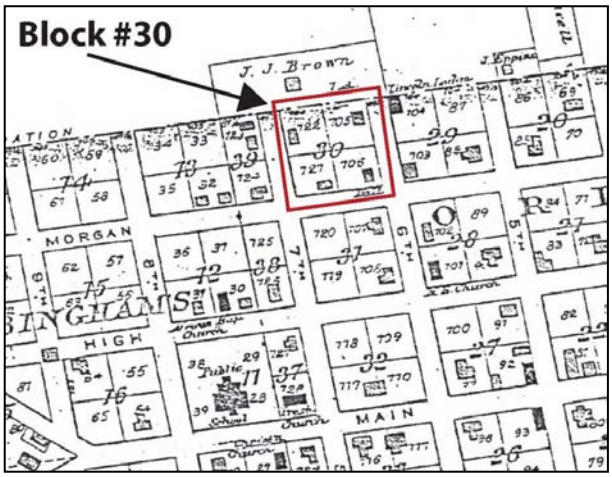


FIGURE 14. Close-up of Block #30 on the 1896 map of Arrow Rock, Missouri (Northwest Publishing Company 1896)

The most detailed subsistence practices were described by Pearl Adams (1996) and Hortense Nichols (1996). When asked about what wild greens were gathered, Pearl Adams (1996) responded with "wild lettuce, dandelions, maridock, lambsquarter, and pokeweed… worked good as long as you put [bacon] grease with it…everyone ate the greens…they say it's just like medicine." In the same interview, they suggested that their main diet was "beans, cornbread," but fruit was also eaten, including "wild fruit, blackberries, blueberries, gooseberries…plums" as well as "[crab]apples." The latter was often buried in a hole and covered with

straw. Pearl Adams (1996) stated that her family would "put straw down in there and put your stuff in there and then you put the dirt back in." When asked about meat, they responded with "we didn't get too much beef…most of the time it was pork, chicken, turkeys, geese, and ducks" (Adams 1996; Nichols 1996). If there was a cow, it was normally a milk cow from which butter and cottage cheese were made as well as a drink called "clabber." Clabber was made by putting the "milk on the back of the old stove and you just clabbered it up…and then put a little sugar in it and drank it" (Adams 1996). In Charles Joyner's (1984:98-99) work *Down by the Riverside*, clabber was described as the "most common and most enjoyed dairy product" which was made from milk that is heated and let to stand for two hours after which it becomes a thick curd also known as "curds and whey." When asked what foods were bought in the store, Pearl Adams (1996) stated that they "mostly had to buy sugar and flour… salt and coffee."

Lot 106 - The Brown Lodge. The Brown Lodge was constructed in 1881 and is the only structure still standing on Block 30 (Figure 13). The lodge is a two-story frame building made with cut nails and limestone pier foundations measuring approximately 26' x 18' in size. A later front porch was added to the lodge's façade, constructed with a cement foundation and wire nails. At one time, the lodge also had a rear two-story addition, now razed, which included a kitchen on the first floor for a restaurant/bar and an external stairwell and entrance to the second story Masonic hall. The local historical society, the Friends of Arrow Rock, is currently restoring the Brown Lodge and transforming it into a museum for African-American history.

The Brown Lodge along with the other fraternal halls and the black churches were centers of Arrow Rock's African-American community. "The Brown Lodge was the place where black males congregated to participate in Masonic rituals, to make decisions relating to the relief and burial funds, to discuss and decide allegations of un-Masonic conduct, and to socialize away from the scrutiny of whites" (Kremer and Hoaglin 1997:25). Prior to World War II, the Brown Lodge was also the location of the annual "Emancipation Day Picnic" that was held in Saline County and in other Missouri counties on August 4th of each year. Kenneth Van Arsdale, a former resident of Arrow Rock, remembers blacks from all around the county gathering at the lodge for August 4th picnics that featured goat roasts (Van Arsdale 1997). Fielding Draffen, who grew up in Saline County during the 1930s, remembers Emancipation Day during his youth as follows: "When I was a kid… the 4th of August was sacred to black people. By the threat of death you didn't even go to work on that day. You celebrated on that day… people would talk about coming up… It was considered a day [on which] you kind of reflected on what your ancestors came through and [you] just kind of enjoyed the day" (Draffen 1997). In sum, the Brown Lodge served not only as a Masonic hall, but also as a restaurant/bar, the location for the "Emancipation Picnic," and likely other community functions. At the center of these various uses was food.

In order of frequency, the faunal counts from Brown Lodge by taxonomic category were invertebrates (n=170), mammals (n=154), fish (n=80), birds (n=49), and amphibians (n=4) (Table 2). All but one of the invertebrates was represented by land/freshwater snail shells (Gastropoda) not associated with foodways, but rather the result of snails

congregating near structure foundations. The identifiable species of mammals were represented by pig (n=19), the most common, followed by opossum (n=14), rabbit (n=7), cow (n=4), squirrel (n=2), old world rat (n=2), indeterminate rodents (n=2), woodchuck (n=1), and a mole (n=1). The smaller mammal remains (opossum, rabbit, squirrel, rat, rodents, woodchuck, and mole) are most likely associated with non-human scavenging as most have evidence of heavy gnawing activity and no visible cut marks, but some could have been a byproduct of human consumption.

Identifiable fish remains are represented by carp (n=22), the most common, drum (n=3), and catfish (n=1). A single bird species was recorded of a domestic chicken (n=2) with the remainder of bird bones being of unknown species (n=47). Overall, the faunal resources at the Brown Lodge represent both human consumption and non-human scavenging. The human consumption was represented by both wild and domestic species, including the most common by count of pig and carp, which correlates well with the oral testimonies.

Lot 121 – African-American Household. Lot 121 is located at the corner of Morgan and Seventh streets, and immediately west of Lot 106 and the Brown Lodge. In 1883, Joseph Armstead, an African-American day laborer, purchased this lot and lived there with his wife Clarah and four children (Baumann 2001:88-90). On January 16, 1889, Armstead borrowed $200 against this property, but could not pay the loan and his property was foreclosed upon. Between 1890 and 1899, this residence was used by the African-American Odd Fellows as a meeting hall until they could build a new lodge hall. In 1903, African-Americans Franklin and Susie Bush bought Lot 121. In 1910 U.S. census, Franklin and Susie Bush resided on Block #30 with a black schoolteacher, Albert A. Bell, boarding with them. At this time, Franklin was working as a "day laborer." His wife Susie was listed with no occupation. In the 1920 U.S. census, Franklin and Susie Bush were still living on Morgan Street and still with a boarder, but at this time it was a farm laborer named Samuel Brown. In 1920, Bush's occupation was listed as "plasterer." The Bushes had no children when Franklin Bush died in 1931 at the age of 57. Susie Bush continued to live on Lot 121 until her death in 1940. After this time, oral history suggests that the Bush residence and Lot 121 remained empty until the 1970s when the house was burned down by the local fire department.

Identifiable faunal remains from the African-American household on lot 121 included, in order of frequency, birds (n=728), invertebrates (n=530), mammals (n=487), and fish (n=26) (Table 2). Compared to the Lot 106 assemblage, Lot 121 has a greater percentage (33.4 percent) of bird remains than Lot 106 with only 7.5 percent of the faunal remains, but Lot 121 had a lower percentage of fish remains with only 1.2 percent of the assemblage versus 12.2 percent from the Brown Lodge. Identifiable bird species from Lot 121 included indeterminate duck (n=6), domestic chicken (n=2), and indeterminate songbird (n=1). The remaining bird elements (n=719) were unidentifiable as to species. Due to the small amount of identifiable bird bone, an accurate interpretation as to the importance of chicken, duck, or other edible bird species in the diet of Arrow Rock's African-American community cannot be made, but chickens were typically a major component of soul food.

Invertebrates were represented by indeterminate land/freshwater snail shells

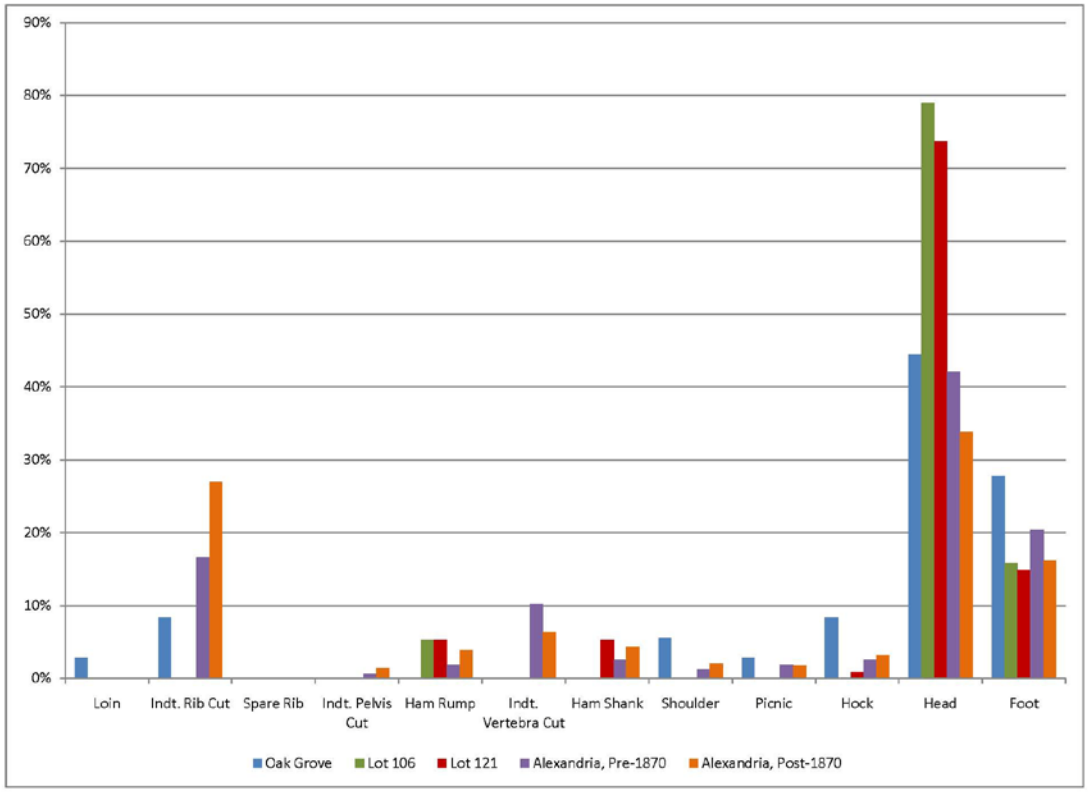


FIGURE 15. Comparison of pork cuts by price ranking between the Oak Grove Plantation, Lots 106 and 121 of Arrow Rock, Missouri, and pre- and post-1870s African American neighborhood deposits from Alexandria, Virginia (Cressey 1985:320-332)

(n=343) and indeterminate bivalve (n=187). Similarly to the Brown Lodge, the gastropods collected were not likely the product of human activity, but instead were a result of habitat preference by these snails to live around building foundations. The large number of bivalves suggests that they were associated with food consumption, but they could also be linked to tool use, non-human scavenging, or to human curiosity.

Lot 121 mammal remains in the order of frequency were recorded as pig (n=57), eastern cottontail (n=9), indeterminate rodent (n=6), domestic cow (n=2), domestic cat (n=1), and indeterminate squirrel (n=1). Compared to the Lot 106 assemblage, the Lot 121 collection contained a higher percentage of pork by lot (75 percent) with Lot 106 having only 36.5 percent of its faunal remains represented by pig. Yet, on both lots, pig was the most common mammal eaten. Absent from the Lot 121 mammal bone assemblage was opossum, which represented 26.9 percent of the faunal remains from Lot 106. As stated above, opossum and other smaller mammals may not have been the result of human consumption, but may have been the result of non-human scavenging or natural death below the standing Brown Lodge.

Fish species from Lot 121 were identified as indeterminate sucker (n=3), and freshwater drum (n=1). Noticeably missing from the Lot 121 bone collection was a

high frequency of carp. In the Brown Lodge assemblage, carp is the most common fish species consumed, representing 85 percent of the total identifiable fish species and 3.4 percent of the total faunal sample. Overall, Lot 106 had a 13 times greater number of fish than Lot 121, suggesting that fish fries or bakes were very common in the public restaurant or for the Emancipation Day picnics held at the Brown Lodge, but were infrequently consumed in the private households.

THE ALMIGHTY PIG

Comparisons between the Oak Grove and Arrow Rock assemblages indicate that there were African-American foodway patterns that can be associated with the formation of soul food. Pork was the most frequent identifiable food source, but this was supplemented by other wild and domestic species of chicken, cow, prairie chicken, turkey, squirrel, fish, opossum, woodchuck, and fresh water mussel shells. Overall, the high percentage and meat cuts of the "almighty pig" may provide the best evidence of African-American subsistence patterns. In particular, the most common pork cuts were head and feet, which correspond to soul food preparation and cooking traditions.

Comparing the Missouri pig consumption data with Pamela Cressey's (1985) work on a nineteenth century African-American neighborhood in Alexandria, Virginia, there is a similar pattern of head and feet cuts (Figure 15). To determine the quality of pork cuts, Cressey employed an economic index with the loin as the best cut of meat graded as one (1) to the head and feet as the lowest and ranked as nine (9) (Figure 16). Applying this ranking system to the Missouri sample resulted in indexes of 6.1 for the Oak Grove assemblage and 6.6 to 6.8 for the Arrow Rock data. These indices are higher than the Virginia sample of 5.4 (pre-1870) and 4.8 (post-1870), which was likely caused by the fewer rib cuts found and/or positively identified to a species in the Missouri data.

Despite this supporting evidence, high percentages of pork and pork cuts of head and feet do not equal African-American identity. This falls into the same oversimplification of ethnic or class markers, like blue beads = African-American ethnicity

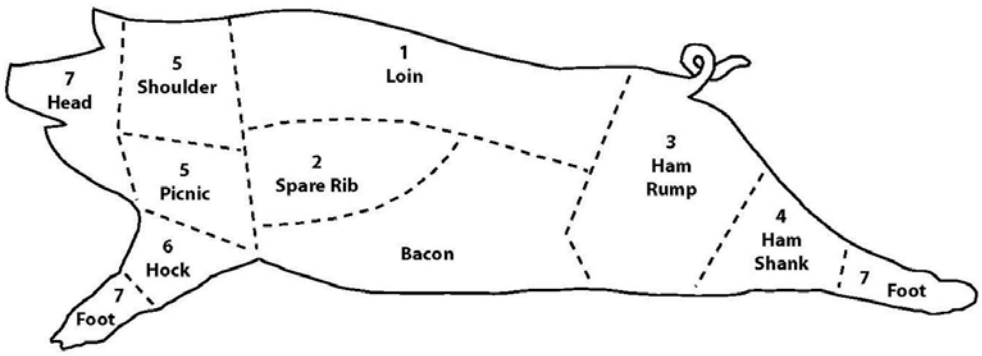


FIGURE 16. Pork cuts and price rankings diagram (Redrawn and adapted from Cressey 1985:324, Figure VI-2)

or Chinese porcelain = a wealthy household. As archaeologists, we frequently focus on the material culture, but these artifacts are the dead flies in the Web of Cultural Identity diagram. Instead of limiting our research to artifact pattern analysis, we need to use these patterns of material culture to help recreate the web of cultural identity or the social interactions that these dead flies are caught between. Without the day to day human interaction, artifacts would be meaningless. Pork can be viewed through all levels of identity formation, but most archaeologists will only attempt to tackle one level of social stratification, like ethnicity or class.

Soul food as an indicator of African-American social identity can have various definitions depending on the time, region, and social situation. Many of the foods that make up "soul food" can also be broadly defined as southern cookery and found in both white and black households. For example, 79 percent the faunal sample from the Widow Harris site, a European-American farmstead in the Missouri Ozarks dating from 1820 to 1850, was pork (Price 1985). Again, the key here is that the food remains or material object does not make the person. The person utilizes the food remains or material object within their own worldview or social circumstances. Pork can help to identify both the African-American and European-American identities. The key is to interpret the faunal remains within a historical, cultural, and spatial context.

Utilizing the Web of Cultural Identity model, the complex nature of individual and group identity can be visualized and better understood. In the case of an enslaved female cook in the Big House, her personal and group identity was situationally, psychologically, and spatially defined through the acquisition, storage, preparation, consumption, and disposal of food (Fox-Genovese 1988). As the cook in the planter's home, the food she prepares and serves mediates her social interactions, resulting in both intrinsic and extrinsic categorization. Living and working in the main house, the cook is both a part of and separate from her white owners. She prepares the food and serves it to her masters, but she is not invited to join them for dinner at the same table. This relationship is determined by race, class, and gender roles defined by the white majority. Intrinsically her identity can be shaped by herself and her slave community through ethnic and kinship bonds or through social or economic hierarchical relationships. Working in the main kitchen, she may have access to better quality food or leftovers and can provide some of these resources to enslaved family or friends that do not live in the big house, resulting in her higher status among the enslaved community. Even this explanation is oversimplified as her identity is constantly being defined and redefined daily and over time with each social encounter. And the food remains that are caught within her relationships are only a type of artifact. Other material culture, like ceramics or the use of space, can be just as important to identity development. The WCI diagram was designed as a tool to visualize these complex levels of social interaction that lead to personal and group identity beyond ethnic markers. Linking "soul food" to African-American traditions is just one challenging example of the cultural processes of identity formation.

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EARLY ARCHAIC RAW MATERIAL USE PATTERNS IN TENNESSEE

Andrew P. Bradbury and Philip J. Carr

Models of Early Archaic settlement patterns are often proposed for a specific area of the Southeast and then an individual model is treated as if it has pan-regional applicability. The Band-Macroband model is arguably the current choice, but there are alternatives. Here, it is argued that no model is easily transferred from a specific region to another due to variation in the environment and uneven knowledge of both the environment, particularly raw material distribution, and the archaeological record. An overview of lithic material sources and Early Archaic archaeological record of Tennessee demonstrates that the wholesale adoption and testing of any current model is not currently possible. The challenge is to provide more detailed syntheses and begin to build models appropriate to specific physiographic regions and test these models with available data.

Two decades ago, David Anderson and Glenn Hanson (1988) published an *American Antiquity* article entitled "Early Archaic Settlement in the Southeastern United States: A Case Study from the Savannah River Valley." Arguably, the "Band-Macroband" model proposed in that article became the exemplar of Early Archaic lifeways in the Southeast as well as engendering debate and the proposal of an alternative (Daniel 1998). The model goes beyond site specific data and combines broad aspects of technological organization and biocultural factors in conceiving of Early Archaic settlement patterns making it appealing. Textbooks (Bense 1994:72-73; Fagan 2005:380) use this model as the way to characterize the Early Archaic and, despite the debate, others cite it and not its alternatives (e.g., Delcourt and Delcourt 2004:65-67). The model is widely accepted and cited as ***the*** model of Early Archaic lifeways in the Southeast.

After 20 years as the exemplar, one would be right to ask why this model has not inspired applications beyond the South Atlantic Slope? One answer to this question is that variation in environment and topography makes a wholesale adoption of the Band-Macroband model in other areas a cumbersome fit. However, why not take the basic tenets concerning Early Archaic lifeways, such as technological organization and biocultural aspects, and hypothesize how these would manifest in a given environment and test these ideas? Our answer has nothing to do with the excellent work of Anderson and Hanson or the model itself, but rather with the state of our knowledge in other regions. Too often, not only is less known of the environment, but also of the Early Archaic record, including site locations and reporting of tool raw material types, amongst other data. One important factor is contemporary knowledge of the prehistoric availability, distribution, and quality of suitable tool stone in various regions. This lack of basic archaeological and environmental information greatly inhibits the development of broad considerations of Early Archaic settlement patterns and site specific functions are more often the focus than the detailed yearly settlement round offered in the Band-Macroband model.

Here, we take one tantalizing idea from an original Anderson and Hanson figure (1988:Figure 3), illustrating the presence of a Tennessee River-Cumberland Plateau Macroband, as our inspiration to characterize raw material

distributions across the state of Tennessee. We review what is known of raw material use in the state and the surrounding region from select sites and projects. We find that we are not yet at the point where we can apply something akin to the Band-Macroband model or alternative to any portion of the Tennessee Early Archaic, but lay the foundation for such applications and hypothesis building in the future.

Early Archaic: Temporal Placement and Raw Material Use

The Early Archaic is traditionally, and somewhat conveniently, dated from 10,000 to 8,000 B.P. (Anderson et al. 1996:14). Based on hafted biface types and radiocarbon dates, this two thousand year time period can be divided into three segments: early, middle, and late for ease of discussion. There is some dispute concerning the beginning of the Early Archaic with some researchers placing Dalton and Hardaway-Dalton types in Late Paleoindian such that these types extend only into the earliest portion of the Early Archaic (Anderson et al. 1996:15) and others placing these types in the Early Archaic (Goodyear 1982). More recently, Anderson (2001), in seeking to more closely link cultural transitions with environmental changes, suggests the end of the Younger Dryas (ca. 11,450 cal. B.P.) as marking the beginning of the Early Archaic and the time period ending with the Middle Holocene Hypsithermal at ca. 8900 cal. B.P. Anderson (2001:157) suggests that "the occurrence of successive side- and corner-notched and bifurcate-based points" is used to recognize Early Archaic components across most of Eastern North America.

Types such as Early Side Notched and Dalton are recognized as the earliest of the Early Archaic sequence (Goodyear 1982). A number of radiocarbon dates have been obtained for Dalton components across the Southeast. Dates of 10,530 ± 650 B.P. (Colman 1972) and 10,200 ± 330 B.P. (Crane and Griffin 1972) were associated with Dalton components at the Rodgers Shelter site. In the Kentucky Lake area of Tennessee, a Dalton component on the Puckett site (40SW228) was radiocarbon dated to 9790 ± 160 B.P. (Norton and Broster 1993). Dates of 9115 ± 100 B.P. and 9975 ± 125 B.P. were obtained from the Olive Branch site (Gramly and Funk 1991). Dalton materials are found throughout the Southeast and Midwestern U.S. Driskell (1994) reported radiocarbon dates of 10,490 ± 360 B.P., 10,330 ± 120 B.P. and 10,345 ± 80 B.P. associated with Early Side-Notched horizons at Dust Cave in Alabama. These, with additional dates for Early Side-Notched components at Dust Cave, indicate a range of 10,000 to 9000 BP (Driskell 1996:318). Bradbury and McKelway (1996) report a date of 10,350 ± 60 B.P. associated with an Early Side Notched component at 40CH162 in Cheatham County, Tennessee.

Kirk Corner-Notched forms (including types such as Charleston, St. Charles, Palmer, Pine Tree, Kirk Corner-Notched large variety, and Kirk Corner-Notched small variety) comprise the middle portion of the Early Archaic sub-period. Excavations at buried sites in the Tellico Valley of Tennessee (Chapman 1975, 1976, 1977), the Kanawha Valley of West Virginia (Broyles 1964, 1971), and in the Piedmont area of North Carolina (Coe 1964) have help to further define and date this type. Dates from the Tellico Valley range from 7500 to 6900 B.C. (Chapman 1976, 1977). Two dates from St. Albans of 6900 ± 320 B.C. and 6850 ± 320 B.C. were associated with Kirk materials (Broyles 1971). Norton and Broster (1993) reported

dates of 8820 ± 180 B.P. and 8490 ± 180 B.P. associated with a Kirk component at the Puckett site (40SW228) in Stewart County, Tennessee.

The final part of the Early Archaic is recognized by Bifurcate Base types (MacCorkle, St. Albans, LeCroy, and Kanawha). Broyles (1971) reports dates of 6300 ± 100 B.C. (LeCroy), 6870 ± 500 B.C. (St. Albans), and 6880 ± 700 B.C. (St. Albans) associated with Bifurcate materials from the St. Albans site. Several dates were obtained from Bifurcate levels at the Rose Island site (Chapman 1975). Based on these dates, Chapman (1975:213-214) suggests a date of 6770 ± 250 B.C. for the St. Albans horizon and circa 6300 B.C. for the LeCroy horizon. Creasman et al. (1996:166) report dates between 8500 and 8030 B.P. associated with bifurcate hafted bifaces from the Main Site in Bell County, Kentucky.

The examination of raw materials from Early Archaic sites in the Southeast has resulted in the observation that there is a change from the use of more distant sources early in the time period to greater use of more local sources at its terminus. Anderson and Hanson (1988:271) suggest that if this raw material pattern accurately indicates settlement "dynamics," then this is evidence of increasing populations and decreasing mobility. In general, only examining raw material use would cause one to associate the early portion of the Early Archaic with the Paleoindian period and the middle and late Early Archaic with the remainder of the Archaic. Obviously, there are too many descriptors here to make clear sense of the situation, but suffice it to say that documenting raw material use over the Early Archaic has the potential to provide insight into prehistoric lifeways of this time period and help us better understand cultural change and process. In a sense, the Early Archaic might encapsulate some of the previously conceptualized long-term cultural changes that took place over the Archaic and simply characterized as "settling in." If Early Archaic populations "settled in" to their local environment, then other explanations of cultural difference and similarity are necessary to explain the events of the remainder of the Archaic period.

Lithic Raw Material Procurement Method and Theory

Lithic analysts have increased their efforts to obtain relevant cultural data from chipped-stone assemblages, but many problems persist such as use of outdated and demonstrably inaccurate methods, lack of an agreed upon minimal attribute list, and so on (Carr and Bradbury 2000). The major problem with raw material studies is the continued reliance on subjective criteria to determine raw material type. Often raw material data are reported with no discussion of how determinations were made or there is an over reliance on color, texture, and quality. Comparative collection use appears uncommon and when available are too often incomplete. That is, the raw material collection is limited in scope and depth, such that it only includes nearby sources and limited examples of each type.

Despite these problems, there is much potential in raw material studies because of the baseline data that are provided for the entire lithic analysis. In Nelson's (1991) diagram of the structure of an organization of technology approach, the environment sets the stage upon which a technology is organized. If one wants to understand how prehistoric peoples organized their lithic technology, a key element is raw material distribution and availability in the prehistoric natural and cultural environment. Further, if one wants

to understand the use-life of stone tools (*sensu* Collins 1975), then raw material acquisition is the first consideration. A revised diagram of the organization of technology further illustrates these points and demonstrates the critical nature of the knowledge of raw material distribution and acquisition (Carr and Bradbury 2008). The examination of raw materials used in chipped stone manufacture can provide inferences concerning several aspects of prehistoric life such as mobility and trade, as well as providing insights concerning tool design choices. Further, decisions concerning the discard of a stone tool depend on considerations of future activities, including anticipated mobility pattern and the distribution of raw materials.

As Binford (1979:260) notes, variability in the proportions of raw material at a site are a function of the scale of the habitat exploited from that location. It should be recognized, however, that the proportions of raw materials recovered from a site likely represent only the minimal extent of a group's annual range (Ingbar 1994). That is, people arrive at a site with a toolkit produced elsewhere, but that toolkit likely does not contain raw materials from the entire extent of territory exploited. Trying to reconstruct an annual range is further complicated if a large region lacks variation in raw materials.

Lithic raw materials also can provide evidence of social connections as indirect acquisition or trade can affect the raw material proportions in an assemblage. The role of exchange is most often examined for chiefdoms and states, but archaeologists are giving greater consideration to exchange amongst hunter-gatherers. The provocative title "Was Stone Exchanged Among Eastern North Paleoindians?" raised an important question and pointed out the difficulty of trying to answer it (Meltzer 1989). In the Paleoindian case, the exact same evidence (non-local materials, well-manufactured tools, stylistic similarities) is used to argue for or against exchange. Meltzer's (1989:Table 2.1) review of the issue revealed few situations in which one could support an argument for one over the other. He does suggest that for the late Pleistocene Southeast "Stone was likely the only resource sufficiently localized and predictable to promote reuse of a particular locality… high settlement mobility was probably not a critical element of the adaptation, and the assemblages likely would have been dominated by locally available stone" (Meltzer 1989:38).

Additionally, the distribution and quality of raw materials are important factors that condition their use and can have an affect on the organization of lithic technology (e.g., Andrefsky 1994). A variety of local and non-local raw materials may be available to prehistoric groups in an area and be sufficient for chipped stone tool production; however, "certain materials may be chosen over others because of differences in mechanical efficiency at hand" (Beck and Jones 1990:284). The Clovis hafted biface comes to mind here, because tools overdesigned as hunting weapons likely would be manufactured from the highest quality raw material to be reliable and insure functionality when needed.

This brief overview illustrates the importance of accurately identifying raw materials in archaeological assemblages as well as having a clear understanding of the distribution and prehistoric availability of raw material sources. Examinations of lithic materials from Paleoindian and Archaic sites have provided insights into mobility patterns, tool design, and social interactions, but debates continue. Here, we briefly discuss some of these models and review the Early Archaic raw material data

from various areas of Tennessee, as these are disparate raw material environments in which Early Archaic peoples operated. In addition, we cross the state border on occasion to provide additional context.

Early Archaic Settlement Models

Much of what we surmise about the Early Archaic in the Southeast is based on lithics. Anderson and Hanson (1988:267), in citing a number of studies, state "Early Archaic sites occur in a wide range of microenvironments, and that extra-local raw materials are common in assemblages" with both trade and extensive mobility being proffered as explanations. While nonlocal materials are common, a greater use of local, lower quality materials is also apparent during the Early Archaic and may reflect less concern with certain elements of tool design as compared with Paleoindian. This illustrates the complexity of making inferences concerning mobility strategies from raw material use. A variety of settlement models have been proposed to represent Early Archaic lifeways in different areas, but little testing or direct assessment has been accomplished.

With reference to the Southeast, for example, there is debate concerning the inferences to be made from raw material proportions on the South Atlantic Slope and the roles played by settlement mobility and exchange in assemblage formation. Did individual bands stay within major drainages while occupying the coastal plain and aggregate at piedmont sites as outlined in the Band-Macroband Model (Anderson and Hanson 1988)? Such aggregation sites produce chipped stone assemblages with greater raw material diversity than sites on the coastal plain and aggregation sites provide the opportunity for exchange of raw materials among other things. Or, did bands regularly cross drainages in the coastal plain, but were tethered to raw material sources as outlined in the Uwharrie-Allendale Model, and this explains the low raw material diversity at such sites (e.g. Daniel 1998).

In the Band-Macroband Model (biocultural model), Anderson and Hanson (1988) suggest a winter strategy of logistical mobility and a summer strategy of increased residential mobility. Aggregation sites are important for information sharing and maintaining a viable population. They postulate two levels of settlement organization (local band-level, regional macroband level) for the Early Archaic on the South Atlantic Slope. Eight bands are suggested to compose the South Atlantic macroband with each occupying the eight major drainages. Given low population densities during this period, 3-5 bands had to have been in regular contact to maintain viable populations. The fluid movement of individuals and coming together of members of two or more bands at aggregation sites located at the Fall Line are the mechanisms suggested to maintain social contact. Winter base camps are located in the Upper Coastal Plain from which a collector strategy was employed. The rest of the year was characterized by high residential mobility or a forager mobility strategy. Movement away from the winter base camp in early spring is proposed to have been toward the coast and back into the Upper Coastal Plain and Piedmont from late spring to early fall. While returning to winter base camps during the late fall, side trips to aggregation sites are proposed. They see the gradual, rather than step-like, drop off of raw material types is taken as support of minimal social boundaries (Anderson and Hanson 1988:280). The use of non-local raw materials ap-

pears greatest along rather than across drainages suggesting that most band activities occurred within a single drainage. Aggregation of bands from different drainages is possible, so some between-drainage activities are not ruled out. Sassaman (1992) also found support for the model, that is, a general indication of movement along rather than across drainages. However, he (Sassaman 1992:65) notes problems with discriminating aggregation sites from sites with repeated, long-term or seasonal habitation.

Conversely, Daniel (1998) views Early Archaic groups as being tethered to sources of raw material. Cross-drainage movement is common in his model. The distinctive nature and limited occurrence of Uwharrie rhyolite were used to examine settlement range in the Carolina Piedmont. In examining raw materials used in hafted biface manufacture from the Yadkin-Pee Dee River basin and eastern Piedmont, Daniel (1998) found that the distribution of Uwharrie rhyolite along the Yadkin-Pee Dee was not significantly different from its occurrence across the eastern Piedmont. This is taken to indicate that movement is oriented across drainages as much as it is along drainages. Further, he argues that sources of lithic raw materials were the geographical focus of Early Archaic settlement systems as opposed to the watershed focus of the Band-Macroband model. In the Uwharrie-Allendale model, two regions are proposed that correspond to the distribution of these raw material sources, but is also variable across the Piedmont and Coastal Plain. Daniel (1992) suggests that scheduled trips were made to the Uwharrie and Allendale quarries specifically to acquire stone and that other models of Early Archaic settlement in the Southeast have overly emphasized the embedded nature of raw material acquisition in subsistence practices.

Other models of Early Archaic settlement have been proposed for the Southeast, but none utilize raw material data to the extent of either the Band-Macroband model or the Uwharrie-Allendale model. One model worth mentioning due to its origination from a study of Tennessee Early Archaic materials is the Central Based Transhumance model proposed by Chapman (1975) for the Little Tennessee River Valley. In this model, a base camp (originally Rose Island; Chapman 1975:272) serves as the hub for activities akin to a collector strategy employing base camps, logistical camps, and locations (*sensu* Binford 1980). Later reformulations maintain a focus on logistical mobility patterns for most of the Early Archaic (e.g., Davis 1990), and Kimball (1992:181) suggests the Kirk settlement pattern included Icehouse Bottom and Bacon Farm as aggregation sites. Carr (1995), following Kimball, sees change over the Early Archaic sub period in the Little Tennessee River Valley based on considerations of technological organization.

In order to adequately assess the applicability of any Early Archaic settlement model in any portion of the Southeast, an understanding of the environment, particularly raw material distributions, and a solid Early Archaic database are needed. Broad conceptualizations such as the Band-Macroband model cannot be adequately tested with data from single sites. The data necessary to make accurate inferences concerning Early Archaic lifeways will take time and effort to formulate.

Summary of Chert Resources and Use in Tennessee

Chert resources are variable in quality, size, availability, and abundance across

TABLE 1. Summary of Chert Resources in Tennessee.

Physiographic Region	Chert Availability	Chert Accessibility	Chert Quality	Chert Size
Unaka Mountains	Lacking *			
Ridge and Valley	Moderate	Dispersed	High	Small
Cumberland Plateau	Lacking	Dispersed		
Eastern Highland Rim	Abundant	Ubiquitous	High	
Inner Basin	Moderate	Dispersed	Poor	Small
Outer Basin	Moderate	Dispersed	Moderate	Medium
Western Highland Rim	Abundant	Ubiquitous	High	Large
Coastal Plain	Moderate	Dispersed	Poor	Small

*vein quartz, quartzite, rhyolite, and tuffs are available.

much of Tennessee and the surrounding areas (Table 1). This variability makes for an interesting examination of Early Archaic lifeways because prehistoric peoples had choices, or their mobility pattern limited those choices, and their selection of one source over another provides insight into what informed the decisions made. That is, given the raw material environment in which a prehistoric person operated, their choices regarding how their technology was organized was responsive to the social and economic strategies employed. More detailed discussions of raw materials are provided in several sources (e.g., Amick 1987; Kimball 1985; Penny and McCullough 1976). Here we summarize the basic data by physiographic region with particular discussion of Early Archaic usage. While there are certainly additional sites that could be incorporated, the following provides a representative cross section of the available data from Tennessee. We move from east to west in our discussion and give greater treatment to those regions for which more data are available.

In the Ridge and Valley area of east Tennessee we see a predominance of Knox chert used at Early Archaic sites (Figure 1). For example, between 96 and 99 percent of the flakes recovered from Icehouse Bottom, Rose Island, Patrick, and Bacon Farm in the Upper Kirk and

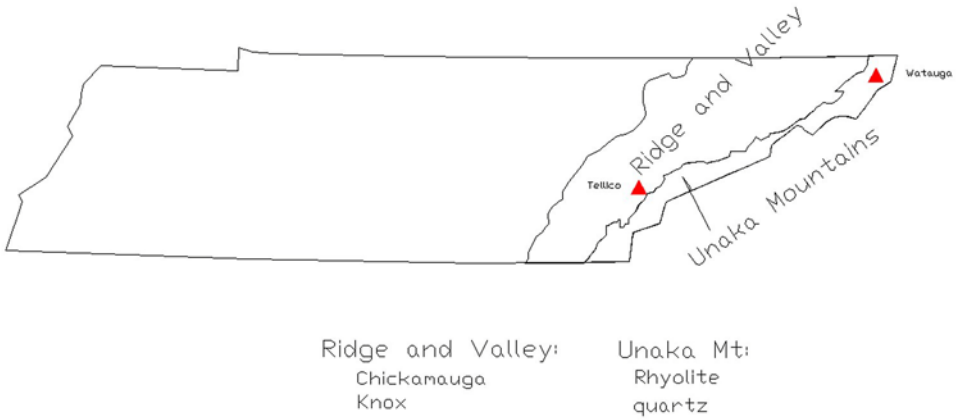

FIGURE 1. Raw material sources of East Tennessee.

Bifurcate zones were of Knox chert (Carr 1995). In the earliest assemblages, there is evidence for a greater amount of non-local materials. For example, approximately 10 percent of the flakes from the Lower Kirk at Icehouse Bottom were of non-local sources, predominantly Fort Payne chert. In his overview of the Tellico data, Kimball (1996) notes that Knox Black and Black-Banded cherts are available in the upper valley area of Tellico while lesser quality varieties are known for the lower valley. The latter sources were rarely used by Early Archaic people. Additionally, high quality vein quartz and quartzite from the Unaka Mountain area occur on Ridge and Valley sites suggesting forays into the uplands (Kimball 1996:151). Likewise, Ridge and Valley cherts have been recovered from sites in the Unaka Mountains. Knox chert is also common on sites in upper east Tennessee in the Unaka Mountains region. For example, in his examination of the Watauga Reservoir data from Upper East Tennessee, Boyd (1986) found that Knox Chert was almost exclusively used for hafted biface manufacture. Knox Chert and chalcedony were the preferred raw materials through time. Materials such as quartzite and rhyolite were occasionally relied upon. In terms of settlement, Early Archaic peoples used a broad range of habitats, and more intensively used upland areas than Late Archaic people.

The Cumberland Plateau (Figure 2) is generally a raw material poor area as there are few local resources and most of these are at plateau margins (Ferguson and Pace 1981; Pace and Hays 1991; Jay Franklin personal communication 2007). Ferguson and Pace (1981: 133) note:

> *almost all chert occurring in the BSFNRRA [Big South Fork National River and Recreation Area] and over most of the Cumberland Plateau is of non-local origin indicates that a nested procurement strategy embedded in a seasonal subsistence round (Binford 1979) is a probably systemic model for the plateau in general. Also, due to the lack of local lithic material one would expect a highly curated technology. Such a curated technology would normally create noise in site interpretation, But since quarry sites are virtually non-existent in the Plateau the artifactual data base of the Plateau offers an excellent opportunity to distinguish and interpret the artifacts related to replacement of certain items of the tool kit, the expended item which were discarded after replacement, and those artifacts related to site function.*

They view the settlement system on the Plateau as not supporting base camps. Sites generally are interpreted as primary extraction camps with some main-

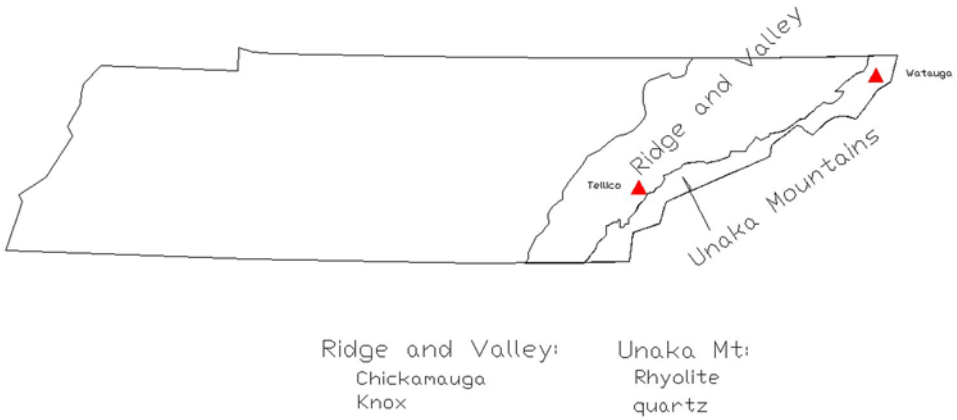

FIGURE 2. Raw material sources of the Cumberland Plateau.

tenance activities. Plateau resources were seasonally exploited from hunting and gathering stations and part of a larger settlement system. The majority of the raw materials used on sites in this area would have been procured at non-Plateau sources and transported to the area. Some chalcedony is available on the Plateau, though most cherts were procured from the surrounding areas, notably the Eastern Highland Rim. Outcrops of chert are known for the western escarpment of the Plateau. This general lack of resources is reflected in a greater reliance on non-local sources throughout all temporal periods on the Plateau. Pace and Hays (1981) note that Early Archaic site assemblages were dominated by upper Mississippian cherts (76-88 percent) and the closest source was probably 10-15 km distant. Fort Payne, a more distant source, constituted 4 to 16 percent of the Early Archaic assemblages.

Much work on raw material sources has been conducted in the Middle Tennessee region. This includes the Normandy resource survey (Penny and McCullough 1976), Amick's (1987) survey of the Central Duck River, and the work by Nance (1984) and Gatus (1983) in the Land Between the Lakes region of Kentucky and Tennessee to name a few. Amick (1987) characterized the Highland Rim area as a rich chert resource zone (Figure 3). Chert sources in this area, particularly Fort Payne and St. Louis, are abundant, readily accessible, and of high quality. In contrast, the Nashville Basin (Figure 4) is chert poor. Basin cherts are of small size, poor quality, and not abundant. Chert size and quality decreases the further one travels into the Basin. Additionally, Highland Rim cherts can often be found as river gravels towards the Highland Rim/Central Basin interface.

The Moore Bottom site is at the edge of the Central Basin/Eastern Highland Rim between where Doe Run and Roaring River confluence with the Cumberland River in Jackson County, Tennessee (Bradbury and Kim 1994). The site is located within the Outer Basin while the surrounding uplands are Highland Rim. Testing at this deeply stratified site resulted in the recovery of Kirk Corner-Notched hafted bifaces from the lowest deposits. Highland Rim sources were exploited extensively. Fort Payne (n=862, 74 percent of identified flakes) was the most widely used of the Highland Rim sources. Other

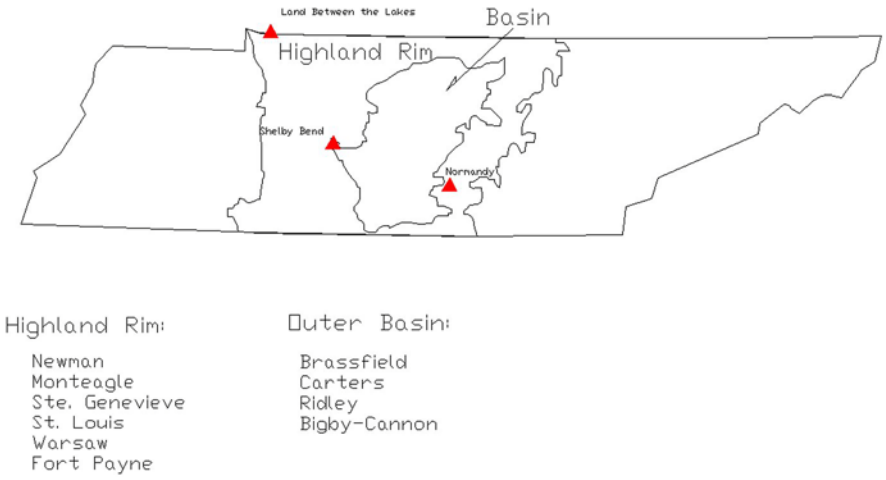

FIGURE 3. Raw material sources of the Highland Rim.

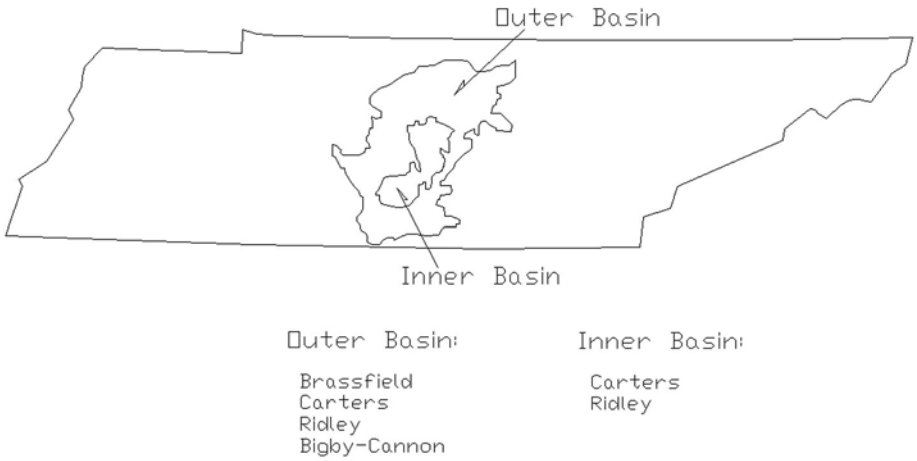

FIGURE 4. Raw material sources of the Nashville Basin.

cherts represented were: St Louis (n=212, 18.8 percent, Highland Rim), Bigby Cannon (n=34, 3 percent, Central Basin), Monteagle (n=4, 4 percent , Highland Rim), chalcedony (n=14, 1.2 percent), and indeterminate (n=119, not included in calculating percents). Fort Payne and Bigby Cannon could be considered local sources as both were available as gravels within Doe Run Creek. St Louis and Monteagle were more distant Highland Rim sources.

The Johnson site is situated on the bank of the Cumberland River at confluence with a major tributary in Davidson County, Tennessee in the Central Basin, but near the Highland Rim (Broster and Barker 1992). Bifurcate and Kirk cluster hafted bifaces were recovered from the site as well as several possible Paleoindian hafted bifaces. Broster and Barker (1992) note that Fort Payne was the predominate material identified at the site in all artifact classes followed by a Dover variety, possibly from the Kentucky Lake area.

Site 40CH162 is situated at the edge of the Central Basin/Highland rim along the Harpeth River (Bradbury and McKelway 1996). An Early Archaic site was documented within stratified deposits at the site. Early Side Notched (n=5), Kirk (n=21), and Bifurcate (n=2) hafted bifaces were recovered from these deposits. The majority of the materials represented at the site were of the local Fort Payne chert. Minor amounts of other Highland Rim (e.g., St Louis) materials and very few basin (Ridley, Bigby Cannon, Brassfield) materials were recovered. This pattern is seen in both the Early Side-Notched and Kirk Corner-Notched horizons for flakes and tools. Fort Payne chert could be obtained in the form of gravels in the Harpeth River directly below the site.

Although few details are reported, Dover or a Dover variant was common from the Puckett site which produced both Kirk and Dalton materials (Norton and Broster 1993). The site is located in Stewart County, Tennessee on the bank of Lake Barkley (formally the Cumberland River) within the Western Highland. A few flakes of local Fort Payne chert were also identified.

The Shelby Bend Project was located in the western portion of the Central Duck River basin near the interface between the western Highland Rim and Outer Basin (Amick et al. 1985). Early Archaic ma-

terials were represented at several of the sites excavated during this project. At Baker Knoll, seven Early Archaic hafted bifaces of Fort Payne chert were recovered from surface collection. At the Old Roy site, 12 Early Archaic hafted bifaces were recovered: 11 Fort Payne and one of St. Louis. Two Early Archaic hafted bifaces were found at the Mayberry Site, one Fort Payne the other was Dover. One Early Archaic hafted biface of Fort Payne was recovered from the Puckett site. Five Early Archaic at the Gordon site (four Fort Payne and one St. Louis). Amick et al. (1985) note that in the Shelby Bend region, the most significant chert resources were derived from gravel sources and the chert resource potential is high. Large cobbles of Fort Payne chert and minor amounts of Brassfield and Carters cherts are represented in the gravels. In addition, Fort Payne and Hermitage cherts are available from residual contexts. Large amounts of Fort Payne and some St. Louis are available in the adjacent Highland Rim. “Despite the presence of several chert types on the Western Highland Rim, the massive extent of the Fort Payne Formation results in the dominance of Fort Payne chert frequencies over all others” (Fogarty et al. 1985).

Gatus (1983) notes 18 chert-bearing deposits, 9 of these with usable chert, in the Lower Cumberland and Lower Tennessee River Valleys in Western Kentucky adjacent to the Western Highland Rim physiographic region. Fort Payne and St. Louis cherts are abundant in this area. Ste. Genevieve chert is available to a lesser extent. Groups on the Cumberland River would have had greater access to chert than those on the Tennessee River in this area. Nance (1984) also notes the importance of river gravel sources for chert procurement in the Land Between the Lakes Area in Kentucky, just to the north of the Tennessee state line. Similar chert sources are known in the adjacent Western Tennessee Valley of Tennessee. The Dover quarries, for example, are located in this area (Stewart County). We note that Dover chert is known to occur over a much wider area than just the Dover Quarries.

In the Western Tennessee River Valley (Figure 5), local resources predominate. These consist mainly of Tuscaloosa Gravels and Fort Payne. Welles et al. (1946:4-5) describe the series of geologic formations of the Mississippian system in this region:

> *The youngest or uppermost of these formations are the St. Louis and Warsaw formations... Underlying these two formations are the Fort Payne*

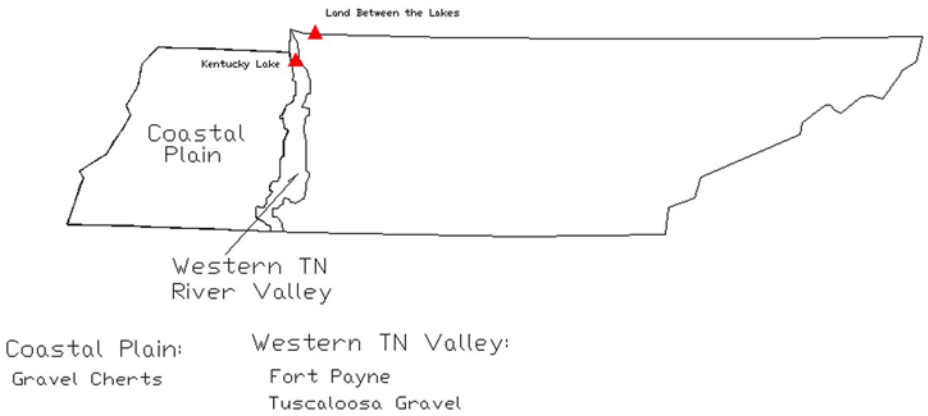

FIGURE 5. Raw material sources of West Tennessee.

chert and the New Providence formation, both of which comprise extremely cherty limestone. The Fort Payne in particular comprises alternate thin layers of brittle chert and dense low-grade limestone.

The cherty residuum and limestone of the Mississippian period formations are extensively exposed near the Kentucky Lake Reservoir by erosion. Capping the Mississippian period formations are Coastal Plain deposits. The Illinois, Cretaceous and Tertiary deposits consist primarily of unconsolidated gravel, sand, silt, and clay. The gravels of the Tuscaloosa Formation of the Cretaceous System, which occur only east of the river, are exclusively chert. The youngest geological deposits are undifferentiated Late Tertiary and Quaternary continental deposits consisting of locally cross-bedded and sometimes high ferruginous gravels and sands (Fox and Olive 1966). The gravel is comprised primarily of chert with smaller amounts of quartz. In a survey of sites within the Tennessee and Kentucky portions of Kentucky Lake reservoir by Kerr (1996), a high percentage of local materials, namely Fort Payne and Tuscaloosa Gravel, were noted with around 12 percent non-local sources represented. Finally, in the Coastal Plain, chert is primarily small gravels and sometimes of questionable quality. The availability of chert increases as one moves towards the Tennessee River.

Select Sites in the Surrounding Region

An examination of sites in the surrounding area provides additional data for consideration. Prehistoric people certainly did not observe state boundaries, though modern archaeologists are constrained by these lines on a map. Only with pan-regional observations will we be able to understand the range of Early Archaic mobility and the details of the settlement pattern.

For one such site, St Albans, we have had the pleasure of working with the original collection. The lowest cultural zone, the Charleston Horizon, contains approximately 40 percent non-local cherts represented by flake debris. The use of local Kanawha chert increases through time. Of note is the presence of Newman chert from eastern Kentucky and several central Ohio cherts in all horizons. Sources of these materials are approximately 140 km distant. A similar pattern is seen at other Early Archaic sites that we have examined in this area. That is, the local Kanawha chert dominates in all cases, but eastern Kentucky cherts and central Ohio cherts are present in small quantities (Figure 6). Of note is that several of the cherts represented at the St. Albans site (e.g. Newman and Brush Creek) would have come from across drainages.

The Main site in Bell County, eastern Kentucky, is just over the border from Tennessee. The Bifurcate component at the site has nearly 100 percent Newman chert (Pecora 1995). The closest source for this material is approximately 6 km from the site. Some Knox chert is also noted in the assemblage. The closest sources of Knox chert are in the area of Harlan, Kentucky, roughly 40 km away.

On a tributary of the Cumberland River, Bradbury (1998) analyzed materials from 15CU31, a Kirk Corner-Notched, lithic reduction site. Fort Payne chert outcrops within 50 meters of the site and represented the main tool stone used. St Louis chert, represented in minor amounts, was likely procured from sources seven km to the north. The analysis demonstrated that bifaces of the local Fort Payne were being produced for use elsewhere.

A similar conclusion was reached for the Kirk Corner-Notched lithic reduction area at 15LO207 (Bradbury 2007). Here, local Ste. Genevieve chert was reduced into bifaces for transport and use elsewhere. All of the flakes were of local sources. It is of note that St. Louis chert outcrops adjacent to the site. Ste. Genevieve chert was available as gravels in close proximity to the site. The use of the higher quality Ste. Genevieve chert was much more prevalent for biface manufacture.

The Hart site in eastern Kentucky provides an example that does not fit the basic pattern of high percentages of non-local materials during early periods, and a predominance of local materials by Bifurcate times. The site is located in eastern Kentucky along the Big Sandy River which borders West Virginia. The Bifurcate component represents a short-term, residential occupation (Bradbury 2006). A high percentage of non-local materials were recovered. For example, 57 percent of flakes are of local sources, but only 33 percent of the tools are of local sources. Local chert in this case is Brush Creek which can be procured 7-14 km from the site. St Louis and Newman cherts represent the main non-local materials and are available some 45-55 km to the west of the Hart site.

Discussion

As we noted above, several models of Early Archaic settlement and mobility have been suggested for the Southeast, and some make greater use of raw material data than others. While it would be of interest to apply these models to Tennessee, differences in the topography and distribution of raw materials in various areas of the state make the wholesale use questionable. Some discussion of these differences is needed to highlight the reasons why it is unlikely that specific site types and mobility patterns from these models will explain Early Archaic settlement across Tennessee.

Daniel (1998) suggests that Early Archaic groups are tethered to raw material sources. We certainly see the possibility of a group planning trips to obtain raw materials in cases where quality stone locales are discrete in their distribution with significant distance between sources. In such a case, there are only limited opportunities to procure tool stone, so either a

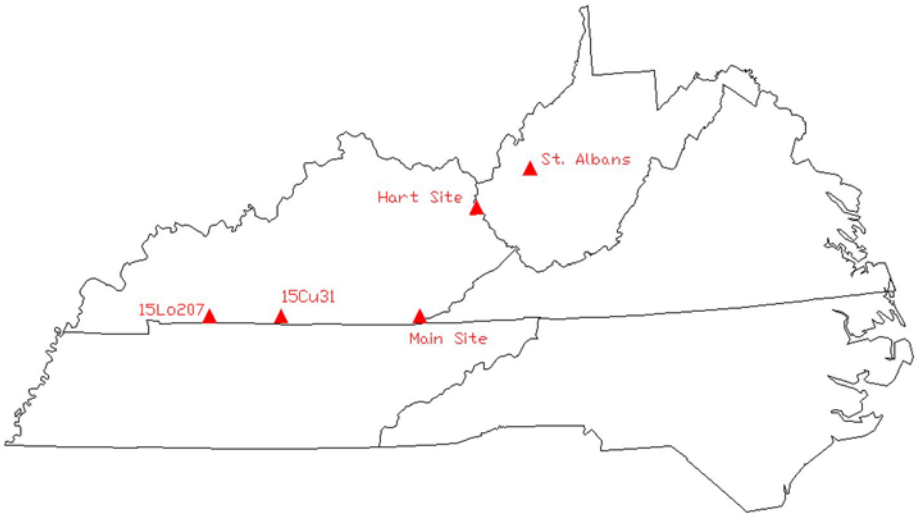

FIGURE 6. Location of sites mentioned in text.

group has to visit this source within their seasonal round, or logistical task groups must make special trips to the locations of these sources, or both, if stone remains a significant part of their technology. Looking at the Tennessee data, the complexity of the distribution of raw materials across the state is evident. For example, in east Tennessee, there seem to be scattered sources of Knox chert. The Cumberland Plateau has few sources and most materials were procured from adjacent areas. Within the Highland Rim, chert is abundant, of high quality, and ubiquitous. Chert resources within the Central Basin are somewhat limited. However, if you are located close to the Highland Rim, and streams from the Highland Rim flow into the Basin, then Fort Payne likely can be procured in gravels. The further one goes into the Basin, the lower the quality of this Fort Payne. In addition, if one is close to the Highland Rim, then logistic forays into the Highland Rim area could also procure chert. In these situations, we would not hypothesize an Early Archaic group as tethered to any specific raw material source, but imagine Early Archaic peoples organizing their technology given their seasonal round so as to meet stone tool needs.

In the Anderson and Hanson (1988) model, groups are situated within a river valley. These valleys are relatively equally spaced and all flow west to east. River systems in Tennessee are very different from the pattern seem on the South Atlantic Slope. Basically, there are two major rivers: Tennessee and Cumberland (and Mississippi if you include far western Tennessee), and a number of smaller, though not insignificant, tributaries: Duck, Elk, Harpeth, Holston, French Broad, Tellico, Clinch, Powell, Hiawassee, South Fork, Caney Fork, Collins River, and Buffalo to name a few of the larger ones. In addition, most of the major rivers in the Ridge and Valley generally run north to south. Notable exceptions are the Tellico and Hiwassee which run east to west out of Unaka Mountains into the Ridge and Valley. In Middle Tennessee, most major rivers are basically oriented east to west, with some major tributaries running south to north. For example, the Cumberland runs east to west in Middle Tennessee, though major tributaries such as the Harpeth, Caney Fork, and Collins are flowing south to north. In western Tennessee, the Tennessee River runs south to north with tributaries running either east to west or west to east. Also, in this area the Cumberland River makes a northern turn. This complexity makes it difficult to envision discrete bands with settlement patterns largely restricted to a single river valley.

Chert resources along the numerous river systems can be variable. This variability also exists within individual rivers. For example, in Middle Tennessee, the Duck and Buffalo Rivers cut through the Fort Payne Formation in the Western Highland Rim. Chert resources in this area are abundant and of high quality. Within the Outer Basin portion of the drainages, Brassfield and, to a lesser extent, Bigby Cannon chert would be available. Within the Inner Basin, small nodules of low quality Carters and Ridley cherts are all that is available. Chert quality decreases as one moves further into the Central Basin. Certainly if an Early Archaic group (band) used the Duck River as the focus of its yearly round, higher quality Outer Basin materials (e.g., Brassfield and Bigby Cannon) would be expected at sites within the Western Highland Rim. Low quality Inner Basin materials such as Carters and Ridley would not be expected far from their sources areas. The Basin materials would become less common on sites the further one was from the Central

Basin. However, a simple relationship is not expected as these materials are available at sources other than within the Duck River Valley. The presence of Central Basin materials at sites within the Highland Rim would at least suggest movement between the Basin and Rim areas. Whether this movement was within or between river valleys would be more difficult to discern.

The movement of Knox Chert into the Unaka Mountains area and the occurrence of Unaka Mountain sources at Tellico would suggest possible within drainage movement of materials along the Little Tennessee River. The presence of eastern Kentucky (e.g., Newman and Brush Creek) and Central Ohio cherts (e.g., Brush Creek, Zaleski, Upper Mercer) at St. Albans and other West Virginia sites indicates cross-drainage movement of materials. In this case, do the non-local materials indicate tethering to those raw material sources while the group is located within those areas? In some areas of Tennessee, the Highland Rim for example, quality chert is abundant and readily available throughout the region. Further complicating this matter is distinguishing Fort Payne from one portion of the Western Highland Rim from Fort Payne from another area of the Western Highland Rim. In essence, Fort Payne recovered from a site may have been procured at a Western Highland Rim source some 150 km distant and at this point in time we would not know it. Certainly by examining raw material counts in site reports, one would not have any more detailed location information than the Highland Rim.

Possibly one way to obtain more detailed information concerning Highland Rim chert sources is to employ a version of minimum analytical nodule analysis (e.g., Larson 1994; Larson and Kornfield 1997). Knell (2004) suggested using a coarse-scale version of this type of analysis to divide known raw materials into finer categories. These categories are based on fossils and other inclusions, mottling, cortex characteristics, and color. If these aggregates can be identified as to a probable source location, more detailed information concerning the movement of the materials can be constructed. For example, at the fore mentioned site 15CU31, Bradbury (1998) subdivided the Fort Payne chert into three categories: low quality, high quality, and fibrous. Based on a raw material survey of the area conducted in conjunction with the site excavations, the low and fibrous varieties were identified as occurring from a number of sources in close proximity to the site. The high quality Fort Payne was only identified within the archaeological materials. No source areas for the high quality Fort Payne were located during the raw material survey. Knowing that the area just to the north of the site was within the St. Louis formation, it was suggested that the high quality Fort Payne was obtained from source areas to the south around the Cumberland River. A similar approach in the Highland Rim area might prove profitable in determining source areas for varieties of Fort Payne chert. For example, the “Buffalo River” chert variety known for sources on the Buffalo River or the “Dover-like” Fort Payne chert known for the Houston and Stewart County areas. In some cases, neutron activation or some other form of elemental analysis might be employed to aid in determining source locations (e.g., Nance 2000).

We raise these issues with applying these models not as a way to discredit them, but to highlight differences between the areas where the models were originally developed and in Tennessee. The models should not be expected to have

pan-Southeast applicability. The numerous differences between these regions require that various aspects of these models undergo testing and new models developed. Given the range of variability in the abundance, quality, and locations of chert resources (in addition to other resources) throughout Tennessee, it is quite probable that each region will require a different model. Formulating and testing these models will largely depend on detailed knowledge of the environment and the archaeological record using an organization of technology approach.

The use of an organization of technology approach can provide insights into how Early Archaic peoples procured and used stone tools. In some regions we see evidence for the transport of minimally modified raw materials. Elsewhere, we have evidence of the staging of chert procurement. That is, collection and initial reduction of chert at the source, additional roughing out of bifaces at a second location, and then use/reuse of these tools at other sites. For example, Boyd (1985) examined two chert outcrops (40MR22 and 40MR45) in the Tellico area close to Icehouse Bottom, Harrison Branch, and Patrick sites. Knox Black and Black Banded were the preferred cherts and could be obtained from the surface and shallow digging. He notes that little reduction was being conducted at these two sites suggesting that the small nodules of Knox were collected, but reduced on the habitation sites. This pattern of chert acquisition did not change through time in this area. In other areas, there is evidence for staging of chert procurement. For example, two lithic reduction sites (15CU31 and 15LO207) with Kirk Corner-Notched components were investigated in Cumberland and Logan counties, Kentucky (Bradbury 1998, 2007) just to the north of the Tennessee/Kentucky state line on tributaries of the Cumberland River. Both sites were situated in areas with high quality materials that were located near areas with low quality materials, or near areas that lack sufficient tool stone. The Nashville Basin area of Tennessee, located to the south of these two sites, has been characterized as a chert resource pour zone (Amick 1987:58-59). In addition, the area to the north of 15CU31 is also raw material poor. It can be hypothesized that, to over-come the lack of raw materials in one area, 1) bifaces of high quality material are manufactured at small, limited activity sites, and transported to sites situated in raw material pour areas; or 2) before heading into raw material poor areas, bifaces are manufactured at sites as part of gearing up activities (Bradbury 2007). By being transported in this way, larger bifaces could serve as bifacial cores, tools, or both (*sensu* Kelly 1988). Along these lines, Sassaman (1996:78-80) has argued "Most models emphasize the demands of residential mobility on core design and use, but I think that the Early Archaic data from the upper Coastal Plain show that the most relevant factor was the transportation of tools to locations of use, that is logistical mobility (*sensu* Binford 1980). Thus, bifacial cores were the means by which temporary hunting stations and other remote locations were provisioned with raw material." Provisioning of raw materials is suggested by the presence of sites like 15LO207 and 15CU31 where raw materials were modified into large bifaces for transport to other locations.

A broader look at raw material acquisition across the southeast provides additional insights. The Hardaway site is argued to represent a quarry-related base camp in the Piedmont area of North Carolina (Daniel 1998). The types of debris and tools recovered from the site suggest that tool stone was "procured and initially

processed at Morrow Mountain [the source] and was then brought to Hardaway primarily in the form of bifaces and flake blanks" (Daniel 1998:145). At Icehouse Bottom in east Tennessee, a large base camp, Knox chert is available on the hill slope adjacent to the site and from outcrops directly across the river (Chapman 1977:25). Chapman (1977:25) states that "the abundance of fractured nodules and of nodules in various stages of reduction suggests that the raw material was brought into the site for manufacture rather than reducing the materials to biface form at its source." Along the Middle Savannah River, Sassaman (1994:112) suggests that "virtually all stages of reduction are represented at base camps." That is, the staging of biface manufacture seen elsewhere was not taking place. At other sites, G.S. Lewis for example, there is evidence for initial reduction at the source, on-site manufacture, and the transportation and further reduction of bifaces elsewhere (Sassaman 1994:112; also see Sassaman 1996). In the Oconee River drainage in the Piedmont area of Georgia, quarry related sites are located in the uplands (O'Steen 1996). Assemblages at such sites are characterized by flakes, expedient tools, and few formal tools. Bifaces broken during manufacture are also common. It is likely that other activities took place in addition to tool stone procurement at such sites. Raw material constraints also play into the organization of technology and must be considered (e.g., Andrefsky 1994). For example, in contrast to the above examples where bifaces appear to be important, Early Archaic sites in the Tellico area of East Tennessee (e.g., Icehouse Bottom, Rose Island, Patrick, and Bacon Farm) show a distinct lack of general bifacial tools (Carr 1995). Hafted bifaces are common and it is suggested that hafted bifaces and retouched flakes were used to fill the roles normally taken by bifaces (Carr 1995:107). This may be due, in part, to the relatively small size of the local Knox chert.

While there is much variation in the distribution and availability of quality tool stone throughout Tennessee and other areas, a general pattern is evident. When sufficient raw materials were located in close proximity to the residential base, the staging of material acquisition was not needed and all stages of reduction are represented at the site. In cases where tool stone was located at some distance from locations of primary use, a staged process was employed to provision those sites.

Summary and Conclusions

Various models have been proposed to account for the patterns of Early Archaic raw material use. While such models may be of use in explaining patterns in a specific region, we would argue that such models cannot be transferred wholesale to other regions. Such models are best viewed as hypotheses for further testing. We are starting to recognize the complexity of the situation and the necessity of needing to know more things about raw material patterns other than presence/absence. Raw material availability, quality, and package size are all factors that influenced and affected people's raw material choices. Once we start examining patterns across wider geographic areas we begin to see the complexity in raw material decisions and the dynamic role of other factors.

Here, we presented a general overview of the chert resources of Tennessee. Before we can begin to detect the presence of a Tennessee River-Cumberland Plateau Macroband or any such grouping

in the state and their potential interactions, more research is necessary. Particularly, we need to understand chert sources in greater detail to enable accurate mapping of the distribution and quality of chert throughout the state and the surrounding areas. Also, increased use of well-prepared, extensive comparative collections with discussions and identifications by regional experts will insure the accuracy of the archaeological data. At the present time, we can only make general statements concerning the role of raw materials in the organization of Early Archaic chipped stone technology and our vague knowledge does not allow for adoption or exclusion of any particular model or constituent parts.

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SOCIAL CHANGE AND NEIGHBORHOOD TRANSFORMATIONS IN THE LATE NINETEENTH AND EARLY TWENTIETH CENTURIES: THE URBAN ARCHAEOLOGY OF THREE COMMUNITIES IN THE OHIO VALLEY

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Recent urban archaeological research in the Ohio Valley by Cultural Resource Analysts, Inc., has focused on three large-scale projects in Lexington and Louisville, Kentucky, and Lawrenceburg, Indiana. Differing field research methodologies on each of these projects have provided unique opportunities to examine late nineteenth- and early twentieth-century European-immigrant, African-American, and white communities in the region. Preliminary results suggest that economic, political, and social factors affected residential patterning in each community differently over time. However, the results also demonstrate similarities between these communities' transformative residential processes. Preliminary results of fieldwork are presented as well as a discussion of how differing field methodologies affected research results.

Between 2004 and 2008, Cultural Resource Analysts, Inc. (CRAI) conducted large-scale archaeological investigations at three urban sites in the Ohio Valley. Near downtown Lexington, Kentucky, an 8.67-acre survey was conducted in 2004 within the limits of Davis Bottoms, a historically African-American neighborhood encompassing 24 acres that was established in the immediate post-Civil War years. In downtown Louisville, Kentucky, survey and data recovery efforts were completed in 2005 and 2006, respectively, at three historic sites cross-cutting three city blocks that were once part of a mixed residential and commercial neighborhood inhabited by affluent white Kentuckians in the mid-to-late nineteenth century, and later occupied by working-class African Americans, European immigrants—namely Germans—and white Kentuckians over the turn of the twentieth century. From 2004 to 2007, survey, testing, and mitigation were conducted in Lawrenceburg, Indiana, in a section of the city encompassing 14 city blocks and 25 sites. An influx of primarily German immigrants established a community on the west side of the city during the mid-nineteenth century, and, after this initial wave of settlement, the neighborhood slowly became a multi-ethnic working class community throughout the nineteenth and twentieth centuries. In all three project areas, archival information and secondary history sources, in conjunction with archaeological data, suggest that a multitude of economic, political, and social factors affected the residential patterning of each neighborhood. At the same time, however, the results demonstrate several key similarities in each of these communities' transformative residential processes.

Davis Bottoms

The historic Davis Bottoms Neighborhood (15FA284), also known as Davistown, or more recently, the Southend Redevelopment Area, is being developed in conjunction with the Newtown Pike Extension Project in the city of Lexington, Fayette County, Kentucky. The extension of Newtown Pike and redevelopment of the surrounding areas will result in the demolition of the residential and commer-

FIGURE 1. An example of typical houses in the Davis Bottoms community at 706 and 706½ DeRoode Street, facing west (Haney 2004:Figure 6.56).

cial structures that currently stand in Davis Bottoms. Many of the extant dwellings in the neighborhood are shotgun houses that were constructed in the late nineteenth century (Figure 1). However, a modern steel recycling plant, an auto repair shop, and a junk yard also stand within the neighborhood.

The first phase of the archaeological baseline study was conducted in 2004 at the request of the Kentucky Transportation Cabinet (KYTC) and consisted of shovel testing and pedestrian survey (Haney 2004). Due to the large extent of the site, it was divided into 11 analytical areas. Although landowner permission was not granted to survey all of the parcels within the site, material culture recovered from several parcels, such as architectural, domestic, and personal items, indicated that intact late nineteenth- and early twentieth-century deposits were present. The good integrity of the site--in particular, Areas 3 and 5--as well as preliminary archival research suggested that the site has research potential regarding local history. Based on these results, the Kentucky Heritage Council (KHC) and KYTC concurred with CRAI's findings and determined that the site is eligible for inclusion in the National Register of Historic Places (NRHP) under Criterion D. Phase III data recovery was recommended to mitigate impacts to the site—specifically, Areas 3 and 5—from the proposed road construction, and this work is scheduled for 2008.

Archival documents, as well as secondary historic sources, suggest that Davis Bottoms was established primarily as a black community on what was once the periphery of the city of Lexington following the Civil War. The neighborhood was developed in a marginal area, along a stream in the damp lowlands near the tracks of the Cincinnati Southern Railway. Most of the African-American neighborhoods or "towns" that were established in Lexington after the Civil War were constructed in such settings, bordering railroads and industries. The individual properties within these communities were typically owned by affluent whites, however, and these white property owners readily capitalized off the primarily impoverished African-Americans' need for cheap housing by utilizing what was considered by most to be undesirable land (Kellogg 1977:313; Thomas 1973:259). Hence, the location of this community on the urban periphery on less-desirable land can be considered a direct reflection of racism against African Americans, as well as socio-economic disparity between whites and blacks after the Civil War. However, it should also be noted that in spite of these disparities,

Davis Bottoms also became what R. Gerald Alvey (1992:82) has coined its own "cohesive socio-cultural entity;" that is, a cultural nucleus, a focal point per se, for group identity and personal pride for the people that lived there.

African-American neighborhoods established shortly after the Civil War, such as Davis Bottoms, were not the first communities of this kind to be developed in the Lexington. Even before the Civil War began, small African-American neighborhoods occupied by free blacks and enslaved individuals who had "living out" privileges were dispersed within a mile radius of the city limits. Since slave owners who allowed their slaves to live out still needed to maintain an aspect of control over them, these antebellum African-American communities were irrevocably tied to whites (Thomas 1973:256). After the Civil War ended, African-American communities in Lexington no longer needed to be tied to the presence of whites, and segregationist attitudes facilitated the establishment of separate black communities throughout all four wards of the city. As the black population steadily increased after the war, antebellum African-American communities were filled to the breaking point with new in-migrants. There became a pressing need for residential living space for freed African-Americans, and white property owners on the outskirts of town were able to exploit this need by building shacks on their property and renting them to blacks (Kellogg 1977:312; Thomas 1973:257). In this way, many of these landowners became the city's first slumlords.

Eventually, many of these landowners partitioned their property into lots and offered them for sale. In order to produce the highest gain from the sale of their lands, the landowners divided the parcels into narrow lots, usually no more than 28 feet wide and 80 to 100 feet long. On these lots, narrow frame houses were typically built, for the most part conforming to a vernacular style architecture recognized as the "shotgun-shack," a single-family dwelling that was one room wide and three to five rooms deep (Kellogg 1982:38; Vlach 1986). These houses usually filled up most of the lot space, and little room was left for outdoor activities in the front, rear, or side yards. Neighborhoods where shotgun houses dominated as the architectural style often had row upon row of these houses facing dirt roads, with little space between the buildings. By the late nineteenth century, many of these towns were well-established and familiar to residents of the area.

Davis Bottoms was established by a man named Willard Davis. Davis, a white Lexington attorney, owned 43 lots in 1865 on the outskirts of Lexington in the part of town that would eventually become his namesake (Powell 2002:VI176–177). It is uncertain when Davis Bottoms was established as a neighborhood, or "town," but it is known that Willard Davis sold at least 13 lots on Brisbin Street (present-day DeRoode Street between Patterson and McKinley Streets) to African Americans in that area in 1866, and by 1873, several entries in the Lexington City Directory list African Americans residing in "Davistown," although no specific streets were designated (Figure 2). Interestingly, German immigrants also inhabited the neighborhood in the late nineteenth century, but only for a brief period.

Shortly after Davis Bottoms began its development as a black community on the outskirts of Lexington, a similar trend occurred in the development of poor white neighborhoods in the city. In the decade from 1880 to 1890, the black population surge slowed to less than one thousand and the white population in contrast, in-

FIGURE 2. Overview of Davis Bottoms (15Fa284) on the 1877 Atlas of Bourbon, Clark, Fayette, Jessamine, and Woodford Counties, Kentucky (Beers and Lanagan 1877).

creased by four thousand. This significant increase in whites in the city, particularly working-class whites, contributed to the formation of poor white neighborhoods, such as Irishtown, developing in a similar pattern to that seen in black neighborhoods in the late nineteenth century.

From 1910 to 1930, Lexington's white middle class began moving out of the city's core and into the suburbs. This trend was in response to growing commercial development and a shift in the black population to the inner city (Bolin 2000:70). No longer hampered by the need for public transportation with the increasingly common ownership of automobiles, the white middle class could afford to live on the outskirts of the city, away

from the noise and the pollution associated with the center of town. A new black subdivision was developed during these years on Georgetown Street, but only 20 percent of the city's black population moved there. The other 80 percent remained in or moved to the older black neighborhoods already established before the twentieth century.

Following the First World War, attention shifted from the war effort to concerns about housing in Lexington, and surveys of poor black neighborhoods in the 1920s found many dwellings to be dilapidated, unsanitary, and without running water (Bolin 2000:71). The poor housing conditions in many neighborhoods were blamed for the surge in disease in the early 1920s (specifically tuberculosis and sexually transmitted diseases) and were also held responsible for an increasing reliance on charitable organizations. Davis Bottoms and Irishtown were among those neighborhoods that were listed as posing serious public health concerns.

According to Kellogg (1982:47–48), in the late nineteenth century, neighborhoods such as Davis Bottoms tended to be characterized by a high percentage of owner occupancy. However, by the 1910s and 1920s, the majority of residential occupants did not own their properties. In the early decades if the twentieth century, the residential lots in Davis Bottoms had been increasingly divided and subdivided into smaller and smaller lots, with several owners leasing housing units to a larger number of tenants. The owners generally lived in other parts of Lexington, and sometimes they lived in other Kentucky cities, such as Louisville, or they lived in another state altogether.

By the 1930s, housing conditions in the neighborhood were very poor and nearly 100 percent of the properties in Davis Bottoms (and incidentally, Irishtown) had no private toilet or bath (Work Projects Administration 1939). If the absentee landlords did not want to properly maintain repairs on the rental properties they leased, it is reasonable to assume that they also probably found it an unnecessary expense to provide toilets or bathing facilities within the dwellings. The poor disposition of the neighborhoods and lack of modern conveniences does not appear to be related to segregation (i.e., lack of social services and funding for improvements because of racial discrimination). Instead, the lack of improvements to the neighborhood appears to be socioeconomically related.

By 1939, Davis Bottoms was no longer a primarily black neighborhood. By this date, nearly half of the neighborhood was European American—most were mountain folk from eastern Kentucky—and of the white occupants that resided there, the majority of them were tenants (Woestendiek 1980:2). In fact, of the actual owner occupants that resided in Davis Bottoms, nearly all of them were black (Lexington City Directories 1940–1941). Therefore, absentee landowning, tenancy, and poverty (i.e., class) seem to be the significant contributing factors in the declining condition of the neighborhood. That Davis Bottoms was generally regarded as an African-American neighborhood in spite of the demographics (and continued to be regarded as such) attests to the prevalence of racism regarding the physical appearance of African-American neighborhoods.

The major shift in the ethno-racial composition of the neighborhood seems to have begun in the 1910s. An examination of the Lexington City Directory from 1914 to 1925 indicates that Davis Bottoms experienced a significant number of vacancies in 1919. In 1914, the majority of the occupants in the community were

FIGURE 3. Newspaper photo of Davis Bottoms circa 1980 with the scrapyard looming over DeRoode Street (Woestendiek 1980:8).

black (although not entirely so--there were several isolated white households). However, in 1919--on DeRoode Street alone--there were 22 vacant houses (compared to the 23 that were occupied), and by 1925, nearly all of the residences (including some that were newly built) were occupied. The practice of racially demarcating individuals in the city directories was not used in 1925, so it is uncertain just how many of the households on DeRoode Street were white or black, but by 1939, there had been a substantial increase in white occupancy. In 1940 and 1945, the percentage of white occupancy on DeRoode Street alone was 44 percent and 51 percent, respectively, suggesting that within 20 years, Davis Bottoms had become a fully racially integrated neighborhood.

The integration experienced by Davis Bottoms did little to draw attention to the needs of the community. As mentioned, white in-migrants, mostly from Southern Appalachia, had journeyed to Lexington and other cities in the New South in search of economic opportunity starting in the late nineteenth century. This rush to the cities significantly increased in the early twentieth-century as the United States government purchased large tracts of mountain land, displacing thousands of mountain residents (Eller 1982:120). Social reformers and missionaries, lauding the economic opportunities of industrialized cities, encouraged mountain residents to migrate to urban areas where they claimed they would find not only financial stability, but education and social mobility. Many of the sentiments expressed by social reformers and missionaries were based on elitism and stereotypes of mountain life. The rural and mountain localities within Southern Appalachia had long been stereotyped as backward, isolated, and rife with dueling banjos, moonshine, and overt hostility. Mountaineers were thought to be general-

ly immoral, savage, lazy, and superstitious--stereotypes that interestingly parallel the racist characterizations of African Americans throughout the nineteenth century (Klotter 1985:51). American popular culture continued to perpetuate these stereotypes of mountain culture through cartoons, travel journals, and the national press from the nineteenth century through a better part of the twentieth century (Waller 1995). The opportunities promised to the urban transplants were slow to come, however, as they settled in cities such as Lexington in the early twentieth century. The stereotypes of mountain people followed them to the cities, and with little or no education, instead of finding prosperity, people originally from Southern Appalachia often were faced with urban poverty (Woestendiek 1980:2).

In the 1950s and 1960s, Davis Bottoms continued to cope with dilapidated residential conditions, and things only worsened through the remainder of the twentieth century (Figure 3). As it stands today, Davis Bottoms is a scarcely populated neighborhood with vacant lots, abandoned homes, and some housing units. Archaeological data recovery in Areas 3 and 5 are in progress. The archaeological investigations at the site offer a unique opportunity to not only examine the everyday lifeways of the former occupants of this neighborhood, but fieldwork also offers the opportunity to materially explore the transformation of the neighborhood from a primarily African-American community to one that included both African Americans and white residents originally from Southern Appalachia.

Booth's Enlargement

In 2005 and 2006, CRAI completed Phase I survey and Phase III data recovery for the I-65 Accelerated Section of the Louisville Southern Indiana Ohio River Bridges (LSIORB) project in Louisville, Kentucky. The survey and mitigation were conducted at the request of KYTC ahead of proposed road improvements to I-65, including bridge, ramp, and highway widening, and in some cases, their relocation. The project area was restricted primarily to existing rights-of-way extending roughly from the intersection of East Chestnut Street and First Street to the intersection of East Liberty Street and Brook Street. Since the 1960s, I-65 has traversed these city blocks, and an eye clinic, parking lots, and a parking garage surround the project area.

Field methods during the Phase I work included geotechnical bore-hole monitoring, followed by bucket augering and mechanical trenching, and three sites (15JF716, 15JF717, and 15JF718) encompassing three separate city blocks were recorded (Figure 4). Preliminary archival research indicated that these sites were once the location of a mixed residential and commercial neighborhood dating from the mid-nineteenth century through the mid-twentieth century (Herndon 2006). Although site 15JF716 had been significantly disturbed by the installation of utilities, the survey of sites 15JF717 and 15JF718 indicated that intact nineteenth-century features existed below the ground surface. Based on the results of the Phase I work, sites 15JF717 and 15JF718 were recommended as eligible for inclusion in the NRHP. Accordingly, data recovery was recommended to mitigate potential impacts to these sites from the proposed road improvements.

Phase III data recovery of sites 15JF717 and 15JF718 in 2006 consisted of mechanical trenching followed by the hand excavation of features. As was the case during the Phase I work at both

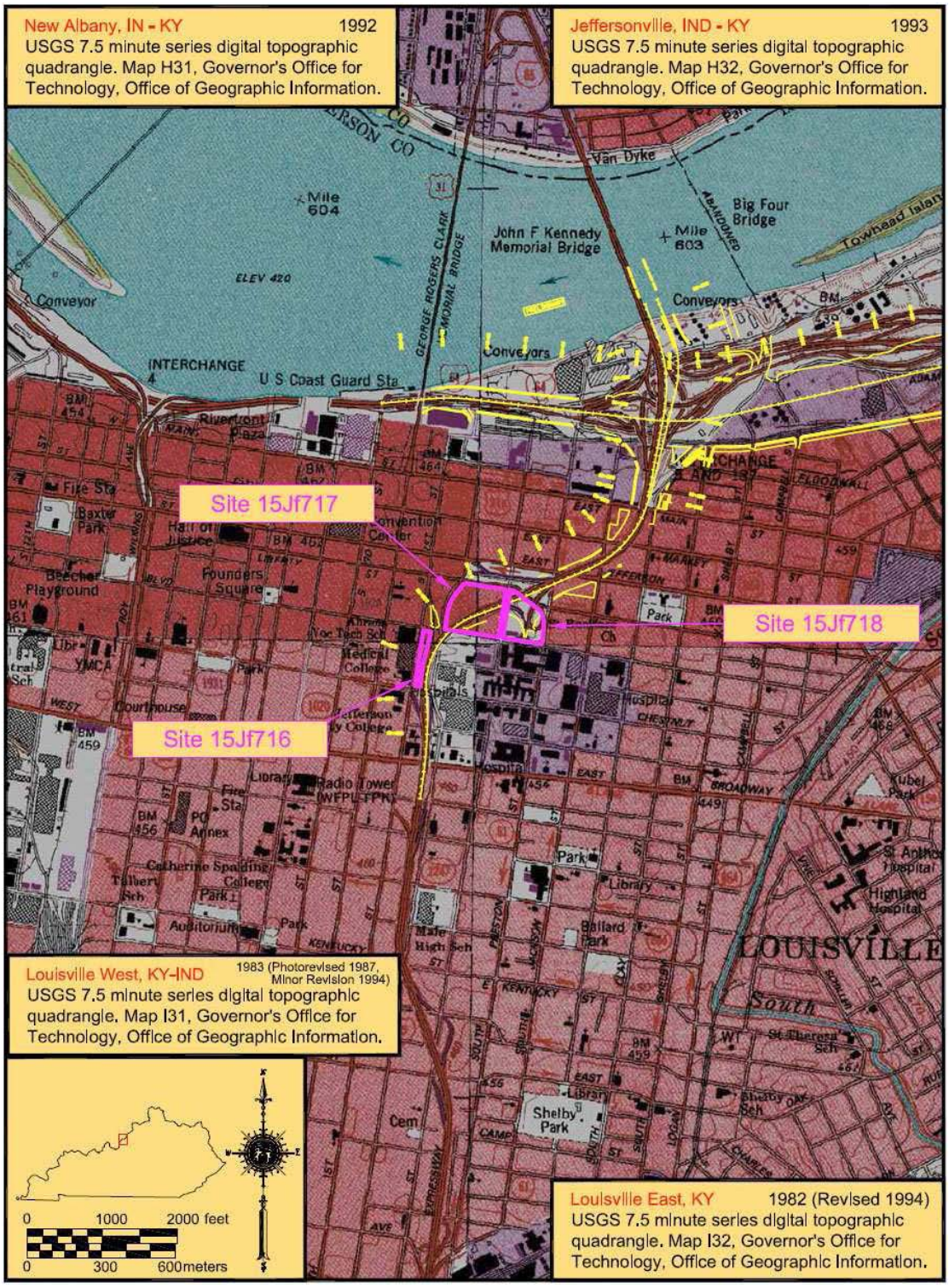

FIGURE 4. Location of sites 15JF716, 15JF717, and 15JF718 (formerly part of Booth's Enlargement) in downtown Louisville, Kentucky (Faberson 2007:Figure 1.2).

sites, archaeological investigations were limited by the narrowness of the rights-of-way; that is, at site 15JF717, trenching could only occur within a space of approximately 2 m in width, and at site 15JF718, trench space was limited to approximately

FIGURE 5. East end of site 15JF717 between raised Jewish Hospital medical office parking garage and interstate embankment, facing east (Faberson 2007:Figure 1.5).

3–5 m in width (Figure 5). While these limitations were present, however, a number of features were recorded.

At site 15JF717, 12 features were discovered. These features included a late nineteenth- and early twentieth-century brick-lined privy utilized by affluent whites, and later, white tenants who resided in an alleyway dwelling at the rear of the lot; the brick-paved remains of Lafayette Street/Linden Square/Pearl Avenue, a road no longer present on the cityscape but one that dates to as early as the mid-nineteenth century (Figure 6); a non-cultural depression; and a late nineteenth-/early twentieth-century cobblestone alleyway. Eight building foundation wall segments were also recorded, including the remains of an alleyway dwelling once inhabited by working-class African Americans in the late nineteenth and early twentieth century; a late nineteenth-century horse shed owned by an affluent white family; a late nineteenth to early twentieth-century grocery store that was most likely operated by African Americans; the remains of a turn-of-the-twentieth-century three-story homeless shelter known as the Wayfarer's Lodge (Figure 7); and a late nineteenth-century

FIGURE 6. The archaeological remains of Lafayette Street/Linden Square/Pearl Avenue in Booth's Enlargement (site 15JF717) (Faberson 2007:Figure 10.26).

cabinet shop that later became the home of a bottling company.

Seven features were recorded during the mitigation of site 15JF718. These features included the partial remains of a cellar associated with a duplex that was once a white owned-and-operated brothel in the late nineteenth century that later became a boarding house for African Americans in the early twentieth century; a square, brick-lined privy base dating to the mid-nineteenth century that had been constructed and utilized by an affluent white family; two building foundation segments, including part of the duplex previously mentioned and the remains of the Frederick-Douglas School for African American children, a school which operated in the neighborhood from 1906 to the early 1960s; the limestone gravel remains of

FIGURE 7. Structural remains of the Wayfarer's Lodge in Booth's Enlargement (site 15JF717) (Faberson 2007:Figure 10.44).

the Lafayette/Pearl Avenue roadbed, a thoroughfare dating to as early as the mid-nineteenth century; a circular, brick-lined access hole to a water main associated with Lafayette/Pearl Avenue; and a utility pipe trench. Hence, in spite of space limitations and the ability--for the most part--to only expose small sections of building foundations and other large features, the results of the archaeological investigations of these sites suggested that other nineteenth- and twentieth-century sites may be as equally well-preserved under the roadways, parking lots, and buildings that make up Louisville's modern urban landscape.

Sites 15JF717 and 15JF718 represent part of the remains of a neighborhood called Booth's Enlargement that was platted adjacent to the central business district in the early to mid-nineteenth century. Both sites were bordered on the north by Green (now Liberty) Street, and on the south by East Walnut (now Muhammad Ali Boulevard). East (now Brook) Street and Preston Street made up the west- and east-bordering streets, and Floyd Street running north-south was the dividing lines between the sites. These streets were parts of main thoroughfares that extended through a great part of the cityscape. Parallel and between Green and East Walnut Streets was a minor thoroughfare that only extended from East to Preston Street called Lafayette Street. Lafayette was divided into west and east

halves by Floyd Street. As the nineteenth century progressed, the west half of Lafayette Street in the location of 15JF717 came to be called Linden Square, while Lafayette remained the name of the east half at 15JF718. In the 1890s, Linden Square and Lafayette again came under the same name, Pearl Avenue, and remained so until the street was buried by the construction of I-65 in the 1960s.

Booth's Enlargement was platted in the 1830s, but the neighborhood did not begin to operate as a community until the 1850s. The 1850s were years of political and social strife in Louisville as the city struggled to meet the needs of a steadily growing population. By 1857, approximately three percent of the city's population was comprised of free African Americans, eight percent enslaved African Americans, and 89 percent whites, which included European immigrants and native white Kentuckians (Williams and Company 1882). During the mid-nineteenth century, xenophobic sentiments intensified against European immigrants, especially Germans and Irish, who made up the highest percentage of European immigrants. In 1855, antagonistic relations between American-born whites and German and Irish immigrants culminated in the Know Nothing Riot, wherein 22 people were killed, three-fourths of them foreign-born (Congleton 1965; Deusner 1963:126, 133–134).

The German and Irish citizens at the forefront of the Know Nothings' disdain lived in the First, Second, and Eighth Wards. The First Ward was made up primarily of German immigrants, and Irish immigrants predominated in the Eighth Ward. The Second Ward, however, contained a mix of European immigrants, many of whom were German, as well as American-born residents from Kentucky, Virginia, Indiana, Pennsylvania, Ohio, and Tennessee (Deusner 1963:141–142; US Bureau of the Census 1850). Site 15JF718 is located in what was zoned as the Second Ward in the 1850s, while site15JF717 is located in what was the Third Ward. The Second and Third Wards were separated Floyd Street, which as noted above, happens to be the north-south dividing line between the sites.

An overview of the 1850 census reveals that within Booth's Enlargement, the neighborhood consisted primarily of white residents affiliated with the professional and working classes. Most were born in the United States but several were immigrants from Canada and northern Europe, including Ireland, Germany, and England. The rest of the neighborhood consisted mostly of white, American- and foreign-born working-class and skilled laborers, as well as merchants. Some free blacks also lived there, working as barbers, draymen, and laborers.

During the 1860s change occurred in the neighborhood, particularly in the vicinity of site 15JF718. While a great number of residents living in the vicinity of 15JF717 consisted of a mix of working-class, skilled laborers, merchants, and wealthy professionals and businessmen similar to what the census takers had recorded there in 1850, the occupants of the neighborhood across Floyd along Lafayette Street at site 15JF718 had changed somewhat since the 1850s. By the 1860s, Lafayette Street had begun the process of becoming the home of one of Louisville's notorious red-light districts, as many of the affluent landowners of the 1850s either sold or began to rent their property to an increasing number of working-class whites and free African Americans. Some of the new residents of the neighborhood engaged in prostitution, and the census records for 1860 indicate that all of the brothels along Lafayette were

operated by white madams and their inmates (US Bureau of the Census 1860). Interspersed between the brothels, or "houses of ill fame" as they were called, lived working-class and affluent individuals and families, most of whom were also white, including German and Irish immigrants. However, free African Americans resided there as well. Occupations of the residents identified from the census records included merchants, school teachers (one of whom happened to live two doors down from a brothel), dealers in goods, clerks, and unskilled laborers.

During the Civil War, prostitution flourished in the city due to the concentration of Union troops camped on the outskirts of Louisville, and in spite of the city's efforts to enact legislation against prostitution, the police failed to control the practice (Yater 2001:731–732). The red-light districts in the city were frequently decried by local officials for the spread of disease, and Lafayette Street in particular was mentioned by Mayor John Bunce in 1868 as being one of the key areas where the city with was being flooded with diseases as a result of the presence of these bawdy houses. Although Mayor Bunce's concerns would be considered somewhat dramatic and narrow-minded today, according to Yater (2001:732), sexually transmitted diseases may have been a valid concern during this time, as local newspapers frequently advertised treatments for "private diseases."

By the 1870s, Louisville had significantly expanded, and the City Council decided to re-zone the city wards. As a result, the Second and Third Wards were merged into the Fifth Ward. At site 15JF717, East Walnut Street was primarily occupied by middle-class and affluent members of the community, namely merchants, bankers, lawyers, railroad personnel, and members of the military (United States Bureau of the Census 1870). This suggests that residential patterning in this area remained relatively unchanged in comparison with the previous two decades. There is a high probability that there were also occupants living along Linden Square at this time, but no specific information on these residents could be located in the census records.

Site 15JF718 continued to be part of a burgeoning red-light district in the 1870s. According to Yater (2001:732), brothels in the 1870s and 1880s were located around the intersection of Floyd and Jefferson Streets, approximately one full city block north of the site. However, it was difficult to ascertain where brothels were specifically located within the site and who worked in them because prostitutes were not specifically enumerated in the Louisville census that year. Furthermore, brothel workers tended to be more transient, moving from one brothel to another, or rapidly joining and leaving the trade, making it more difficult to trace the occupancy of one particular brothel according to individuals enumerated in the census (Seifert 1994:153). Nevertheless, a sample of the individuals who most likely lived within the vicinity of site 15JF718 (based on individuals who lived there in preceding and subsequent years) suggests that the residential patterning generally remained the same, with working-class American-born, white residents living among working-class European immigrants and African Americans. Interestingly, the census enumeration indicates that African-American families and individuals may have been living within the same buildings, or at least the same properties, as white families and individuals. This is notable because there is no indication that these white and African-American families were linked in any way, such as through employment.

By 1880, census data pertaining to the vicinity of site 15JF717 suggests that while white middle and upper-class families continued to front East Walnut Street, primarily working-class residents fronted Linden Square/Pearl Avenue. Many of these working-class residents were African-American and American-born whites, while some had immigrated from Germany, Scotland, and England. The German immigrants and American-born whites primarily worked as skilled laborers and merchants, while the African-American residents typically worked as skilled and unskilled laborers. Since no specific census information on the residential patterning of Linden Square/Pearl Avenue was available before this decade, and the patterning of East Walnut Street had remained the same over the previous three decades, one may speculate that the residential patterning of Linden Square/Pearl Avenue may have been consistent as well.

The 1880s witnessed an even higher increase in the number of brothels on Lafayette Street at site 15JF718 in comparison to previous decades. The number of "female boarding houses" is shown on the 1880 census lists, and the 1885 city directory indicates that there were 17 separate brothels on Lafayette Street between Floyd and Preston Streets interspersed with various saloons (Caron Directory Company 1885; United States Bureau of the Census 1880). All of the brothels and saloons were operated by whites. According to the 1885 city directory, all other residences on this street between Floyd and Preston were occupied by working-class African Americans. This is a substantial change from the 1870s, wherein working-class whites not involved with saloons or prostitution also resided on the street.

No census records exist for the 1890s; however, insights into the composition of the neighborhood at both sites can still be made with the archival data pertaining to the features recorded during the Phase III archaeological investigations. At site 15JF717, white middle-class merchants and professionals continued to reside along East Walnut Avenue, while white and African-American working-class residences and businesses could be found along Linden Square. East Green Alley, parallel and north of Linden Square, was lined with privies in the rear lots of residences and businesses lining Linden Square as well as alleyway dwellings inhabited primarily by working class African-Americans.

The 1890s hearkened a period of change as the Financial Panic of 1893 took its toll on the neighborhood and the city as a whole. The Panic resulted in large-scale unemployment of nearly 20–25 percent of the national work force, and in Louisville, many of those out of work were carpenters, molders, and bricklayers. This surge in unemployment left many families without coal, food, or clothing (Barrows 1894:42). Poverty began to prevail in the neighborhood, and crime also increased. Murder became more common, such as in the case at 229 Linden Square wherein an African-American man attacked another African-American man, hitting him in the head with a hatchet, resulting in the man's death (Louisville Police Department Report Book 1899–1903). At the same time that crime and poverty became significant problems, many of the residences along Linden Square saw an increase in the number of working-class boarders living there, as homelessness increased and residents took in boarders for extra pay.

The Wayfarer's Lodge, part of the foundation of which was discovered during the Phase III investigations, was constructed at 216 Linden Square for the

purpose of providing relief to the increased number of impoverished families suffering as a result of the Financial Panic. The Wayfarer's Lodge furnished lodging and meals, as well as work for many of those in need, building sheds, fences, and other necessary structures, as well as making kindling (Barrows 1894). However, the Wayfarer's Lodge did not necessarily provide relief for all who needed it. Instead, the Wayfarer's Lodge was operated under the presumption of helping the "deserving poor," and while many people were suffering from the effects of poverty, only certain segments of the population--namely, working-class white families--were ever supplied with relief.

At site 15JF718, residential changes had also occurred. Around 1890, the Law and Order League, unhappy with the problem of vice in the city--primarily the red-light district near the intersection of Floyd and Jefferson Streets--prompted the police to crack down on the brothels in that area, and they dispersed and moved their business dealings to Green and Grayson Streets between Sixth and Tenth Streets (Yater 2001:732). Interestingly, the shift in the red-light district to Green and Grayson Streets was fortuitous for Louisville's prostitution industry, as Green Street "sported so many saloons, dance halls and bawdy houses that it rivaled San Francisco's Barbary Coast" (McDowell 1962:12).

The city became so well-known for its sporting women that in 1895, Louisville hosted the twenty-ninth encampment of the Grand Army of the Republic (GAR). The members of GAR, who were veterans of the Civil War that had fought for the Union armies, selected Louisville for their annual meeting specifically because the city was notorious for the number of bawdy houses located there (Renford 2005). Hence, in contrast to subverting prostitution, anti-vice groups like the Law and Order League were only sporadically successful, and the police and government officials generally turned a blind eye to the rampant vice generating in the city. Men's clubs, such as GAR, were even able to publicly publish souvenir sporting guides advertising some of the best-known bawdy houses (Wentworth Publishing Company 1895).

At site 15JF718, the decrease in the number of white brothels in 1890 resulted in a number of empty residences waiting to be inhabited. Almost immediately, these former bawdy houses were inhabited by large numbers of working-class African Americans. Many of these new residents were laborers, tobacco workers, carpenters, and laundresses. The city directories for this period also suggest that some of these residences had several young, single African-American women with no listed occupation also residing in these abandoned brothels (Caron Directory Company 1895). Although speculative, it is possible that some of these women may have worked as prostitutes since the 1892 Sanborn map continued to label these structures as "female boarding houses," a common term during that time for bawdy houses, well after the white owned-and-operated brothels shut down. Incidentally, African-American prostitutes may have already been residing and working in the neighborhood while Lafayette was part of the red-light district. If so, it would not be surprising to have no record of it as African-American brothels and/or brothel workers are more difficult to discern in the archival records since they were never publicly advertised as such, nor were they listed in the city directories or census records under that profession (Mackey 2000:87).

By the turn of the twentieth century, the neighborhood remained ethnically and

racially integrated with a mix of commercial and residential buildings. European immigrants continued to place a cultural impression upon the neighborhood, but by 1900, many new immigrants included Jews from Russia and Poland attempting to escape czarist pogrom (Stanley 1994:46–47; United States Bureau of the Census 1900). Part of the neighborhood along Preston Street became a cultural locus for Eastern-European Jews, and by the early years of the twentieth century, so many Eastern-European Jews (primarily Russian) resided there that to many, this area was referred to as a *shtetl*, or eastern European Jewish village (Shevitz 2007:136).

In 1910, the number of residents along Pearl Avenue in the vicinity of 15JF717 had decreased, and the majority of residents were unskilled, working-class African Americans (United States Bureau of the Census 1910). Some of the only white residents along the street worked at the Wayfarer's Lodge. At site 15JF718, Pearl Avenue was also occupied primarily by working-class African Americans. Some changes had occurred there between 1900 and 1910, however. The Pearl Avenue School for Colored Children (later called the Frederick-Douglas School) had been constructed in 1906 and had replaced several of the former brothels, and buildings formally designated "Negro Tenements" also had been constructed.

The 1910s and 1920s demonstrate the most dramatic changes in the neighborhood. While the neighborhood along Pearl Avenue continued to be occupied primarily by working-class African Americans, many of the residences and businesses that had stood along Pearl Avenue since the late nineteenth century were beginning to be demolished at a growing rate (United States Bureau of the Census 1920). At site 15JF717, East Green Alley was demolished, as were its concomitant alleyway dwellings. The Wayfarer's Lodge continued to operate until 1919, but by the 1920s, the building became the location of the office for the Silver Fleet Motor Express. The Haymarket, a farmer's and gardener's open air market, had also been established, replacing a number of residential buildings. At site 15JF718, similar events took place as residential buildings were demolished to make way for commercial structures. Many of the African-American tenements had also been demolished, replaced by empty lots and industrial buildings in the late 1920s. The Frederick-Douglas School continued to operate as a segregated school in the neighborhood.

Incidentally, while these changes were occurring in the neighborhood, the city decided to crack down on prostitution at the request of the United States Army after the nation entered World War I. Camp Zachary Taylor had been established in Louisville in 1917, and the U.S. government was concerned about the negative influence the sanctioned vice in the city would have on the soldiers (Yater 2001:732). Therefore, in 1917 the red-light districts were disbanded. Nevertheless, prostitution continued to be practiced in the Louisville, and as late as the 1930s, 85 brothels were documented as operating in the city (Yater 2001:732).

The primarily commercial neighborhood remained relatively unchanged from the 1930s through the 1950s, except that more buildings had been demolished in the vicinity of site 15JF717 and several garages had been constructed along Pearl Avenue within the vicinity of site 15JF718. Interestingly, prostitution had returned to the neighborhood, as the Haymarket became a focal point for prostitution, robberies, and other crimes (Yater 2001:732). In the early 1960s, the Com-

FIGURE 8. Overview of Argosy Casino complex and the project area (Northern Liberties) located in Lawrenceburg, Indiana.

monwealth of Kentucky purchased the property encompassing these sites to make way for a new interstate (I-65), and eventually, an eye clinic and hospital parking lots.

The results of the Phase III archaeological investigations and archival research suggest that in the mid-nineteenth century, the neighborhood along Lafayette Street/Linden Square/Pearl Avenue consisted primarily of white, working class and professional residents, as well as commercial businesses. Nearly half of these residents were Kentucky-born, but the other half consisted of European immigrants. By the 1860s, brothels began regularly operating in the neighborhood, but not to a significant degree. By the 1870s, African Americans and European immigrants--mostly Germans--began populating the neighborhood, and by the 1880s, Lafayette Street became a red-light district with exclusively white brothels interspersed with African-American households. By the turn of the twentieth century, the neighborhood continued to be ethnically and racially integrated, but over the first two decades of the century, to a lesser and lesser degree. Growing poverty and crime had a negative impact on the neighborhood, and the community fell into what can be generally equated with slum-like conditions. By the 1920s, the number of residences decreased overall as the neighborhood became primarily a commercial district with some residences until the 1960s, when it was demolished to make way for I-65.

Northern Liberties

The Argosy Gaming Company plans to add a new boat slip and docking facility to

its existing Casino facilities located in the city of Lawrenceburg, Indiana, outside Cincinnati, Ohio. As part of this expansion effort, additional parking facilities also are proposed. The proposed parking facilities will include both surface and structural parking features and will incorporate the realignment of existing streets for access to these facilities. A total of 14 city blocks will be impacted by the parking facilities, consisting of 25 historical archaeological sites, which make up much of the 1840s Tousey, Dunn, and Tousey Addition to the city of Lawrenceburg (Figure 8).

CRAI completed survey and mitigation on 15 city lots for the original facility construction throughout the late 1990s (Clay et al. 2005; Creasman 1995a, 1995b, 1996a, 1996b, 1998; Creasman and Rotman 2002, 2003a, 2003b, 2003c, 2003d; Creasman et al. 2002; Parish and Creasman 1997; Parish et al. 1996). A Phase I archaeological survey of the proposed parking expansion area was completed in the fall of 2004 and spring of 2005 (Barber and Morgan 2005). Twenty new sites were documented, with the boundaries being based on the historic property lot designations. Additional work was slated for 13 of the 20 sites; however, three were removed from the project boundaries and three sites documented during the original 1990s survey were added to the project boundaries.

Phase II investigations were conducted during the winter of 2005–2006 to determine the National Register eligibility of the sites within the parking expansion area. Two distinctly different field methodologies were used on these sites based on the results of the 1990s work and the Phase I survey. On two lots, 10 percent of the site area was hand excavated using 1x1 m test units patterned around the standing structures and throughout the yard areas. These were on the sites that contained intact deposits that had been undisturbed by modern intervention such as the demolition of the houses during recent property acquisition. The remaining lots did not contain intact deposits and would not have been considered eligible for inclusion in the National Register except that they still retained a number of intact subsurface features, primarily structural located structural elements and privies. These features were also very evident during the Phase I trenching used to examine the prehistoric component beneath the urban properties. These features alone were the focus of investigation on the remaining lots since the yard areas were highly disturbed. Backhoe excavations stripped the disturbed historic component away in order to expose structures and privies for examination.

Phase III mitigation was conducted on three sites during the winter of 2006–2007. Like the Phase II National Register evaluation, two different field methodologies were used based on the Phase I and II investigation strategies and results. For one site, the remaining historic matrix was stripped since an adequate hand-excavated sample was already taken. This was conducted to once again target the structural remains and privies. On the remaining two sites, an additional 15 percent sample was hand excavated using 1 x 2 m or 2 x 2 m units, followed by the mechanical removal of the sediments associated with the structural remains and in the vicinity of the privy features.

Beginning with the excavations conducted in the 1990s and being further developed during the current study, CRAI has generated a very detailed historic context for the city of Lawrenceburg to answer the research questions that guided the excavations. Having been founded in 1803 on the western bank of the Ohio River, the city's development

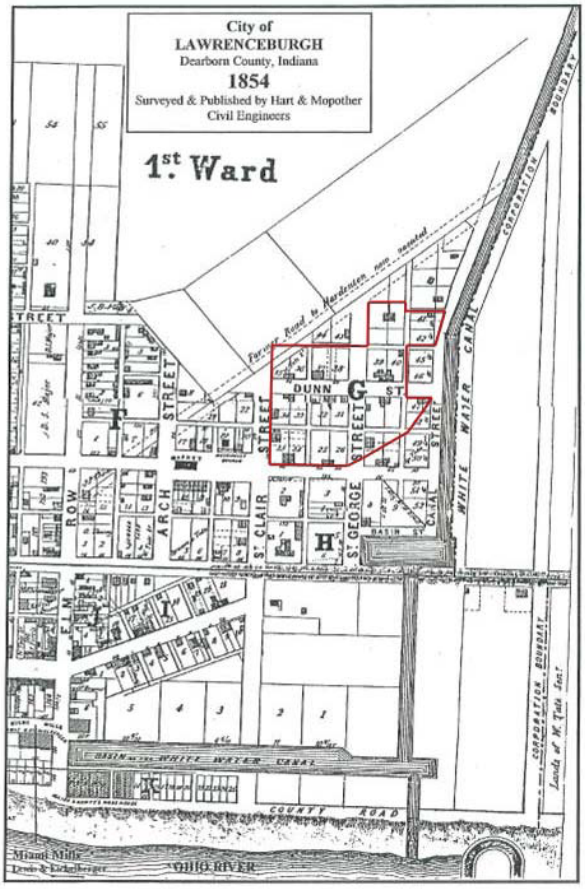

FIGURE 9. Section of the 1854 (Hart and Mapother) map of Lawrenceburg showing the project area (Northern Liberties).

was driven not by its setting on a fertile floodplain of a river perfect for agriculture, but by both its economic and political significance as the first courthouse town in one of the first counties formed in the new state of Indiana. It moved quickly through the transition of early frontier cabins and cottages to a platted town, and much of its growth and development was based on changes and development in early transportation.

The earliest road in the area was probably created during 1799 and consisted of little more than tracks through the woods that had been cleared of timber and was impassable during wet seasons. Stage coaches increased in importance during the 1820s and 1830s for passengers and mail service, even though only two roads were macadamized leading into nearby Cincinnati by 1835. By the 1840s, articles published in the Lawrenceburg newspaper insisted on the necessity of road improvement for the growth of the capital and business (Weakley and Company 1885).

The Ohio River, however, was the lifeblood of the earliest occupants when it came to transporting things quickly or over greater distances. Also located near the mouth of the Great Miami River, whose tributaries drained a significant section of western Ohio and eastern Indiana, Lawrenceburg provided a point of access for the agricultural goods being shipped from inland to markets through the ports along the remainder of the Ohio River and the Mississippi River, as far south as New Orleans.

Shipping in this area on the Upper Ohio River began to flourish after 1832 when steamers could pass freely through the Falls of the Ohio in Louisville by way of the Portland Canal. Many early Lawrenceburg citizens had dreams of growing into a booming metropolis as they sought to be the most important point of contact between the long-distance river shipping industry and the inland towns providing goods to far away ports and the travelers of the river. The Whitewater Canal, one of many canals in the state, was built for just this purpose, and was eventually deemed a financial disaster. Just up-river, the city of Cincinnati began to flourish due to its more strategic location near the mouth of the Lick-

ing River, and its own canal system linking it to much of the same inland areas that the Whitewater Canal linked to Lawrenceburg. From 1805 to 1915, Cincinnati created a split in the canal to Lawrenceburg, essentially cutting off much of the transport to that city (Indiana Historical Bureau 1997).

The relationship of the downtown area of Lawrenceburg to the Whitewater Canal is, within itself, another point of interest and may actually have been a contributing factor to its eventual failure. While most canals went through the center of town, the Whitewater Canal remained marginal to the city's urban development because it was located east of the city on the edge of a residential subdivision called Northern Liberties. This is the subdivision that has been the focus of the archaeological investigations conducted by CRAI (Figure 9).

In contrast to the studies above discussing parts of Louisville and Lexington, Kentucky, a distinct community transformation occurred in Lawrenceburg during the first half of the nineteenth century that was not apparent in the other studies. As Creasman and Rotman (2004) discuss, the economic conditions in early Lawrenceburg were promising, based on the expected prosperity of the Whitewater Canal. There was an increased flow in commodities through the port early on, providing a positive financial impact to the community, consequently increasing the population and the general "wealth" of its inhabitants. This was short-lived, however, when the new split in the canal to Cincinnati diverted traffic away from Lawrenceburg, causing economic decline and the eventual closing of the canal during the 1840s. Historian Jeffrey Mauck postulates that this economic depression after the canal closed hindered the continued growth of the city (Parish 1996). While the population of the city did increase through the nineteenth century, although obviously not on the same scale as its "competitor," Cincinnati, the demise of the canal forced the residents to turn to other forms of income and prosperity.

While the canal system was failing, the significant influx of immigrants from the east toward Missouri was one result of the prosperity of the newly developing railroad system. While the project eventually failed, George H. Dunn, a local judge, was advocating a railroad from Lawrenceburg to Indianapolis before a mile of track had even been laid in the state in the mid-1830s. However, the first act of incorporation of a railroad proposed by the Ohio and Mississippi Railroad was in 1848, authorizing the construction on the most predictable route from Cincinnati, through Lawrenceburg, Vincennes, and finally through Illinois to the city of St. Louis. By 1857, this whole line of 337 miles was open for traffic, allowing the flow of both immigrants and the goods that were needed to sustain and build the new western communities (Weakley and Company 1885)

Cincinnati has been considered a "distribution" point for German immigrants throughout history, but this was most evident during the second half of the nineteenth century when, in 1860, 30 percent of the population of Cincinnati was of German stock, and by 1890, 58 percent were of German descent (Tolzmann 2003). It was only natural that there would be an influx of immigrants to the areas immediately surrounding Cincinnati, and with Lawrenceburg only a few miles away across the state line, their immigrant population increased dramatically.

Similar to Cincinnati's housing demands, the German immigrants congregated in one area, Northern Liberties in Lawrenceburg and Over-the-Rhine in Cin-

cinnati, initially sharpening the division between themselves and other ethnic and socioeconomic groups. Tousey, Dunn, and Tousey were the early speculators who platted the Northern Liberties neighborhood during the 1830s and 1840s, and, in all probability, did so with the intent of having it become a "neatly planned, platted neighborhood with a vision of class and ethnic harmony" (Creasman and Rotman 2003d:76–77). However, the changes in the transportation patterns affected the immediate landscape of the neighborhood, quite frankly degrading it with the addition of the railroad through its south side. In turn, the area became one of industrialization with a variety of small factories and businesses utilizing the new means of transportation to its advantage. The congregation of German immigrants who worked these businesses in the adjacent neighborhood allowed for a sense of cohesiveness based on ethnic background and social class.

The archaeological assemblage recovered during the 1990s excavations supports this sense of "community" during the German immigrant occupation of Northern Liberties. As an example, ceramic assemblages recovered throughout a variety of working class, lower-middle class, and middle class residences consisted primarily of undecorated and minimally decorated tea and table wares. While Fitts (1999) has indicated that this is a middle class phenomenon and not a working class phenomenon, he also observed that these table settings may convey the ideals of thrift and modesty, ideals that are consistent with German heritage. As Creasman and Rotman (2003d) note, it has been said that Germans were known to be conservative in their material culture and probably displayed items of gentility that may be different from their non-German counterparts. Essentially, these ceramics highlighted the group's similarities rather than their differences in a community setting.

Archival documentation in Lawrenceburg indicates that the demand for housing in Northern Liberties, later actually known as Germantown, decreased in the later 1800s after the first wave of immigrant arrivals. The original duplexes first built in the neighborhood on speculation in the 1840s did not turn into row-houses based on a massive infilling of subsequent immigrants as they regularly did in Cincinnati. The Germans in town began to assimilate into the non-German local and distant community based on shifts in the economic community, allowing "Germantown" to become a multi-ethnic working class neighborhood reflecting the changes in transportation patterns and their effects on the local community throughout the end of the nineteenth century.

While more research into the social change and transformation of the Northern Liberties neighborhood during the early twentieth century needs to be conducted, a few items are worth pointing out. In the two studies previously discussed, African Americans played a prominent role as either the early occupants of the neighborhood, such as in Davis Bottoms, or the later occupants, such as in Booth's Enlargement. However, this was not the case in Lawrenceburg. This period saw an increase in native tri-state locals (Indiana, Kentucky, or Ohio) or white immigrants moving to the neighborhood, but very few African Americans. The turnover of residents appeared to increase, too, as well as an apparent decrease in owner-occupants and an increase in tenants. While artifact analysis is not complete, field observations indicate that there is a distinct difference in the archaeological assemblage before

and after the 1937 flood, which wiped out nearly every house in the neighborhood. Many families moved out of the area instead of rebuilding after the flood, while others rebuilt and consequently created a very different social organization. Lots were subdivided and more houses were constructed on each property. Instead of a duplex or two structures per city block, this increased to upwards of eight or ten residences in the same space. Archaeological investigations have indicated that spatial dynamics changed with this physical reconstruction, and it is likely that social dynamics changed as well.

This period during the second half of the 1800s and early 1900s and how the changes in the community are reflected in the archaeological deposits are the focus of the work being conducted. During the Phase I investigations, each individual houselot as subdivided during the original housing speculation in the 1840s was considered an individual site. This essentially divided each “city block” in half as an individual houselot, a land luxury not available to those in the more urban Cincinnati German district. Most blocks contained a duplex residential structure located on the front of the property straddling the property boundary, each half being owned and occupied by different families. Some other lots contained a duplex, but it was situated on the edge or center of the lot instead, and the entire structure was typically owned by one family and half was rented out to another family.

As mentioned previously, the focus of archaeological mitigation was on the structural elements and on the privy features, as well as the intact and stratified deposits if they were present. The sites that were targeted with hand excavation were very clearly stratified, and analysis of materials from these soil zones will be extremely informative in providing information about the mid- to late 1800s occupation of the neighborhood. Soil stratigraphy from a typical profile showed two distinct occupation horizons with nearly sterile soil in between. An uppermost zone at ground surface was a sterile fill put in when the modern homes were built around the 1960s or 1970s. Beneath this were two darker horizons that were separated by a nearly sterile flood deposit. The last big flood was in 1937 prior to the construction of a levee surrounding most of the town. The deeper horizon is stratified and dates between the initial occupation period of the neighborhood in the 1840s until the flood of 1937. Many features were also documented in association with this deeper context including brick walkways, trash pits, and animal burials that will be able to provide detailed information about the diets and the use of residential space for these earlier occupants of the neighborhood.

The remainder of the historic excavations focused on structural elements and privy features. While cisterns were also documented in abundance throughout the project area, their excavation during the 1990s project provided very little data that could be attributed to the earlier occupation of the neighborhood since nearly all of them had been filled during or after the 1937 flood. Consequently, they were not examined during these investigations and a few located throughout the project area were still void of materials causing safety hazards to both the archaeological team as well as the local residents.

Over 30 structures were represented by either modern or historic foundation remains and around 70 privies were documented, about 45 of which were fully excavated. The subsurface architecture of the earliest residential structures on the houselots remains overwhelmingly intact (Figure 10). Early maps dating from 1854

FIGURE 10. Overview of circa 1850 intact house foundation in Northern Liberties (Site 12D569; Lot 31).

and 1875 helped provide guidance when conducting backhoe excavations to locate the earliest foundations, but significant modifications had occurred to many of the houses since then. Foremost, nearly every house in the neighborhood was washed away during the 1937 flood (Carl Christian, personal communication 2004). Some were reconstructed on the same foundation while other property owners completely changed the arrangement of the structures and outbuildings. A variety of cut limestone foundation configurations was evident throughout the project area. Most of the original structures had full basements and typically additions had only crawl spaces. Many of the additions were simply on piers and did not contain a full continuous limestone foundation. Builder's trenches were also scarce throughout the buildings examined.

Probably the most exciting aspect about the historic component of the project, as well as that which will be most informative after artifact analysis is completed, is the number of privy features that are present throughout these urban lots. Both wood-lined and brick-lined examples are present on every lot, and while it has been proposed in the region that the difference between the two is based on socioeconomic class, in this neighborhood they are easily attributed to different temporal spans. Field observations indicate that the wood examples are much earlier and they typically had a significantly larger amount of valuable materials that were recovered. A wide variety of glass and ce-

ramics were present and multiple fill zones also documented slightly different occupation periods in nearly all of the examples.

The preservation of the actual privy structures themselves was outstanding in many cases and is worthy of note. Both the wood base and even the walls were still in place for the lower half of many of the features. Most continued to depths of between 1.8 and 2.3 m below their initial identification. The brick privies, in general, appeared to be of later construction and use. While many of them contained a variety of artifacts that appeared to date during the early twentieth century, some simply contained an amazing variety of concrete, trash, or sterile fill.

Artifact analysis is currently on-going for the Phase II and III mitigation of these sites. The previous work conducted by CRAI during the 1990s in combination with the work currently being conducted provides a rare example for a large urban neighborhood context to be developed and used for comparative purposes. The similarities and differences within the large and intact artifact sample, especially the samples recovered from the numerous privies, will enable us to learn about the individual residents, as well as the town in general and its relationship to the broader local and regional market and economic systems.

Conclusions

Based on the results of these three large-scale archaeological projects, several insights can be made regarding residential patterning in these three Ohio Valley communities in the late nineteenth and early twentieth centuries. In all three communities, it appears that the first landowners were affluent whites, American-born and European immigrant, while the later occupants were members of the working classes, namely those who were American-born and European immigrants, and in the cases of Davis Bottoms and Booth's Enlargement, African American as well. In Davis Bottoms, while some of the first white landowners, such as the German immigrants, actually inhabited the neighborhood for a short time, others purchased the property with the intention to lease their parcels to tenants, namely African Americans. In Booth's Enlargement, many of the first owners of the property actually resided on the land they purchased; however, only along the main thoroughfares. The less desirable properties along the minor streets were leased to white and African-American tenants. In Lawrenceburg, Northern Liberties was platted by affluent whites with the hope of establishing a community with "class and ethnic harmony," but this notion was quickly abandoned by the construction of the railroad within the neighborhood limits.

In all three cases, one can observe an overall significant decrease in owner-occupancy over time and an increase in tenancy and boarding houses as the late nineteenth and early twentieth centuries progressed. The decrease in owner occupancy and the increase in absentee landowning appear to have been directly correlated with the neighborhoods' decline. Absentee landowners could avoid maintaining their properties, while still collecting rents, and the tenants—many of them powerless to change their living conditions for lack of income—had to find ways of coping or leave. In most cases, the tenants frequently moved from dwelling to dwelling, but remained within the same neighborhood. As the neighborhoods declined with improper landowner maintenance, these working-class communities also became pigeonholed as dirty and poverty-ridden, and in the case of Booth's

Enlargement, also associated with vice and crime. Racist and ethnocentric sentiments were at the root of these stereotypes, and these stereotypes were frequently perpetuated by city officials, who instead of implementing social services or enforcing landowner responsibility for the care of their properties, found it easy to scapegoat the city's problems on these and similar neighborhoods. Today, Booth's Enlargement is no longer part of Louisville's cityscape, and Northern Liberties is a shell of itself as very few properties remain due to recent development. Davis Bottoms, still extant as a community but slotted for redevelopment, is well on its way to becoming part of Lexington's past.

However, rather than being a reflection of how these communities failed, Davis Bottoms, Booth's Enlargement, and Northern Liberties should be viewed as unique communities with common threads. While it is true that these neighborhoods declined over time, one must also examine the ways in which the members of communities prevailed. That is, all three of these neighborhoods are reflections of how these Ohio Valley cities transformed over time and how living, breathing people used community and cultural ties to adapt to and negotiate with those changes.

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ARCHAEOLOGICAL EXPLORATIONS OF WORKSHOP ROCK SHELTER, UPPER CUMBERLAND PLATEAU, TENNESSEE

Jay Franklin and Sierra Bow

The following research presents the results of archaeological survey and testing of Workshop Rock Shelter (40FN260), a small upland "rock house" on the Upper Cumberland Plateau of Tennessee. Luminescence dated ceramics and the ceramic assemblage from Workshop Rock Shelter are used to highlight an approach for establishing the prehistoric culture history of the region, a culture history that is expected to be significantly different than those of adjacent lowland regions. Specifically, the proximate aim of this essay is to elucidate Woodland ceramic systems on the Upper Cumberland Plateau. Problems with existing formal ceramic type designations are also discussed. Lastly, it is further suggest that scholars and cultural resource managers working in the Tennessee region use luminescence dating to aid in their archaeological investigations and National Register assessments.

A major shortcoming of southeastern archaeology has been a narrow focus on lowland regions. This appears to stem in part from the erroneous folk assumption that highland regions, particularly Southern Appalachia, are marginal zones and cultural backwaters (e. g., Campbell 1921; Swanton 1946; Braudel 1972). In this article, the archaeology of a rock shelter site on the Upper Cumberland Plateau of Tennessee (hereafter, the UCP), a unique physiographic area of the Southern Appalachian highlands is discussed. On rare occasions when archaeological investigations have been conducted on the UCP, the culture histories of adjacent regions have been used to interpret the archaeological record of this unique physiographic region (Ferguson et al. 1986; Sullivan and Prezzano 2001:xxvi). This is an inadequate approach. Topographic relief on the UCP is extreme and variable often ranging up to 300 meters in vertical relief inside 0.5 kilometers horizontal distance (Figure 1). In the uplands and underneath the myriad bluff lines of the region are several hundred caves and perhaps tens of thousands of rock shelters. These geologic features are as much a part of the cultural landscape here as they are the natural landscape. Large open air habitation sites which characterize adjacent lowland regions are virtually absent here. As such, rock shelters and

FIGURE 1. The Western Escarpment of the Upper Cumberland Plateau of Tennessee.

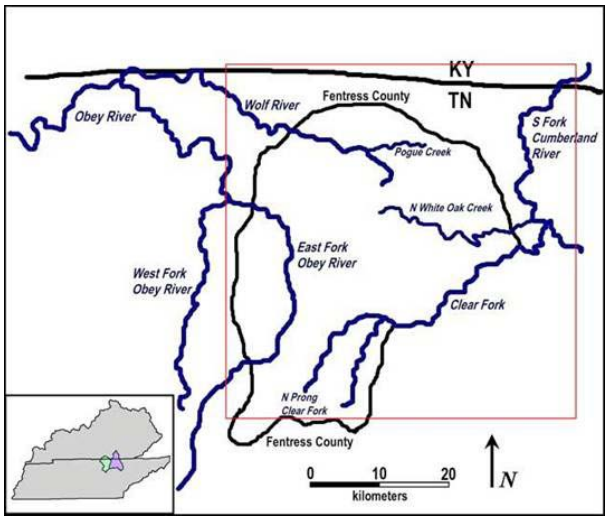

FIGURE 2. Study area.

caves served many purposes on the UCP. They were not simply intermittently and briefly occupied special purpose sites, they also served as habitation sites and mortuary locations. In short, the entire range of prehistoric human behavior can be found and documented on the UCP.

Archaeologists have conducted comparatively little systematic research in the Southern Appalachian highlands, particularly the Cumberland Plateau. Addressing this research void forty years ago, Charles Faulkner (1968a) called the Cumberland Plateau "an archaeological terra incognita." That having been said, Franklin (2002, 2006, 2008a) has been conducting archaeological field work and research on the UCP for more than 12 years (Figure 2). He and his students have recorded more than 350 rock shelter sites. Archaeological excavations have also been undertaken at a handful of these sites. Nonetheless, there exists more survey data than excavation data at this point. A primary research concern and focus is to meaningfully incorporate extant survey data into these efforts of establishing the culture history of the region. This work

FIGURE 3. Workshop Rock Shelter.

describes the results of survey and testing efforts at Workshop Rock Shelter (40FN260), a small "rock house" on the western escarpment of the Upper Cumberland Plateau (Figure 3) are discussed. A brief discussion of the proposed methodology aimed at effectively incorporating survey data into a culture historical framework for the region is also presented. It is suggested that this approach has great utility for researchers and cultural resource managers alike.

Workshop Rock Shelter was surveyed in 2001. A description and inventory of recovered artifacts were included in Franklin's (2002) dissertation. The site is a south-southwest facing shelter located just off the top of the plateau. Unfortunately, it has been extensively looted, perhaps for several decades or longer. This is a common impediment to the scientific investigation of rock shelters on the UCP (Des Jean and Benthall 1994). Despite the extent of looting, a number of temporally diagnostic artifacts were recovered from surface contexts and backdirt during the initial survey. One small shovel test pit, Test Unit 1, was excavated at that time.

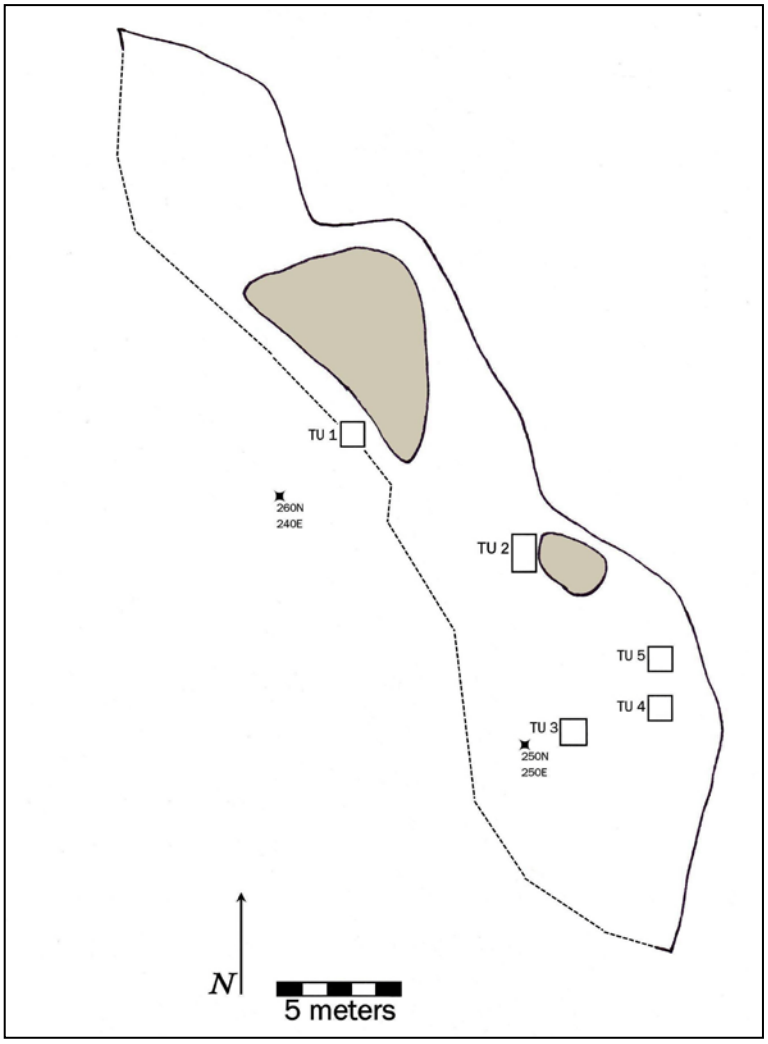

FIGURE 4. Workshop Rock Shelter, plan view.

In May 2004, Franklin and his University of Memphis archaeological field school students returned to map the site (Figure 4). At that time, the site did not appear to have been further disturbed. However, artifact hunters vandalized the site sometime between May 2004 and March 2005. Franklin, now at East Tennessee State University, returned to the site to assess the damage and collected potsherds and broken diagnostic stone tools left behind by the relic hunters. Given the extent of the looting and the large numbers of diagnostic materials that continued to be recovered from the site, it was believed to be important to conduct test excavations at Workshop Rock Shelter. A testing program was started in October 2005.

Stratigraphy

Test Units 2-5 were excavated in October 2005. Approximately 40 cm of sediments were displaced by artifact hunters in some locations. However, it appears that they may have removed already dis-

FIGURE 5. Diagnostic artifacts recovered from Test Unit 5.

turbed sediments as the test units revealed mostly intact deposits. Test Unit 2 measured approximately 1 m x 1.5 meters and was excavated into an existing looter's pit in an effort to examine site stratigraphy. The top 30 cm of sediment was likely screened backdirt from looting activities. Small pieces (e.g., <½") of chert flaking debris were encountered, but we recovered no diagnostic artifacts. Below this level, an additional 70 cm of very dark brown loamy sand was encountered. Diagnostic artifacts were recovered from about 70-100 cm below surface. These items consisted of three Late Archaic asymmetrical stemmed biface fragments. No material that could be radiometrically dated was recovered.

Test Unit 3 was excavated to a depth of 45 cm in 10 cm levels. A large sandstone clast was encountered in Level 1 and gradually exposed to cover the entire eastern half of the unit by Level 4. Consequently, excavations were halted in Level 4. Late Woodland artifacts were recovered from Level 1 and the top of Level 2. Artifacts include the base of a Jacks Reef Corner Notched biface, one Madison basal fragment, and one limestone tempered smoothed over cord-marked body sherd. These artifacts are all consistent with a Late Woodland temporal affiliation. Toward the base of Level 2, a small chalcedony point was recovered. It does not appear to correspond with a known type but does resemble Merom type points, indicative of the Late Archaic Riverton Culture of southern Indiana. These types of points have been recovered from elsewhere on the UCP and Middle Tennessee. A single Wade biface was recovered from Level 3 indicating a Late/Terminal Archaic component.

Test Units 4 and 5 were excavated in the interior portion of the shelter where surface artifact densities were heaviest and where much darker sediment had been exposed. Because of the density of

TABLE 1. AMS Determination from Workshop Rock Shelter.

Laboratory #	Provenience	Measure		Calibrated Age Ranges	Calibrated means
AA67863	TU 5, L3	1150 ± 110 BP	one sigma:	AD 772-993 (97.7%) AD 728-736 (2.3%)	AD 883 AD 734
			two sigma:	AD 657-1046 (97.6%) AD 1090-1121 (1.9%) AD 1139-1149 (0.5%)	AD 852 AD 1106 AD 1144

surface materials, these two units were excavated in 5 cm levels. Test Unit 4 was excavated to a depth of 20 cm. Sediments were uniform throughout, although some laminated sand lenses were noted. It is evident that water occasionally moves through the shelter from the northwestern portion of the site after heavy rains. Numerous charcoal flecks were also noted throughout the stratigraphic profile. Diagnostic artifacts were not encountered until Level 4. One Middle Woodland expanding stemmed biface was recovered.

Test Unit 5 was excavated to a depth of 15 cm below surface. The sediments were uniform throughout. One Hamilton incurvate point was recovered in Level 1. It is deeply serrated, almost reminiscent of Fort Ancient serrations rather than those typical of Hamilton. In addition, one small limestone tempered cord-marked potsherd was also recovered. In Level 2, one Madison point was recovered along with four potsherds: two limestone tempered cord-marked body sherds, one limestone tempered plain body sherd, and one limestone tempered plain rim sherd. Finally, in Level 3, one limestone tempered smoothed over cord-marked body sherd was recovered (Figure 5). A burned animal bone fragment from the same level was recovered and submitted for AMS dating. The sample yielded a one-sigma calibrated mean of AD 883 (Table 1).

In short, it is clear that the Late Archaic, Middle Woodland, and most notably, the Late Woodland are represented at Workshop Rock Shelter based on the test excavations. Interestingly, greater numbers of diagnostic artifacts were not recovered during test excavations, especially given that Test Units 3-5 seem to be relatively undisturbed. Of note, however, is that excavations were conducted for a little more than one full day in October 2005. Additional test excavations were planned in 2007 to recover pottery samples from good stratigraphic contexts for luminescence dating (e.g., Franklin 2008b). Unfortunately the site was looted again in 2007, and this time was damaged beyond salvage. In fact, the 2005 test units could not be relocated due to the disturbance. The site has now been "reclaimed" by a local citizen (see Figure 3). A fabric-marked, quartz tempered sherd from a surface context was recovered during the last site visit. The sherd was collected for a luminescence sample and will be discussed below. Discussion now turns

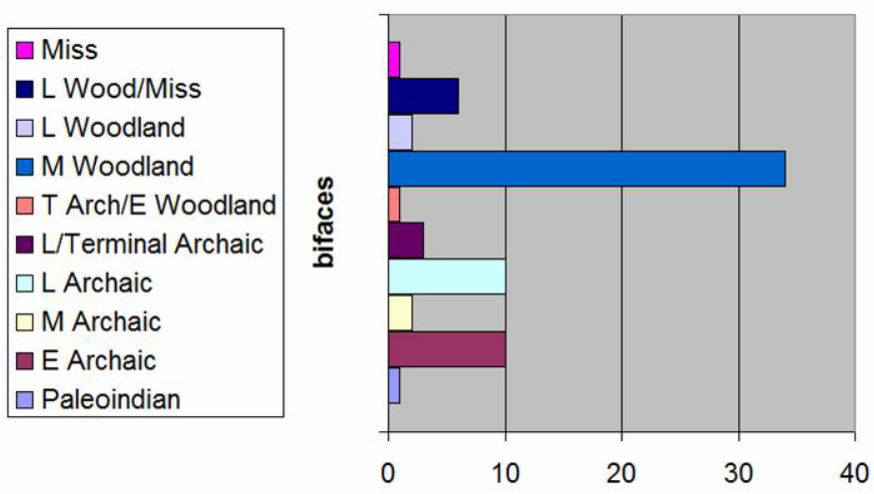

FIGURE 6. Biface seriation for Workshop Rock Shelter.

to the surface materials recovered from the 2007 site visit.

Stone Tools

The diagnostic stone tools recovered from Workshop Rock Shelter are briefly summarized in this article as the primary research focus of site investigations centers around the Woodland ceramic sequence on the UCP (Bow and Franklin 2008; Franklin 2008b). Figure 6 shows the diagnostic biface seriation from the site. There are three items of interest here. First, it is clear that prehistoric peoples occupied Workshop Rock Shelter at least intermittently for more than 10,000 years. Second, the biface seriation is consistent with our test excavations. Third, the biface seriation is consistent with our ceramic seriation which indicates the Middle Woodland was the time of most intensive occupation.

Ceramics

Charles Faulkner conducted the initial pottery identifications and seriation for Workshop Rock Shelter in 2001 (Franklin 2002). No metric measurements were taken on the 71 sherds recovered during survey. Faulkner simply identified the ceramics based on his vast experience and expertise in Southeastern ceramic studies (Table 2). The result is the seriation presented in Figure 7. There are two things of note here: (1) the Middle and Middle to Late Woodland periods appear to have been the times of most intensive occupation of the shelter at least for the Woodland Period; and (2) Franklin (2002, 2006) has maintained that Woodland ceramic traditions on the UCP were fairly conservative and characterized by some type of cord-marked pottery. The seriation mostly bears this out. Faulkner categorized limestone tempered, smoothed over cord-marked sherds as Middle/Late Woodland. Late Woodland sherds are all limestone tempered plain. Stamped types, more common in other areas of East and Middle Tennessee during the Middle Woodland, are rare on the UCP. For example, simple and checked stamped limestone tempered wares dominated Middle Woodland assemblages in Faulkner's (1978, 1988, 2001) Duck River Basin archaeological investigations. Cord-marked types were rare. On the UCP, the reverse appears to be the case, and the 11 simple stamped sherds may be considered a relatively large sample size for UCP shel-

ters. In any case, cord-marking is much more common that other surface treatments at Workshop Rock Shelter.

Methods

Since 2002, the ceramic sample from Workshop Rock Shelter has increased by more than 100 sherds (n=183). Sizable ceramic samples from numerous other UCP shelters have also been obtained. Currently, there are more than 60 rock shelter sites in the authors' ceramic database for the UCP. Therefore, the authors have been working toward developing an adequate means of seriation for the region. Toward that end, a multi-faceted approach that includes using existing type descriptions, metric measurements, controlled stratigraphic excavations where feasible, and most recently, the inclusion of luminescence dated ceramics (Franklin 2008b; Bow and Franklin 2008). Every effort was also made to maintain consistency with Faulkner's earlier analysis.

Ambiguity of formal types on the UCP

TABLE 2. Faulkner's Seriation of the Workshop Rock Shelter Ceramics in 2001 (Franklin 2002).

	cord-marked limestone	cord-marked quartz	cord-marked LS mix	smoothed over cord-marked limestone	fabric-marked limestone	fabric-marked quartz	plain limestone	plain shell	simple stamped limestone	totals
Early Woodland		1	6		1	1				9
Early/Middle Woodland	3									3
Middle Woodland							3		11	14
Middle/Late Woodland	20			13			9			42
Late Woodland							1			1
Mississippian								2		2
totals	23	1	6	13	1	1	13	2	11	71

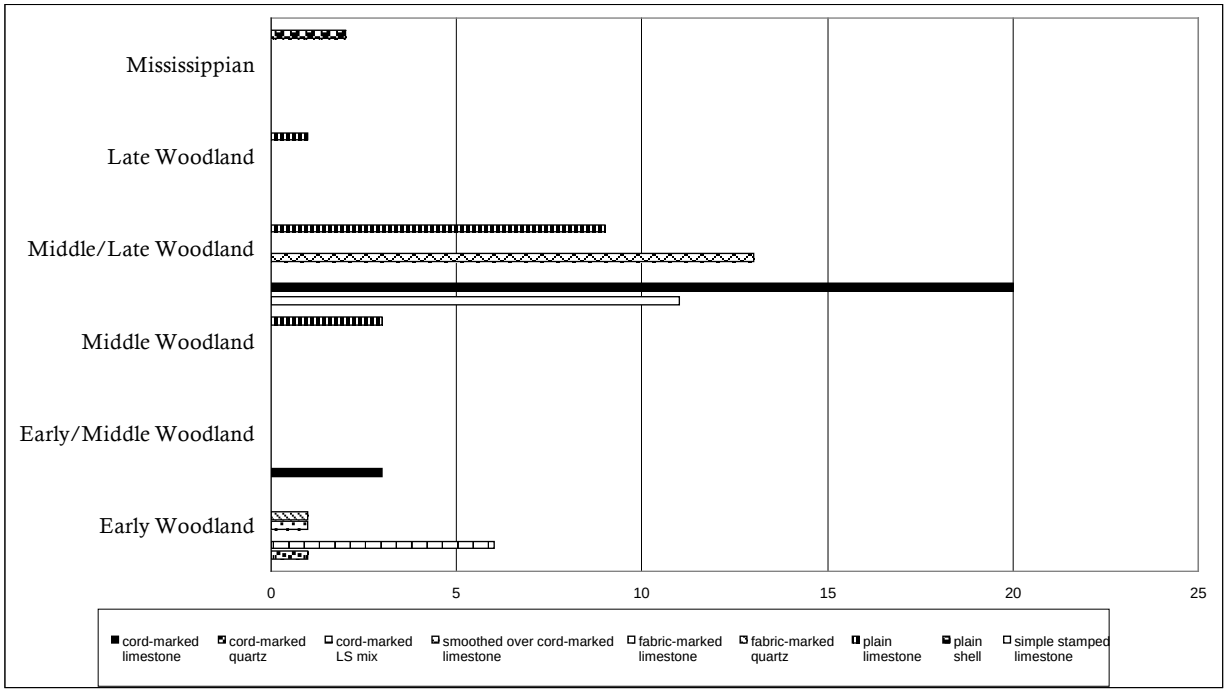

FIGURE 7. Faulkner's ceramic seriation for Workshop Rock Shelter, 2001 (Franklin 2002).

is perhaps most exaggerated for limestone tempered cord-marked types. This problem is compounded by the fact that few systematic excavations have been conducted in the region. It is evident that limestone tempered cord-marked pottery was in use on the UCP for more than 1,500 years from at least the Early Woodland, through the Late Woodland, and into the "Mississippian" (this issue is addressed below in the discussion of luminescence dates). Clearly, greater chronological resolution is warranted. In East Tennessee, Middle Woodland limestone tempered cord-marked pottery is typically designated Candy Creek Cord Marked (Lewis and Kneberg 1946:102-103), although the type designation has been used as far west as the Nashville Basin (e.g., Dowd 1969) and the western Tennessee Valley (Kneberg 1961). In the Middle Tennessee River Valley, this type has been named Flint River Cord Marked (Heimlich 1952:19). However, Faulkner (1968b:26, 32) suggests that Flint River Cord Marked is a regional variant of Candy Creek Cord marked and thus should be dropped as a formal type in and of itself.

For the Late Woodland in East Tennessee, limestone tempered cord-marked wares are typically referred to as Hamilton Cord Marked (Lewis and Kneberg 1946:103). Again, this type designation has also been used in Middle Tennessee (Dowd 1969). Mulberry Creek Cord Marked is common in the Middle Tennessee River Valley (Heimlich 1952:21) and is also found in the Nashville Basin (Dowd 1969). However, this type is typically clay or grog tempered. We have rarely encountered such tempering on the UCP, and Faulkner (1968b:25) relates the same for East Tennessee.

Thus, it appears that formal type descriptions are indeed of limited use in our study, but this is not a novel assertion. Kneberg (1961:13-14) notes the apparent ambiguity between Candy Creek, Hamilton, Mulberry Creek, and Flint River for cord-marked wares. Faulkner (1968b:26, 28) also argued for the need to either revise or further study both Candy Creek Cord Marked and Hamilton Cord Marked in terms of both their temporal and geographical distribution. Seemingly, his suggestions have been under utilized. Given Faulkner's concerns (and the authors'), formal types are not used in this study.

Metric measurements are also of limited value in the seriation efforts presented in this essay. Lewis and Kneberg (1946:102) list the average wall thickness for Candy Creek Cord Marked as ranging between 5-7 mm. For Hamilton Cord marked, an average range for wall thickness is 6-8 mm (Lewis and Kneberg 1946:103). On average, then, later Hamilton wares are marginally thicker wares than Candy Creek.

For plain wares, the distinction between Middle and Late Woodland vessels based on wall thickness is equally tenuous. Lewis and Kneberg (1946:103) list similar thickness for Hamilton Plain and Hamilton Cord Marked, e.g., 6-8 mm. For Mulberry Creek Plain, an apparent slightly earlier variant of Hamilton Plain (e.g., Faulkner 1968b:29; King 1969:72), Heimlich (1952:16) gives a wall thickness range for Mulberry Creek Plain as 3-10 mm, with 3-5 mm range being characteristic. However, in the type description, Haag (1939:9) gives wall thicknesses of between 5.5-8 mm with 7 mm being usual. It is common for both variants to exhibit smoothed or scraped surfaces (Haag 1939:9; Lewis and Kneberg 1946:103; Faulkner 1968b:29; King 1969:72).

To facilitate our study and ceramic seriation of surface collected pottery from Workshop Rock Shelter, we have arbitra-

rily chosen the 6 mm mark to distinguish between Middle and Late Woodland limestone tempered varieties. Candy Creek tends to be thinner than Hamilton for cord-marked wares, while Mulberry Creek tends to be thinner than Hamilton for plain wares. In short, Late Woodland types on the UCP tend to be thicker – this includes smoothed over cord-marked varieties. This distinction is not hard and fast, however, as our luminescence dates will demonstrate. Cord thickness was also used whenever discernible. Candy Creek is typically more deeply impressed and the cordage ranges between 1-3 mm in thickness. Hamilton Cord Marked is more frequently shallow and loosely impressed with cordage ranging from 5-7 mm (Lewis and Kneberg 1946:102-103).

We are clearly faced with some typological and methodological concerns. If we are to adequately establish the culture history of the UCP of Tennessee, it is important to be able to sort our existing rock shelter pottery samples chronologically. This is especially true if we wish to obtain spatially representative sampling (e.g. Dunnell and Feathers 1994). The only way to do this is by a program of luminescence dating of ceramics from: (1) reliable stratigraphic contexts through controlled excavations; and (2) surface ceramics from our rock shelter surveys. Advantages of luminescence dating over traditional radiocarbon dating include the fact that luminescence does not require the association of archaeological carbon with the artifact under investigation (Lipo et al. 2005). Statistical error margins for luminescence dating are now well under 100 years, a far more precise range than the typological dating discussed above. This means that archaeological material from disturbed contexts or surface collections can potentially be dated and therefore generate meaningful chronological and historical information. This is very important because we mostly encounter the archaeological record on the UCP in such contexts. As Dunnell and Feathers (1994:115-116) have stated, “The vast bulk of the archaeological record lies on the surface... It is obvious that if a spatially representative record is required, archaeologists must cope with surficial deposits.” Our discussion turns to recently obtained luminescence dates and how they have aided the most recent seriation efforts with the Workshop Rock Shelter ceramics.

Luminescence Dates

Twelve luminescence dates for Woodland (or limestone tempered) ceramics obtained from various contexts in rock shelters on the UCP have been obtained from recent site investigations. Seven of the dates come from controlled stratigraphic contexts, two from undisturbed surface contexts, and three from disturbed surface contexts. Obtaining a luminescence date from Workshop Rock Shelter itself was also attempted without success. Unfortunately, by the time the sample was collected in 2007, the shelter had been so vandalized as to render the results useless even with adequate background radiation sampling. Therefore, the artifact dates introduced in this work are used to assist in the seriation of the surface collected ceramics from Workshop Rock Shelter.

The initial luminescence dates were obtained from ceramics recovered from nearby Far View Gap Bluff Shelter. Intensive test excavations were conducted at this site in March 2007. Although the site is multi-component, the primary component is a Late Woodland midden deposit

TABLE 3. Luminescence Dates from Far View Gap Bluff Shelter.

Provenience	Description	Wall (sherd) Thickness	Fine-grained measure	Coarse-grained measure
Test Unit 7, Level 2	Piece Plot 20, OSL Sample 3: limestone tempered smoothed over cord-marked body sherd	8 mm	AD 849 ± 67	AD 1019 ± 83
Test Unit 7, Level 2	Piece Plot 21, OSL Sample 4: limestone tempered plain body sherd	5 mm	AD 1086 ± 44	AD 1108 ± 36

TABLE 4. Radiocarbon (AMS) Determination from Far View Gap Bluff Shelter.

Lab #	Provenience	Description	Measure		Calibrated Age Ranges	Calibrated means
AA77119	499.5N, 495.5E	Piece Plot 5: sooted limestone tempered smoothed over cord-marked body sherd	1098 ± 37 BP	one sigma:	AD 896-924 (36.9%) AD 939-987 (63.1%)	AD 910 AD 963
				two sigma:	AD 878-1020	AD 949

(Franklin 2008b). Ceramics associated with this deposit are limestone tempered plain and smoothed over cord-marked varieties. The luminescence dates for both are clearly Late Woodland (Table 3). The luminescence date for the smoothed over cord-marked sherd is corroborated by an AMS date on soot from a similar sherd (likely the same vessel) at the site (Table 4). These chronometric dates were taken from reliable stratigraphic contexts and are confirmed by the association of other diagnostic artifacts, such as Hamilton and Madison points.

Eagle Drink Bluff Shelter, also very close by, was excavated during three successive summer field seasons (2005-07). This site, too, is multi-component. However, stratified Woodland period deposits were encountered in the excavations (Franklin 2008b). The luminescence pottery samples from Eagle Drink were recovered from the same excavation unit XU 12, along the back (northwest) wall of the shelter. The three samples were taken from successive 5 cm levels. They are separated by only 12 cm vertical difference, and it was originally thought that the Woodland occupation of the site was restricted in temporal duration. The first AMS determination from the site on wood charcoal from Feature 2 suggested that the ceramics might be limited to the Early Woodland. An AMS measure of 2308 ± 35 BP would seem to be consistent with this idea. However, the luminescence dates clearly indicate that the ceramics at Eagle Drink span most of the Woodland period (Table 5). A Middle Woodland placement for limestone tempered cord-marked wares (e.g., Candy Creek) is supported based on the dates. The criss-cross cord-marked sherd dates to the early Late Woodland (or late Middle Woodland).

TABLE 5. Luminescence Dates from Eagle Drink Bluff Shelter.

Provenience	Description	Wall (sherd) thickness	Fine-grained measure
Excavation Unit 12, Level 4	Piece Plot 44, OSL Sample 2: limestone tempered cris-cross cord-marked body sherd	5.4 mm	AD 676 ± 45
Excavation Unit 12, Level 5	Piece Plot 65, OSL Sample 4: limestone tempered cord-marked body sherd	6.15 mm	AD 3 ± 66
Excavation Unit 12, Level 6	Piece Plot 89, OSL Sample 5: limestone tempered fabric-marked body sherd	7.24 mm	BC 1218 ± 115

TABLE 6. Additional Luminescence Dates from Rock Shelters of the Upper Cumberland Plateau of Tennessee.

Site/Provenience	Description	Wall (sherd) thickness	Fine-grained measure
Job Site Rock Shelter, Test Pit 1	OSL Sample 1: limestone tempered cord-marked body sherd	6.77 mm	AD 953 ± 23.08
Gwinn Cove Rock Shelter, Test Pit 2	OSL Sample 1: limestone tempered cris-cross cord-marked body sherd	7.42 mm	AD 1111 ± 32.7
Bobcat Arch Rock Shelter, surface	OSL Sample 1: limestone tempered cord-marked body sherd	7.24 mm	AD 803 ± 39.71
Pogue Creek Cave 1, vestibule surface	OSL Sample 1: limestone tempered cord-marked body sherd	5.46mm	AD 1009 ± 26.61
Big Sandy Conor Rock Shelter (40Fn248), surface	OSL Sample 1: limestone tempered cord-marked body sherd	13.00 mm	BC 177 ± 98.04
Hemlock Falls Rock House (40Fn239), surface	OSL Sample 1: limestone tempered cord-marked body sherd	7.60 mm	AD 678 ± 36. 54
Deep Green Rock House, surface	OSL Sample 1: limestone tempered smoothed over cord-marked body sherd	7.55mm	AD 1400 ± 14.89

A very early date for limestone tempered fabric-marked wares was also obtained from the site. The luminescence measure of BC 1218 ± 115 dates this pottery to more than 3,000 years ago. This seems too early for this type (e.g., Long Branch Fabric Marked) of pottery in Middle and East Tennessee (McCollough and Faulkner 1973; Lafferty 1978, 1981). We note two things here. First, the luminescence measure is virtually identical to another one from Red Velvet Spider Rockshelter on the Tennessee River in Roane County. That date has not been published yet, but it, too, yielded a date of more than 3,000 years ago on limestone tempered fabric-marked pottery (Franklin 2007). The results were generated from two different labs indicating independent results for these very early dates (we have also just recently obtained a luminescence date of more than 3000 years for a grit tempered fabric-marked sherd from a shelter in Upper East Tennessee).

A luminescence date of AD 953 ± 23 was also obtained from limestone tem-

pered cord-marked pottery from a small test unit at nearby Job Site Rock Shelter (Table 6). The sherd thickness was 6.7 mm, within the range of both Candy Creek Cord Marked and Hamilton Cord Marked. The date, however, clearly is more in line with Hamilton.

From a test unit at Gwinn Cove Rock Shelter, a luminescence date of AD 1111 ± 32.7 for limestone tempered criss-cross cord-marked pottery was obtained (Table 6). This date is nearly 500 years later than the date for criss-cross cord-marked at Eagle Drink. The sherd is also significantly thicker (7.42 mm) than the Eagle Drink sample (5.4 mm).

While a reliable luminescence date from surface collected pottery at Workshop was not recovered, robust measures on surface collected sherds from other shelters in the region have been generated (Table 6). Two dates come from undisturbed, or pristine, contexts. Bobcat Arch Rock Shelter was investigated in January 2008. The site has multiple components with artifacts lying on the surface near the back wall. There was no evidence of historic disturbance or traffic. A luminescence date of AD 803 ± 39.71 for a limestone tempered cord-marked sherd was obtained from the site. Interestingly, this sherd measured only 4.86 mm in thickness, outside the range of Late Woodland wares as described by previous researchers (Haag 1939; Lewis and Kneberg 1946:102-103).

A luminescence measure of AD 1009 ± 26.61 was also derived from a limestone tempered cord-marked sherd recovered from an undisturbed surface context in the vestibule of Pogue Creek Cave 1. The sherd thickness is 5.46 mm, again seemingly outside the range of Hamilton Cord Marked.

The remaining three luminescence dates come from surface contexts in disturbed rock shelters on the UCP. However, it is believed that the results are robust. This is further supported by robust luminescence dates on pottery from disturbed plow zone contexts in the Central Mississippi Valley (Lipo et al. 2005). The earliest date for limestone tempered cord-marked pottery comes from Big Sandy Conor Rock Shelter. The measure of 177 ± 98 BC (2127 ± 98 BP) clearly places it in the Early Woodland period. This particular sherd measured 13 mm in thickness, lending support to its Early Woodland date (this specimen is clearly a body sherd and not a basal sherd).

A luminescence measure of AD 678 ± 36.54 was obtained from a limestone tempered cord-marked sherd from Hemlock Falls Rock House. The sherd measured 7.6 mm in thickness, outside the range of Candy Creek. However, the date suggests a transition from the Middle to late Woodland periods.

Finally, a luminescence date of AD 1400 ± 15 for a limestone tempered smoothed over cord-marked sherd was generated from Deep Green Rock House. This example is perhaps the only dubious date in the sample discussed in this research. This date is seemingly far too late for the use of limestone tempered pottery on the UCP. Faulkner (personal communication, 2008) suggests AD 1100 as an appropriate date for the end of limestone tempering in the region. However, limestone tempered cord-marked ceramics have been recovered from very late contexts in southwest Virginia. This date is tentatively accepted until more is known about the Woodland-Mississippian transition on the UCP.

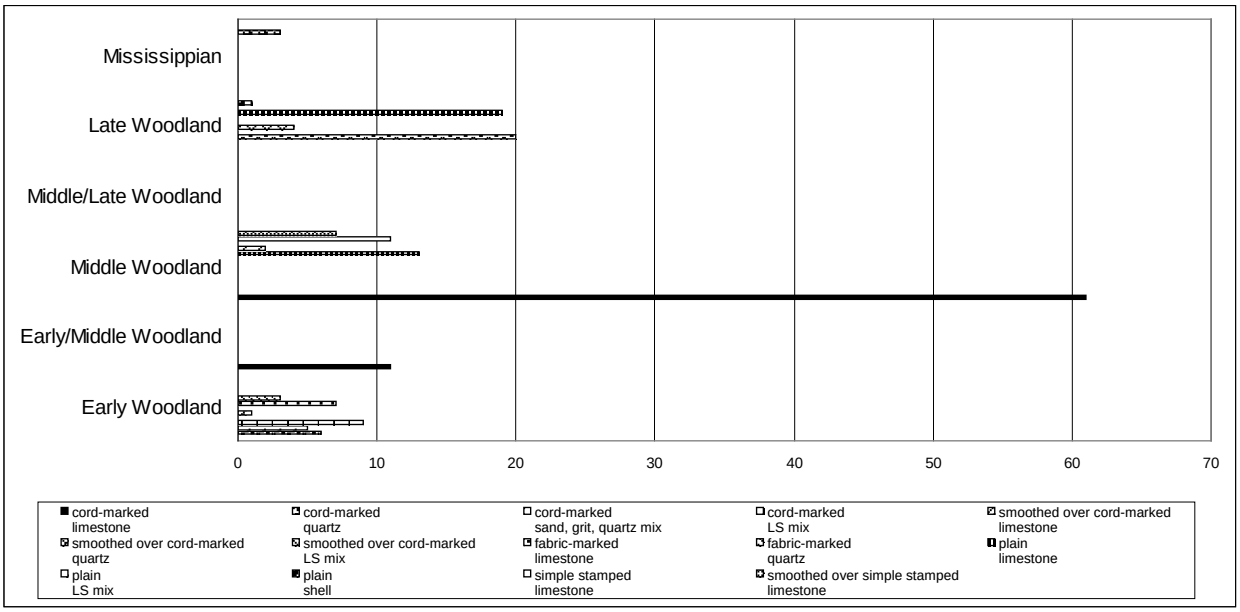

FIGURE 8. Final ceramic seriation for Workshop Rock Shelter.

TABLE 7. Final Ceramic Seriation for Workshop Rock Shelter.

	cord mark lime-stone	cord mark quartz	cord mark sand, grit, quartz mix	cord mark lime-stone mix	smooth over cord-mark lime-stone	smooth over cord-mark quartz	smooth over cord-mark lime-stone mix	fabric mark lime-stone	fabric mark quartz	plain lime-stone	plain lime-stone mix	plain shell	simple stamp lime-stone	smooth over simple stamp lime-stone	total
Woodland															
Early		6	5	9		1		7	3						31
E/M	11														11
Middle	61									13	2		11	7	94
M/L															0
Late					20		4			19		1			44
Mississippian												3			3
Totals	72	6	5	9	20	1	4	7	3	32	2	4	11	7	183

Workshop Ceramics Revisited

The latest ceramic seriation for Workshop Rock Shelter is consistent with Faulkner's earlier seriation. Based on recent luminescence dates (e. g., Far View Gap), and the seriation for Workshop Rock Shelter presented in this study, it is proposed that smoothed over cord-marked pottery should be revised from a Middle/Late Woodland designation to the Late Woodland period (Table 7, Figure 8). This revision of culture period affiliation is further supported by our AMS date of AD 883 in Level 3, Unit 5 discussed earlier. This level also contained limestone tempered, smoothed over cord-marked pottery. To be certain, Faulkner's seriation was completed before the Late Woodland AMS date was obtained from recent archaeological testing. The authors believe that the seriation presented in this article accurately reflects a significant Late Woodland component at the site as recorded in the test excavations at the site.

Discussion

In the end, the authors are perhaps left with more questions than answers. The discussed excavations and analyses do not purport to have solved Woodland ceramic systems on the UCP at this point. However, some facts are clear. For example, luminescence dates confirm something that has been suspected for some time by the authors, namely that limestone tempered cord-marked pottery was made and used on the UCP for most of the Woodland period. The authors previously suggested a temporal span of perhaps 1000 years (Franklin and Bow 2007). However, the life history for this ceramic type is closer to 1500 years. Early Woodland limestone tempered cord-marked pottery is very thick (e.g., Big Sandy Conor Rock Shelter). Unfortunately, metric measurements and existing type descriptions do not help much in sorting out the Middle and Late Woodland. The luminescence dates presented in this work indicate that neither wall thickness nor cordage width is a robust indicator of chronology on the UCP.

Temporal variation in rim and lip forms may yet aid in sorting out Woodland pottery on the UCP. Unfortunately, the authors recovered only two cord-marked rims from Workshop Rock Shelter. The first was quartz tempered with a flattened cord-marked lip and may be Early Woodland. The second was limestone tempered and smoothed over cord-marked with smaller cordage like Candy Creek. The lip is rounded and slightly flattened and narrowed, which is not particularly helpful in delineating between Candy Creek and Hamilton. The sherd is more than 8 mm thick near the bottom (opposite the lip) and was assigned a Late Woodland temporal designation. In short, archaeologists require greatly increased sample sizes and many more luminescence dates to clarify the issues broached in this essay.

Summary

By combining luminescence dating with the typological descriptions, including metric measurements such as vessel thickness, the authors can begin to seriate existing UCP rock shelter collections. Given the methodological problems discussed in this paper, however, the authors urge scholars and cultural resource managers working in the Tennessee region to avoid assigning formal typological designations to surface collected/survey materials unless the artifacts in questions are derived from controlled stratigraphic proveniences. Temporal designations beyond “Woodland” would also seem to be ambitious in survey assessments, at least from cord-marked wares. We further suggest the inclusion of funds for luminescence dating in archaeological survey project budgets as a means of acquiring meaningful chronological information. This level of archaeological inquiry should become a standard research method. Such an approach would be a big step forward, although dozens more luminescence dates are necessary before archaeologists can consider this approach reliable and statistically meaningful.

During the past several months the authors have obtained both internal and extramural funding to pursue a luminescence dating program. Twelve luminescence dates from ceramic specimens in rock shelters on the UCP and the ceramic assemblage from Workshop Rock Shelter have been used to highlight this approach. In the coming months, we will also begin to use this approach for diagnostic heated and burned stone tools. The authors believe this will allow a more

meaningful interpretation of the culture history of the region. Further, this approach will generate useful chronological information from survey projects for making better informed decisions regarding National Register assessments. In sum, this approach will anchor the long term research and management strategies for the UCP, including the long term archaeological survey of Pogue Creek State Natural Area (Franklin 2008a).

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EXPLORING HOOSIER MATERIAL CULTURE: LANDSCAPE AND ARCHITECTURAL ARCHAEOLOGY AT THE MOORE-YOUSE HOUSE AND HUDDLESTON FARMSTEAD

Mark D. Groover

Excavations conducted at the Moore-Youse house and Huddleston farmstead in east central Indiana illustrate typical landscape and architectural changes that transpire at dwellings occupied by multiple households. The two sites presented in this essay demonstrate that archaeologically identified landscape and architectural events, such as the movement of refuse disposal areas over time and dwelling expansion and renovation episodes, often correspond to domestic transitions in which a new household succeeds a previous household. Further, the two Midwest case studies discussed in this essay also illustrate the variety of cultural and material conditions that existed among Hoosier households during the 19th century.

Domestic sites are canvases--upon which the residents' life histories are materially recorded. This material record of lives lived in times past is particularly evident archaeologically in the diachronic progression of landscape changes and architectural events that transpired at historic sites. At residences that possess time depth, for example, midden loci change and shift over time, fence line locations are altered, outbuildings are constructed, moved, or razed, and dwellings often experience a broad variety of alterations, such as the addition of rooms and periodic renovation episodes. All of these landscape and architectural events in turn wax and wane with the material life histories of the people and households that lived at domestic sites.

In the following essay archaeological indicators of landscape and architectural change are explored at the Moore-Youse house and the Huddleston farmstead. Both of these home places are located in east central Indiana. These two sites illustrate the development and characteristics of Hoosier material culture during the 19th century. The sites also illustrate the landscape and architectural change that typically occurs at houses occupied by multiple households. During the 1800s residents of the Moore-Youse house lived in the town of Muncie, Indiana. Publically, their house, its furnishings, and their way of life reflected middle-class adoption of Victorian inspired popular culture elements in the Midwest. Privately, their residence and especially the rear house yard, located on a double town lot, resembled a small farmstead that contained a garden, orchard, a chicken house, and livestock. The foodways and diet practiced by the residents of the Moore-Youse house, supplied by livestock raised in the house lot, likewise reflected a relatively strong rural orientation during much of the 19th century (Blanch 2006; Groover 2004).

In contrast to the Moore-Youse house, the Huddleston farmstead, located in Mount Auburn, Indiana along the National Road (modern-day U.S. 40), was established in the late 1840s by lapsed Quakers from North Carolina. Under the leadership of patriarch John Huddleston, members of the Huddleston family were frontier entrepreneurs and practiced an aggressive economic strategy during the second half of the 1800s. The Huddleston family not only operated a successful farm but also commercially catered to the wa-

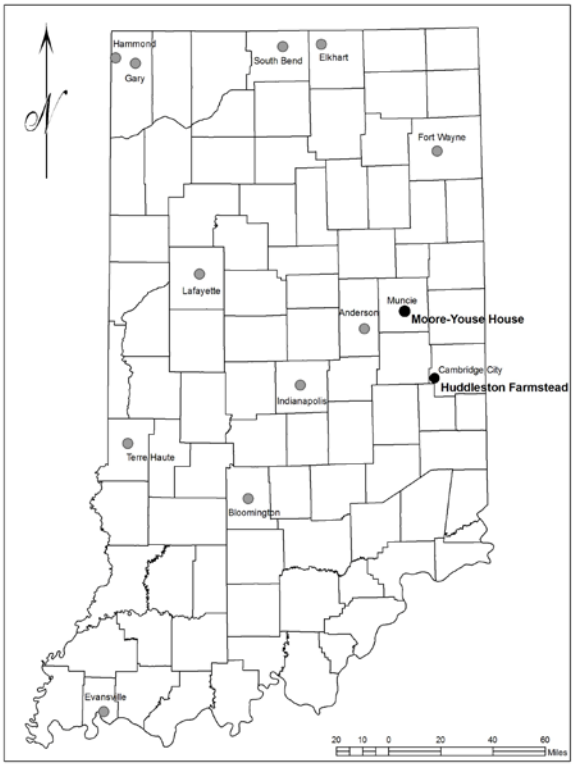

FIGURE 1. Location of the Moore-Youse house and Huddleston farmstead in Indiana.

gon trade and the steady stream of settlers migrating west along the National Road between the 1850s and 1870s. At their farm along the National Road in Mount Auburn, the Huddleston family operated a general store, an inn, a campground, a wagon yard, livery, blacksmith shop, and a wagon weigh station. Interestingly, this aggressive economic strategy was tempered by a strong religious orientation within the Huddleston family. Originally Quakers, the family parted from the church while in Indiana but remained religiously active, especially John Huddleston, a productive religious scholar who authored several essays and books that disagreed with Quaker doctrine (Burns 1919:231; Huddleston Family Records n.d.). In the following paper, archaeology conducted at the Moore-Youse house is first presented followed by a discussion of site investigations at the Huddleston farmstead.

The Moore-Youse House

The Moore-Youse house in Muncie is located in east central Indiana, approximately 50 miles northeast of Indianapolis (Figure 1). Occupied during the early historic period by the Delaware Indians, European-American settlement of the area that would eventually become Delaware County and Muncie began with Indian traders in the 1820s. Goldsmith Gilbert, for example, was an influential trader that operated a trading post near the Moore-Youse house. Between the 1830s and 1850s, Muncie experienced the transition from a frontier community to a small farming town. Agriculture was the leading economic activity in the local area until natural gas was discovered in the 1880s. As a result of the natural gas boom Muncie began to industrialize after the 1880s (Kemper 1908:104, 148).

Unfortunately, the early occupational history of the Moore-Youse house lot is not complete. The Moore-Youse house is located in the earliest settled area of Muncie that was originally part of the Hackley Reserve, an early land purchase. This land tract was purchased by trader Goldsmith Gilbert in 1825 and contained 627 acres. Gilbert later donated the land surrounding the Moore-Youse house to the city of Muncie in 1827 (Haimbaugh 1924:413). Artifacts recovered from site excavations suggest that the Moore-Youse property was first inhabited at this time.

In 1844 Goldsmith Gilbert died and the property encompassing the house lot was officially bequeathed to his daughter and son-in-law, Mary Jane Gilbert Andrews and Daniel Andrews. Archaeological evidence indicates the property was occupied perhaps as early as the late 1820s or early 1830s, but the identity of the first oc-

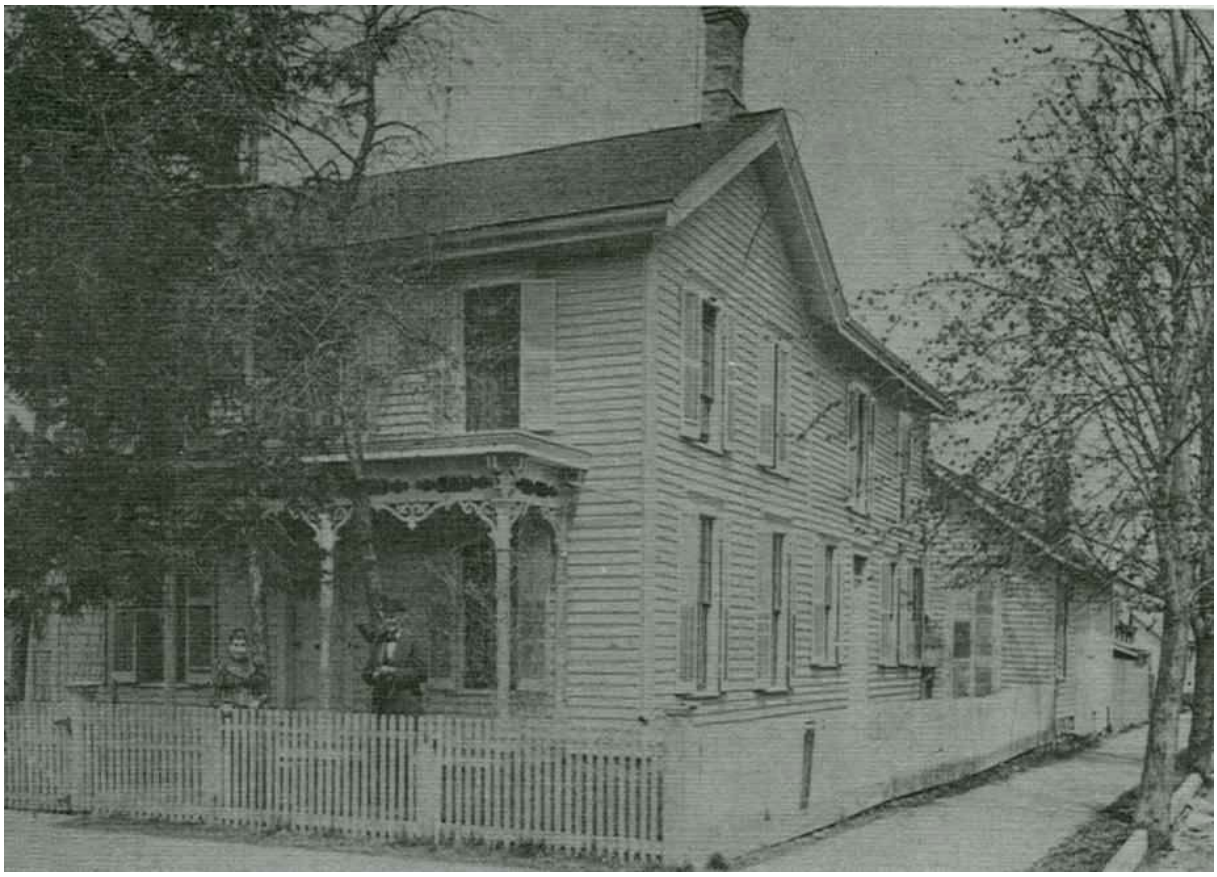

FIGURE 2. Mary “Mame” Moore Youse and William Youse at their home in the 1890s.

cupants is not known. Historical records do indicate that the property was sold in 1844 by Mary Jane and Daniel Andrews to Anderson Carter, a tailor, and his wife Lavina Groover Carter. Shortly after purchasing the property, the daughter of Lavina and Anderson, Deborah Conn Carter, was born between approximately 1846 and 1848 in the house on the property (Ball State University Archives and Special Collections [BSUASC] 1844, 1849).

Based on extant records, the residents of the dwelling between the 1840s and the 1980s were middle class residents of Muncie. Anderson Carter was a tailor, and later residents consisting of the Moore and Youse families, were involved in law and local businesses. They were also church leaders in the community. In 1864 Anderson Carter sold the property containing the dwelling to Samuel P. Wilson, originally from Virginia, who then deeded the town lot and dwelling to his daughter Elizabeth “Clara” Crooks Quinn Moore and her husband Charles W. Moore. Charles and Clara had a son, Charles E. Moore and a daughter Mary Elizabeth "Mame" Moore that were born in 1862 and 1865, respectively. Charles Moore, Sr. died in 1898 and Clara passed away in 1904. Their daughter Mary "Mame" Moore resided at the house for the remainder of her life. She married William R. Youse in 1893 and they had one child, Mary, in 1896 (Figure 2). Mame and Will Youse died in 1943 and 1945, respectively. In 1946 Mame and Will's daughter, Mary Youse, married John J. (Jack) Maxon. John Maxon was a successful Muncie businessman. Interestingly, Mary Youse Maxon continued to maintain the house after her marriage and resided there after

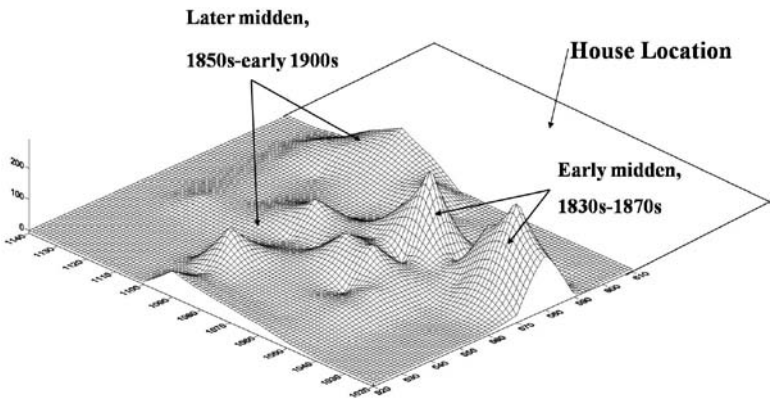

FIGURE 3. Artifact density map showing midden loci at the Moore-Youse house.

the death of her husband John Maxon in 1957. Mary Maxon died in 1982 and in her will she donated her family home to the Delaware County Historical Society, which has maintained the property as a house museum since this time (Hoover 1990).

Archaeology at the Moore-Youse House

During summer 2004 and 2005 Ball State University anthropology students under the direction of Mark Groover conducted grant-supported archaeological excavations at the Moore-Youse house in downtown Muncie, Indiana. During archaeological investigations, the field crew established a site grid in the house lot and excavated shovel test pits at 10 ft. intervals. This information was then used to identify the spatial extent and characteristics of archaeological deposits in the house lot. Spatial analysis of the material from the shovel test pit survey indicated that a dense midden was located in the east central area of the house lot immediately adjacent to the west door of the dwelling. A dense midden was also identified in the north area of the house lot (Figure 3). During summer 2004 and 2005, test units were also excavated in the east and north midden locations. The levels in the units were excavated in 0.20 tenths of feet in order to conduct time sequence analysis, a fine-grained type of stratigraphic analysis (Groover 1998, 2001, 2003). The unit adjacent to the west door of the dwelling contained a broad and abundant range of household items and faunal material. A dense deposit of architectural debris from a substantial renovation episode to the house was also encountered in the excavation squares (Figure 4). In contrast to the midden adjacent to the west side of the house lot, the midden in the northwest corner of the house lot dated to the late 19th and early 20th century. The results of archaeological investigations at the Moore-Youse house are now discussed.

FIGURE 4. Excavation unit showing deposit of architectural debris in profile wall.

Household Dynamics and Material Trends at the Moore-Youse House

Historical and archaeological information associated with the Moore-Youse house allows the reconstruction of material trends related to architectural change, landscape change, and foodways. Regarding household dynamics, it is assumed that the sequence of residents that lived in the dwelling significantly influenced the life history of the house lot, dwelling, and material consumption at the site. These topics are explored in the following discussion.

Previously discussed historical records associated with the Moore-Youse House indicate that at least four historically known households resided in the dwelling (Hoover 1990). An architectural study of the house conducted in 1995 by Russell Garriott (1995), a Ball State University history student, revealed that the footprint of the structure changed and grew over time, corresponding with the successive households that occupied the residence. Remnants of an earlier foundation located beneath the floor boards of the extant dwelling indicate that the residence originally consisted of a one-room structure, possibly a log house, which was one story in height. Window glass dates from levels 8 through 9 of the test units located west of the structure's side door indicate the dwelling was constructed between the 1820s and 1830s. During the 1820s and 1830s the surrounding community consisted of only a few dwellings and a trading post operated by Goldsmith Gilbert, the founder of Muncie (Kemper 1908). The identity of the dwelling's original resident is not known, although trader Goldsmith Gilbert owned the property.

In January1844 Goldsmith Gilbert died and his daughter Mary Jane Gilbert Andrews inherited the property. Later that year in October, Mary Jane Gilbert Andrews and her husband Daniel H. Andrews sold the property to Anderson Carter and his wife Lavina. Anderson Carter was a tailor. Between 1849 and 1850 tax records for the property increased from $600 to $730, suggesting architectural improvements were made to the dwelling after the Carters purchased the property. Garriott's (1995) architectural study of the dwelling indicates that the ground floor was expanded from a single to two-room structure at this time (Figure 5). A second story containing two rooms was also added. Corresponding to this dwelling expansion, a dense architectural midden was encountered in excavation units 1, 3, and 4 next to the structure con-

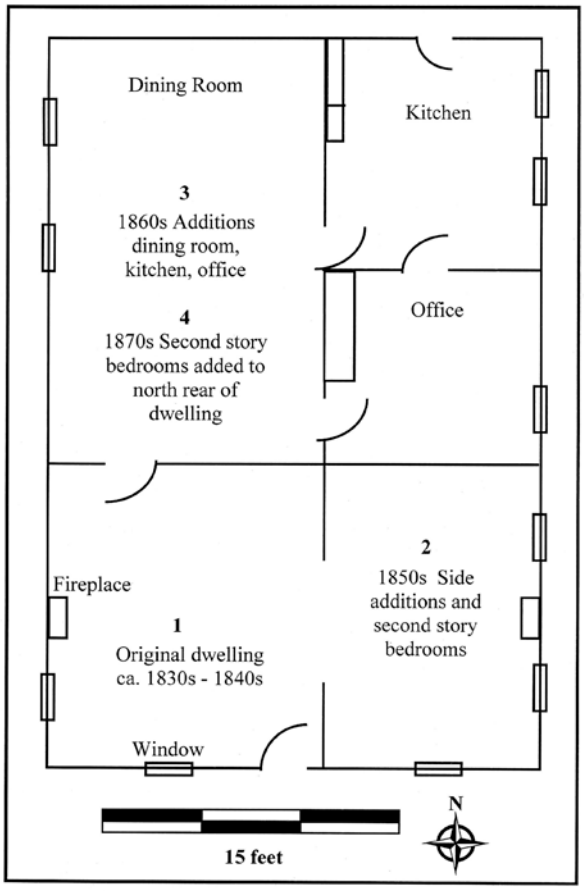

FIGURE 5. Floor plan showing additions to the Moore-Youse house over time.

firming that the house experienced a major architectural expansion episode during the late 1840s and early 1850s. Archaeological deposits dating to this period were encountered in the test units adjacent to the west door. These deposits consisted of a dense concentration of brick, mortar, wall plaster, window glass, and nails. The architectural deposit is probably debris from the expansion of the existing dwelling, involving the removal of existing walls, and the subsequent addition of the east room and second story in the late 1840s or early 1850s.

Approximately fourteen years later in 1864 the Carter family sold the dwelling and it was purchased by Samuel P. Wilson in 1864. Wilson subsequently deeded the house to his daughter Clara and her husband Charles Wesley Moore. The Moore-Youse family, comprising a female centered lineal household, in turn occupied the residence for over a century. Charles and Clara Moore had two children, Charles Edward Moore in 1862 and Mary "Mame" Moore in 1864 (Hoover 1990). Shortly after purchasing the home in 1864 the Moore family expanded the four-room house and added a rear ell on the west side of the structure that served as a dining room. In the 1870s a kitchen addition and utility room were also added to the north wall of the structure immediately east of the dining room. A decade later in the early 1880s a back bedroom, bathroom, furnace room, and two other smaller rooms were added to the second story. During the 1880s a garage and utility room were also added to the first floor north of the 1870s kitchen addition (Garriott 1995). Victorian-influenced architectural embellishments were also added to the front exterior facade of the house during this period (Blanch 2006). Archaeologically, corresponding to these additions, a second concentration of architectural material was encountered in the upper levels of the test units adjacent to the west side of the dwelling. The later concentration of architectural material was present in levels 3, 2, and 1. These later deposits date from the 1860s through the 1870s (Groover 2004). There were no other known major dwelling additions after the 1880s.

Approximately a decade after completing the last of the dwelling renovations in the 1880s, Charles Moore and Clara Moore passed away in 1898 and 1904. At this time Mary "Mame" Elizabeth Moore Youse inherited the property at age 40. Mame had previously married William Youse in 1893. They had a daughter, Mary, in 1896 and resided at the dwelling for the remainder of their lives. Their daughter, Mary Youse, married Jack Maxon late in life in 1946. After her husband's death in 1957, Mary Youse Maxon continued to live at her family home until her death in 1982 (Hoover 1990).

The above review of architectural trends indicates that two of the four known households that resided in the dwelling expanded the structure between the late 1840s and 1880s, consisting of the Carter and Moore-Youse families. In turn, the archaeological midden located immediately west of the dwelling confirms these known architectural events, in which at least two dwelling expansion episodes are evident in the archaeological record. Interestingly, the architectural expansion episodes to the house likewise correspond to household succession periods, which are typically punctuated by episodes of landscape and architectural change (Groover 1998, 2003, 2004, 2008). As documented in previous studies (Groover 1998, 2003, 2004, 2008), episodes of landscape and architectural change often transpire when a new household assumes occupancy of a residence from a former household. At

the Moore-Youse house, for example, five years after purchasing the dwelling, the Carter family expanded the dwelling in ca. 1849. Likewise, within five years of purchasing the house, the C.W. Moore family also expanded the dwelling initially in 1864 and continued their home improvements for the next 20 years up to the 1880s.

As the Moore-Youse dwelling expanded and grew with the life history of its residents, the house lot also experienced landscape changes. House lot change is particularly evident in the temporal location of midden loci in the side and rear house lot adjacent to the dwelling. A dense midden dating from the 1820s or 1830s to the 1870s was located immediately west of the dwelling, corresponding to the location of a west side door (Figure 3). This midden was created when the dwelling was fist constructed and inhabited in the 1820s or 1830s. As mentioned previously, architectural debris from dwelling expansion episodes in the 1840s and 1860s or 1870s was also evident in units excavated in this west side area of the house lot.

As new rooms were added to the rear of the dwelling, the location of refuse disposal areas shifted in the house lot to the back area of the lot closer to the extant rear fence line (Figure 3). The previously active midden area adjacent to the west side of the house became inactive and served as the location of decorative flower beds, as revealed through period photographs. Likewise, dark, rich soil fill was encountered in the upper levels of the units next to the house. Numerous flower pot fragments were recovered in the upper levels corresponding to this shift in site use. This cultural practice in which refuse disposal behavior and midden locations move over time has been observed at several other house lots such as the Gibbs farmstead in east Tennessee (Groover 1998, 2003, 2004) and Bush Hill plantation in South Carolina (Cabak and Groover 2004, 2006). The household specific movement of midden loci over time is called midden shift. Midden shift refers to diachronic change in the location of refuse disposal areas as new residents occupy a dwelling and as new landscape elements, such as dwelling additions or the creation of new outbuildings, are added to house lots.

In addition to architectural and landscape change, material life at the Moore-Youse house during the 1800s was also characterized by material continuity in several related domains. It is assumed that the occupation of the site by a lineal family, composed of a mother, daughter, and granddaughter from the 1860s to the 1980s, provided a substantial strand of female-centered continuity at the residence. Mame and Charles Moore, occupants of the house from the 1860s to the early 1900s, were church leaders and also active in the local Temperance Movement, beginning in the 1870s (Hoover 1990). Interestingly, compared to typical 19th-century domestic sites, few fragments of glass from alcoholic beverage containers were recovered from excavation. Likewise, excavations did not produce any tobacco pipe fragments, suggesting that a healthy lifestyle devoid of alcohol consumption and tobacco use was practiced at the house during the second half of the 1800s.

In addition to abstinence from alcohol and tobacco, material continuity was also observed in redware ceramic use. Conventional wisdom regarding redware use during the 19th century emphasizes that this locally made folk ceramic was mainly used during the pioneer period in most regions and disappeared as the frontier period ended (Groover 1998, 2003). Fur-

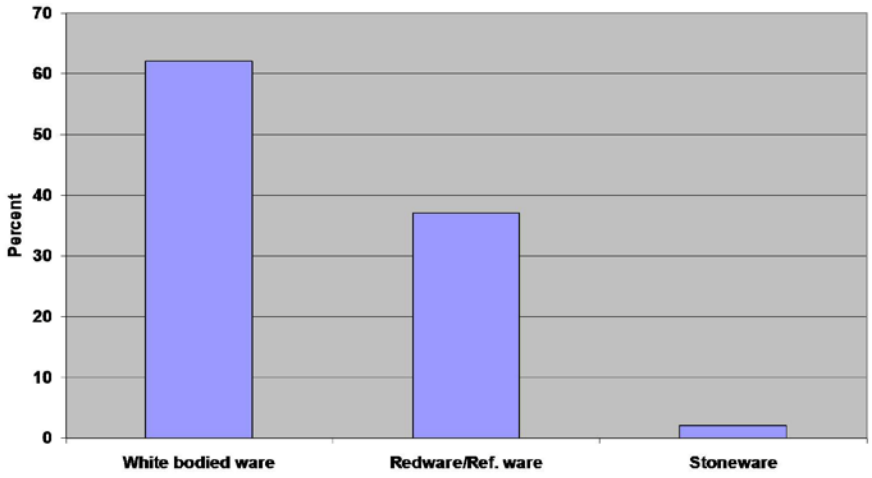

FIGURE 6. Distribution of ceramics by ware types at the Moore-Youse house.

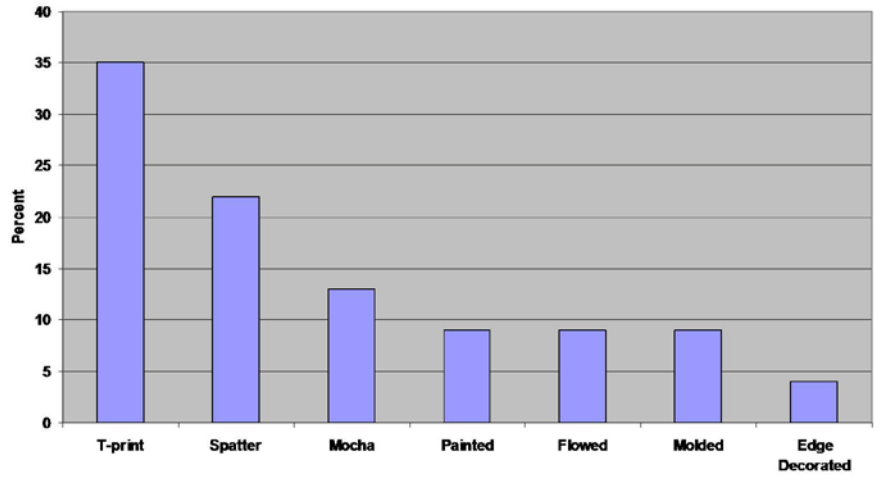

FIGURE 7. Distribution of ceramics by decoration types at the Moore-Youse house.

ther, it is assumed by many archaeologists that redware was quickly replaced by stoneware utilitarian ceramics in most areas during the 1800s. Interestingly, redware is the most prevalent utilitarian ceramic at the site throughout the 1800s, comprising almost 40 percent of the ceramic sample. Stoneware was used to a limited extent and represents a mere two percent of the ceramic assemblage (Figure 6). The persistence of redware throughout the second half of the 1800s at the residence is probably due to cost. Two redware vessels could typically be purchased for the price of one stoneware container during the 1800s. The greater cost of stoneware was due to the superior quality of stoneware clay required to produce the ceramic. Stoneware, a semi-vitreous ceramic, also required more fuel in the kiln to produce higher firing temperatures compared to redware, which would have also added to vessel cost (Groover 1998).

In addition to material continuity, the general foodways that were practiced by the site occupants were revealed by the ceramics that they used and discarded. Sixty percent of the ceramic sample obtained from site excavations is composed of ironstone and whiteware flatware (designated white bodied ware in Figure 6), indicating portioned meals consumed on plates were the main type of dining practices used by the occupants. Within the tableware category, 48 percent of the ceramics are composed of painted wares, consisting of spatter, mocha or dipped wares, and edge decorated flatware. Transfer printed ceramics represent 44 percent of the decorated tableware category (Figure 7). The transfer printed colors consist of lighter

blue transfer-prints and brown transfer printed plates that date to the 1840s and later. Flow transfer printed mulberry plates were also used by the site occupants. Besides painted and printed flatware, nine percent of the decorated white bodied tableware recovered from the site consists of molded ironstone plate fragments typical of the middle 1800s and later. A small number of pearlware plate fragments decorated in green and blue shell edge, in addition to a cobalt blue hand painted pearlware vessel fragment, were also recovered from the basal deposits of the excavation units, indicating the site was occupied during the 1820s or 1830s.

Regarding social dining, during the second half of the 1800s the Moore and Youse families were known for being good hosts and frequently having dinner parties at their residence (Blanch 2006). Faunal material from the site indicates beef was the predominant meat consumed at the site followed by pork and chicken. A small amount of wild game was consumed by the residents during the early occupation of the site (Blanch 2006:169-170). The ceramics recovered from excavation are typical of the time period and are perhaps best described as fashionable but not elaborate. For example, no examples of ceramics from matching table services were recovered from excavations, suggesting that the colors of the plates matched or were harmonized during meals but the patterns possibly did not match. This informal practice during the 1800s has been observed at other sites, such as the Gibbs farmstead (Groover 1998, 2003, 2008) and Bush Hill plantation (Cabak and Groover 2004, 2006), and suggests most households during the 19th century did not have elaborate table services. Conversely, it is known that during the 20th century, Mary Youse Maxon, the last family member to own and live in the house, had a complete table service of gilded Limoges china during the latter part of her life. This set is on display in the house museum and a few fragments of a tea cup from the set were recovered archaeologically.

Discussion

Archaeological excavations conducted at the Moore-Youse house in Muncie, Indiana revealed several interesting trends pertaining to landscape change, architectural events, and related household dynamics and middle class material life in the American Midwest during the 1800s. Although daily life at the dwelling was characterized by continuity, the residents of the dwelling were aware of national trends that shaped popular culture between the 1840s and late 1800s. Victorian influenced social life, consisting of entertaining guests during dinner parties and other types of gatherings, was apparently important to the residents of the dwelling (Blanch 2006). A dining room and separate kitchen were added to the house between the 1860s and 1870s, in addition to other bedrooms, an office, and bathrooms (Garriott 1995). These architectural events in turn were clearly evident in the archaeological record (Groover 2004). Emphasis upon dining and entertaining was also illustrated by fashionable tableware recovered from excavations.

In contrast to aspects of landscape, architectural, and artifact-based change identified at the site, the female-centered, lineal family that resided in the dwelling during the second half of the 19th century encouraged material continuity in the domains of redware use and abstinence from alcohol and tobacco consumption. The Moore and Youse families, especially Mame and daughter Mary, also had a strong attachment to their family home

place which insured its survival to the present time. Consequently, archaeological information recovered from the Moore-Youse house provides an interesting look at middle class material conditions and household trends in the Midwest during the 19th century.

The Huddleston Farmstead

During the first half of the 1800s, the National Road was one of the nation's first interstate road systems. Extending from Maryland to St. Louis, the National Road was a major migration route from settlements in the east to the western frontier. Between the 1830s and 1860s, communities, towns, and cities sprang up along the National Road. Daily, scores of wagons travelling to the western territories passed through towns such as Cambridge City, Centerville, and Richmond in east central Indiana. In many of these towns, industrious merchants and entrepreneurs catered to and prospered from the western wagon traffic during the first half of the 1800s (Burns 1919).

In Mount Auburn, Indiana near Cambridge City (ca. 60 miles east of Indianapolis), the John Huddleston family provided services to settlers migrating west along the National Road (Figure 1). A prosperous farm was operated at the site by the Huddleston family. A wagon yard, livery, general store, inn, and campground were also operated at the farmhouse by the Huddleston family during the height of wagon migration west between the 1840s and 1870s (Burns 1919). The extant farm complex consists of the original dwelling, a reconstructed smokehouse, a carriage barn, and a large Pennsylvania-style bank barn and wagon yard.

In 1877 John Huddleston, the original head of household, died and his son Henry inherited the farm. In 1880 Henry substantially renovated the farm. In 1906 Henry sold the farm to his son Charles. Ownership of the farm passed from the Huddleston family when Charles died in 1930. From the 1930s to the 1960s the farm was owned by a number of individuals until it was acquired by the Historic Landmarks Foundation of Indiana in the 1960s. During this time it was not operated as a farm (Evolution of the Huddleston Farmhouse [EHF] n.d.).

2007 Site Investigations at the Huddleston Farmstead

During summer 2007 a historical archaeology field school was conducted in the rear house lot of the Huddleston farmstead in Mount Auburn, Indiana by Ball State University anthropology students under the supervision of Mark Groover (2007). The Huddleston Farmhouse is maintained as a historic house museum by the Historic Landmarks Foundation of Indiana, a private preservation organization.

Three main goals guided excavations conducted at the farmhouse during the field school, consisting of education, research, and preservation management. The field school provided excavation experience for students, it generated useful archaeological research information, and the results will help personnel at the Huddleston Farmhouse manage the archaeological resources at the site and interpret the landscape history of the farmstead.

The main archaeological fieldwork objective at the site was to define the site structure of the extant farm lot and attempt to identify the former location of outbuildings in the rear yard of the farm lot. During the first week a site grid was established and site mapping was conducted. Previously in May 2002, a systematic shovel test pit survey was con-

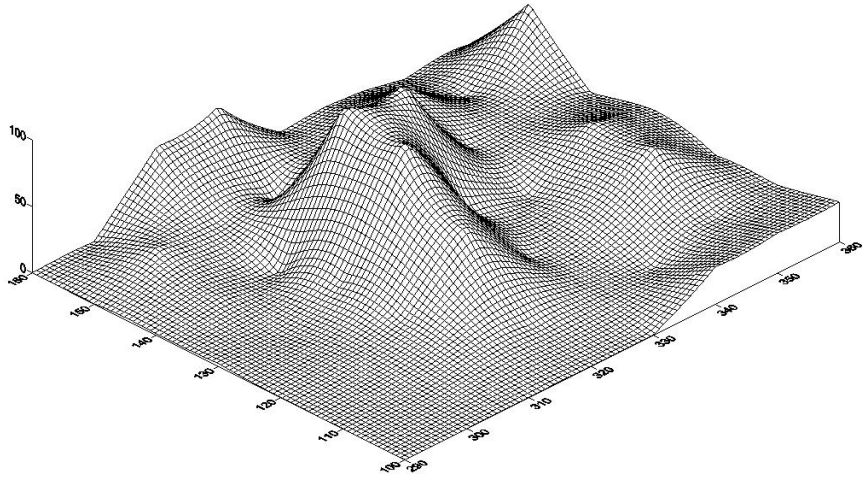

FIGURE 8. Artifact density map showing midden loci at the Huddleston farmstead.

ducted by personnel with the Ball State University Department of Anthropology (Zoll 2002).

Before the 2007 field school commenced, spatial analysis of the 2002 site survey data was first conducted. The analysis results revealed the distinctive artifact spatial signature of a building, strongly suggesting that a structure was located in the northwest quarter of the rear house lot (Figure 8). Based on the results of spatial analysis, two excavation units were subsequently excavated in the northwest quarter of the rear house lot in the area containing a dense concentration of architectural material. In unit 1 a substantial posthole was encountered. The locust post is probably associated with a fence line that is still extant along the west boundary of the house lot. A systematic soil probe survey was also conducted in the northwest quarter of the rear house lot in the area containing the dense artifact concentration, denoted from the spatial analysis map. The artifact concentration appeared to be the distinctive spatial footprint of a structure. The soil probe survey subsequently revealed a large continuous rectangular subsurface feature measuring ca. 16 x 24 feet in size.

During subsequent weeks of the field school units were excavated in the northwest area of the rear house lot containing the large subsurface feature located during the systematic soil probe survey. The feature (designated Feature 2) turned out to be the continuous limestone foundation of a structure (designated Structure 1) measuring ca. 16 x 24 feet. The northwest corner of the structure was encountered in unit 3, the first unit excavated over the feature (Figure 9). The north foundation and associated corners of the structure were subsequently exposed during the remainder of the field school.

Forming an east-west oriented landscape axis, the north wall of Structure 1 is aligned with the north wall of an extant smokehouse and carriage barn located ca. 70 feet east of Structure 1 (Figure 10).

FIGURE 9. Northwest corner of Structure 1.

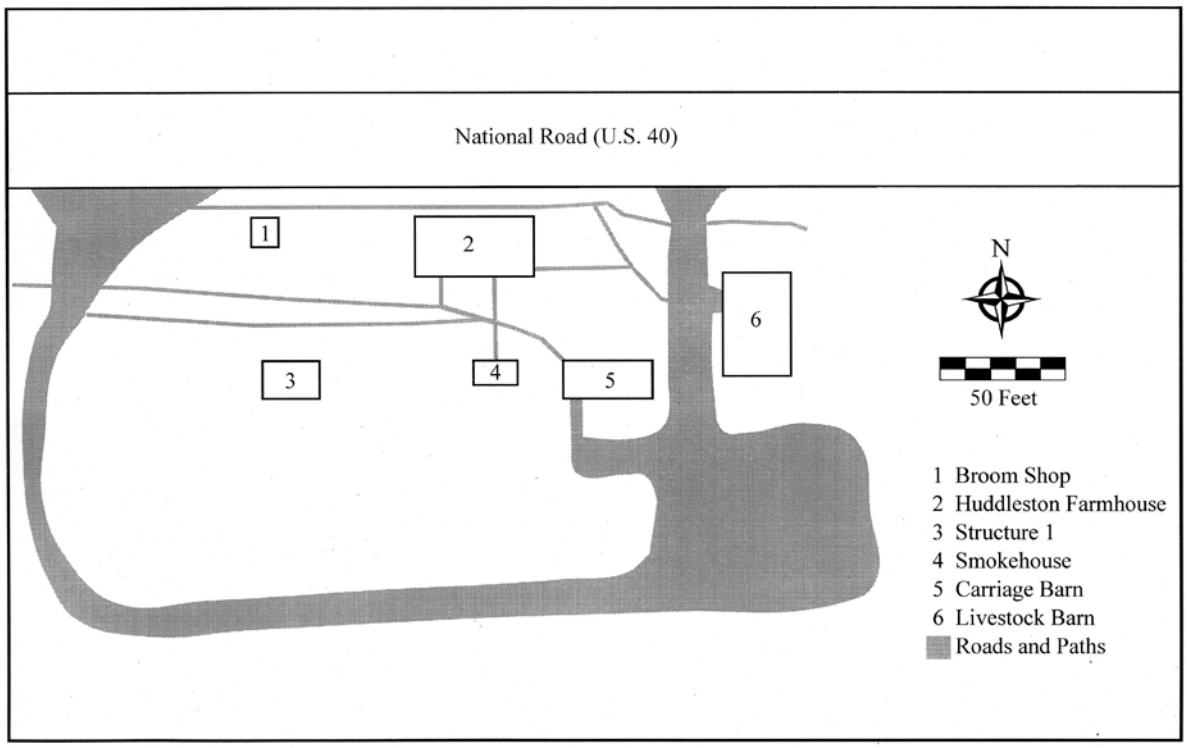

FIGURE 10. Plan view of Huddleston farmstead rear yard showing alignment of outbuildings in relation to Structure 1.

FIGURE 11. Southwest corner of Structure 1 showing intact brick resting on limestone foundation.

The alignment of the north wall of Structure 1 with the two original extant outbuildings suggests Structure 1 was an original outbuilding in the rear house lot, presumably constructed during the 1840s. The landscape alignment also indicates that John Huddleston used a formal landscape plan when he constructed the farm lot in the 1840s. Historical records note that a two-story structure had been located in the year yard of the house lot (EHF n.d.). Consequently, Structure 1 may have been two stories in height. Structure 1 contained a continuous limestone foundation and had brick walls, denoted by brick fragments in the rubble above the limestone foundation in the upper levels of the units and an intact course of bricks resting upon the limestone foundation at the southwest corner of the structure (Figure 11).

The construction methods and materials associated with Structure 1 are also identical to methods used to build the main house (a three story brick Federal style house, Figure 12), the spring house, and the smokehouse in the rear house lot.

FIGURE 12. Front (north) view of the Huddleston house (photograph courtesy of Historic Landmarks Foundation of Indiana).

The construction similarities suggest Structure 1 was contemporaneous with these buildings. Recovered artifacts in the upper levels of the Structure 1 units suggest it was razed sometime between the 1870s and first quarter of the 20th century. Although the function of the structure is currently unknown, it may have served as a guest house or ordinary for travelers on the National Road, given its substantial construction methods and the possibility that it was two stories in height. A noticeable amount of recovered kitchen related artifacts (table ceramics, storage ceramics, and animal bone fragments) suggest a domestic-related function for Structure 1, which would be consistent with a guest house or inn. The structure may have also been a summer kitchen.

Artifacts recovered from Structure 1 were analyzed using standard functional analysis (South 1977) and a stratigraphic-seriation method called time sequence analysis (Groover 1998, 2003). The results of functional analysis indicate that the majority of artifacts from the structure consist of architectural items, mainly nails and window glass, and kitchen artifacts. The noticeable amount of kitchen items suggests the structure had a domestic function, and may have been a detached kitchen or guest house. Interestingly, few personal items were recovered. The dearth of personal items at an inn or guest house might be expected since travelers or guests would unlikely not have had a large number of personal items with them during their brief stay in Structure 1.

The ceramics recovered from excavations consist mainly of undecorated whiteware and stoneware. The amount of utilitarian ceramics discarded around the structure suggests food storage and preparation were frequent activities, items consistent with a kitchen or ordinary. Interestingly, few decorated table ceramics were recovered from the site. The lack of decorated ceramics suggests the site residents were frugal regarding ceramic purchases. Regarding foodways, the majority of the tableware is composed of flatware and specifically plates. A small number of bowl fragments was recovered from the site, mainly large stoneware vessels.

Architectural Artifacts and Landscape-Household Events

The results of time sequence analysis using the architectural artifacts indicate that a substantial renovation episode occurred at Structure 1 in circa 1880. Graphed chronologically by dated excavation levels, a large number of nails and window glass fragments were deposited around Structure 1 in approximately 1880 (Figure 13). This period corresponds to the transition between the John Huddleston household and the Henry Huddleston

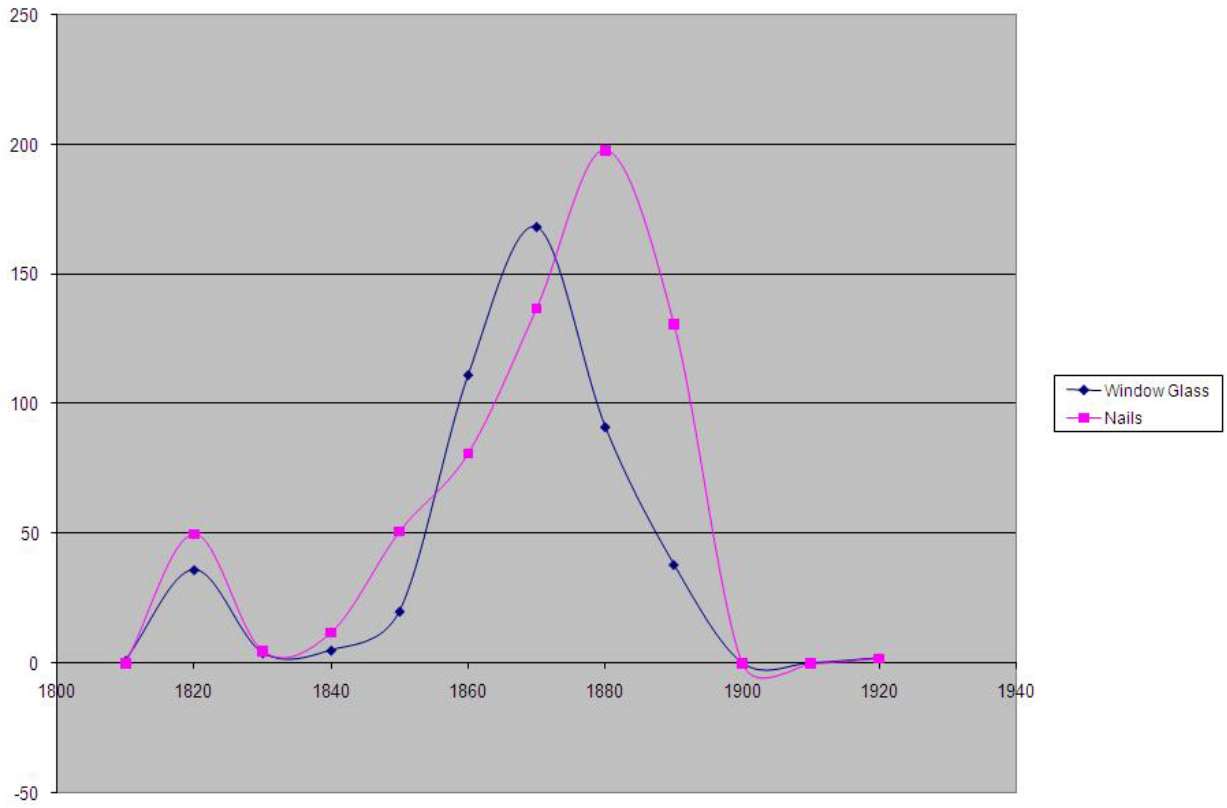

FIGURE 13. Graph showing diachronic distribution of window glass and nails recovered from Structure 1.

household. As discussed in previously published studies (Cabak and Groover 2004, 2006; Groover 1998, 2003, 2004, 2008), landscape and architectural change often occurs at residences during household transition periods, when one head of household succeeds the former household head.

The 1880 renovation episode was visible archaeologically via the stratigraphic distribution of nails and window glass. A poured cement block was also encountered along the east wall of the structure. In 1880 the carriage house east of Structure 1 was expanded by Henry Huddleston and cement slabs were poured in the floor of the new addition to the structure (EHF n.d.). The poured concrete slabs are similar to a cement slab encountered in Structure 1 suggesting contemporaneous improvements. A section of copper tubing from a gas pipeline was also encountered along the south wall of the Structure 1 foundation, indicating the building had gas lighting. Likewise, electrical insulators were also recovered from the upper levels in Structure 1, suggesting the building was modernized between the late 19th and early 20th century. Paralleling the cement slabs, electrical hardware similar to items recovered from Structure 1 was also attached to wall posts in the carriage house, indicating both of these structures were modernized at approximately the same time.

Architectural Interpretation

The Huddleston farmstead contained an elaborate complex of structures and activity areas. The domestic area contained a three-story brick Federal style

house, a spring house, a smokehouse, and a newly discovered outbuilding that may have been a detached kitchen or guest house. A broom shop was also located along the west edge of the house lot fronting the National Road. A large livery barn, carriage shop, and wagon yard were located in the east half of the farm lot. The large brick residence of Amos Huddleston, the son of John Huddleston, was also located ca. 50 feet east of the large livery barn (*Atlas of Wayne County, Indiana* 1874:65a; EHF n.d.).

Interestingly, the Huddleston farmstead is strikingly similar to Mendenhall plantation near Jamestown, in Guilford County, North Carolina. Guilford County was the former home of many transplanted Pennsylvania Quakers that later settled in Wayne County, Indiana, such as famed abolitionist Levi Coffin. The county was also a major stop along the Underground Railroad. Mendenhall was established in 1811 and operated by Richard Mendenhall, a Quaker that opposed slavery. Called a plantation during the 1800s, Mendenhall was not worked by slaves but contained a large complex of buildings. The main house at Mendenhall was an I-house. A spring house was located next to the main house. The complex also contained a bank barn, a school house, and a large brick store that fronted the main road at Mendenhall, similar to the farm lot arrangement at the Huddleston farm. Richard Mendenhall was a tanner and he sold leather products from the store (Stockard 1902:60, 81-82).

The similarity of the Huddleston farmstead to the Mendenhall complex in North Carolina suggests that a relatively standardized farm layout was used by some prosperous Quakers in Pennsylvania, North Carolina, and Indiana during the 1800s. Interestingly, the elaborate farm complex used at the Huddleston farmstead and Mendenhall plantation suggests that Quakers during the 1800s may have been adopting elements of southern plantation-influenced landscape design. Conversely, it is also possible that the large farmstead complexes transplanted by Pennsylvania Quakers to North Carolina may have served spatially as a plantation prototype during the 1700s. The Huddleston family was originally from Pennsylvania. They migrated to North Carolina and then moved to Indiana. These two examples suggest that farmsteads among some affluent Quakers and former Quakers in these source areas were based on a standardized plan, as illustrated by the Huddleston and Mendenhall complexes. The architectural elements and elaborate arrangement of the farm lots among Quaker-influenced farmers in Indiana in turn appear to have been an amalgam of farm elements prevalent among successful Quaker farmers in Pennsylvania and perhaps plantations in North Carolina.

For example, the main dwelling at both the Huddleston and Mendenhall sites was a Federal style brick house, a type of dwelling used by the rural well-to-do throughout eastern North America. Also, the spring houses at both complexes are practically identical. Likewise, both complexes contain bank barns, a distinctive barn type found in Pennsylvania. Bank barns are unique in that access to both the first and second floor levels of the structure can be gained from the ground. They are relatively rare in the South. The Huddleston and Mendenhall complexes also contained stores that fronted busy roads.

The Huddleston farmstead and Mendenhall plantation illustrate the elaborate complex of outbuildings found at some Quaker-influenced farms. This level of farmstead differentiation illustrates rela-

tively aggressive economic activities on the part of some Quaker farmers. Interestingly, Quaker religious philosophy stressed concepts related to simplicity, the use of the Quaker plain style aesthetic and philosophy in dress, architecture, and furnishings, and a general rejection of materialism and acquisitiveness (Pennell 1992). As with all cultures, however, people are complex--we often espouse ideals that in actuality are sometimes difficulty to closely comply with. Such seems to be the case with affluent Quaker-influenced farmers such as John Huddleston and Richard Mendenhall. John Huddleston was a fairly aggressive frontier entrepreneur that did not shy away from economic activities. He operated a prosperous farm, store, wagon yard, and inn. He also operated a grading and road building service. This aggressive economic orientation appears to contradict elements of Quaker religious philosophy. On the other hand, however, it is thought that the Huddleston farm may have been a stop on the Underground Railroad. So despite economic prosperity, he also may have participated in social causes important to Quakers. In summary, the Huddleston house is a fascinating example of a Quaker-inspired farmstead in Indiana. In a small way, excavations conducted at the site in 2007 contributed to further understanding of landscape planning and architecture at successful farms in the Midwest.

Conclusion

Upon initial consideration the American Midwest might mistakenly be viewed as a culturally homogenous region within the central United States. During the first half of the 1800s, Indiana was settled by pioneers migrating from the middle Atlantic region and the South. Consequently, due to its geographic location, Indiana was a cultural crossroads where the material traditions of these two parent regions merged and were transformed over time. As a result, the area comprising Indiana offers an anthropologically relevant opportunity to explore archaeologically the migration processes and cultural dynamics typical of the American Midwest. In this essay, landscape and architectural archaeology conducted at the Moore-Youse house and the Huddleston farmstead illustrated some of the characteristics associated with the 19th-century origins of Hoosier material culture. As these two case studies illustrate, however, during the 1800s Indiana was settled by a broad range of settler households bringing with them a diverse variety of cultural practices and material traditions. At the Moore-Youse house, the residents during the second half of the 1800s practiced a lifestyle influenced by popular culture, entertaining guests at dinner parties and adopting Victorian-era furnishings and dwelling embellishments. In contrast, members of the Huddleston family were devoted to their religious beliefs, lived plainly, as illustrated by their use of undecorated tableware, yet operated an aggressive and lucrative business from their strategically located farmstead. As these Hoosier case studies illustrate, the level of variety that existed in Indiana during the 1800s therefore offers a fascinating yet complex and challenging context for conducting historical archaeology and interpreting the trajectory of material culture in the Midwest.

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PRELIMINARY EFFORTS TOWARD A CULTURAL RESOURCE SURVEY OF THE CHARCOAL-BASED IRON INDUSTRY IN EAST TENNESSEE, CA. 1770-1890

C. Alan Longmire

Tennessee led the southeast in iron production for the first part of the nineteenth century, with production centered in the eastern part of the state. Although some studies have been done in the past by historians and geologists, there has to date never been a holistic attempt at cataloging the cultural resources connected with that industry in the eastern part of the state. This paper will outline the steps to be taken in that regard, with the ultimate result to be a publication on the subject similar to the 1988 survey of Tennessee's western highland rim iron industry by Smith, Stripling, and Brannon.

This paper is not so much a presentation of findings as a presentation of what I know and what I hope to document concerning the cultural resources associated with the charcoal-based iron industry in east Tennessee. Using as a guide the excellent 1988 thematic survey of Tennessee's western highland rim iron industry by Samuel D Smith, Charles P. Stripling, and James M. Brannon (1988), I hope to create a similar record for the eastern part of the state.

Focusing on charcoal as a fuel gives us a date range of between about 1779 and 1890. (Swank 1892). Why limit it to charcoal-fueled iron production? Prior to the introduction of coal and coke, iron production was a relatively small-scale widely dispersed craft serving a primarily regional market. The advent of coke and coal transformed the face and scale of the industry in the last half of the nineteenth century into a centralized heavy industry serving the national economy. This transition took place over a time span of about 30 years, from the first coke-fired blast furnace experiments in Chattanooga in 1860 and the first successful one at Rockwood in 1867 to the demise of the last currently known charcoal bloomery fire sometime in the 1890s (Swank 1892: 291, 299). In order to establish the context for this paper, some definitions and a short description of the processes involved are necessary.

The ore. Iron in its natural state is in the form of three main types of iron oxide compounds (Figure 1): Red ore, or hematite (Fe_2O_3), known in Tennessee as dyestone; brown ore, which may be several different iron hydroxide compositions such as bog ore, lepidocrocite (FeO(OH)), or goethite ($HFeO_2$), but is lumped under the term limonite; and magnetic ores or magnetite (Fe_3O_4) (Maher 1964:13-14). The iron content of these rocks ranges from less than 20 percent to nearly 73 percent. All three of these ores occur in east Tennessee, but by far the most important to the early industry were the brown ores (Killebrew and Safford 1874:222-238; Maher 1964:2). These generally occur as orebanks, residual rock in the clays atop decomposed limestone formations at the foot of slopes, where they may be mined by stripping the clay down to bedrock and washing the excavated material to leave the ore. The brown ores of east Tennessee are primarily associated with clays decomposed from Cambrian and Ordovician dolomites of the Shady and Knox formations, although there are other

FIGURE 1. The three major iron ores of Eastern Tennessee, clockwise from top left: Hematite, Lepidocrocite (yellow limonite), Magnetite, and Goethite (brown limonite).

FIGURE 2. A steel bar heating up in the forge.

sources (Maher 1964). Red hematite (Silurian) and magnetite (Precambrian) must generally be mined by digging shafts into a relatively solid ore body, which is much more work. Luckily, magnetite is limited to a small area of upper east Tennessee along the North Carolina border, and compact hematite is with few exceptions limited to outcrops near the foot of the Cumberland Plateau (Burchard 1913), neatly bracketing our study area. There were some instances of shaft mining of brown ores where they occur as compact replacements of pyrite in interstitial spaces along faults in the dolomites and limestones in the mountains, and there are occurrences of hematite deposits interbedded with shales of the Cambrian Rome formation, particularly in the Holston Valley region of Sullivan County, but in general the deposits upon which the charcoal-based iron industry depended were of the goethite orebank variety (Maher 1964:2-11). These deposits occur almost exclusively along the boundary between the Blue Ridge Physiographic province and the Ridge and Valley Physiographic province in the study area, with the most notable concentrations being in five counties of upper east Tennessee: Carter, Greene, Johnson, Sullivan, and Unicoi. Blount, Monroe, and Polk counties in the southern part of east Tennessee were also major producers of iron ore, but it was not the brown goethite of the northern counties. Blount and Monroe County ore is mostly a Knox-derived hematite, and Polk County ore is a different type entirely, and was associated with the upper levels of copper ore at Ducktown (Case 1925:69; Maher 1964:20-22). This ore was rarely used in charcoal furnaces and bloomeries due to the excess copper it contained, which made iron produced from it brittle at a red heat (Killebrew and Safford 1874:225).

Usable Metal (Figure 2). The following description of the processes involved are paraphrased from Frederick Overman's 1851 treatise on iron and steel in the United States (Overman 1851). The two types of iron most commonly produced at the time were cast iron and wrought iron. Cast iron is, as the name suggests, made by reducing the ore to a liquid and pouring the result into molds. It is a strong but brittle material, well suited for vessels and machinery parts, but cannot be forged into tools and hardware by a blacksmith (Fig-

FIGURE 3. The author forging a tool.

ure 3). Prior to the invention of the Bessemer process in the 1850s forgeable iron was a composite material of soft, low-carbon iron filaments in mechanical admixture with stringy silicate slag. We call this material wrought iron. Cast iron has a carbon content of between about 2 percent to 5 percent, while wrought iron rarely has more than about 0.3 percent carbon. Anything containing between 0.3 and about 2 percent carbon may be called steel, as iron with this range of carbon content may not only be forged but also hardened and tempered to take a long-lasting cutting edge or to be resilient and springy. Steel can be made from either cast or wrought iron, or directly from ore.

There is only one way to make cast iron from ore, and that is by use of the blast furnace (Figure 4). This is a tall, narrow structure which is loaded from the top with fuel and ore in alternating charges of each, and in which a blast of air is blown into the base of the column. The reduction of the ore takes place when carbon monoxide gas produced by the burning fuel chemically strips the oxygen from the iron atoms, replacing it with carbon. The resulting metallic iron droplets make their way down the stack, adsorbing carbon from the fuel, until it ends up in a puddle of molten iron on the hearth of the furnace, topped by a glassy slag composed of impurities from the ore (chiefly silicates) and from the furnace lining. The resulting molten iron containing from about 2 to 5 percent carbon is periodically tapped off into either molds or pigs, so called because of their resemblance to a line of nursing piglets. Once “in blast” a furnace was run continuously until something in the system broke, requiring a shutdown. A blast session typically lasted several months, 24 hours a day, seven days a week, until the furnace lining wore out.

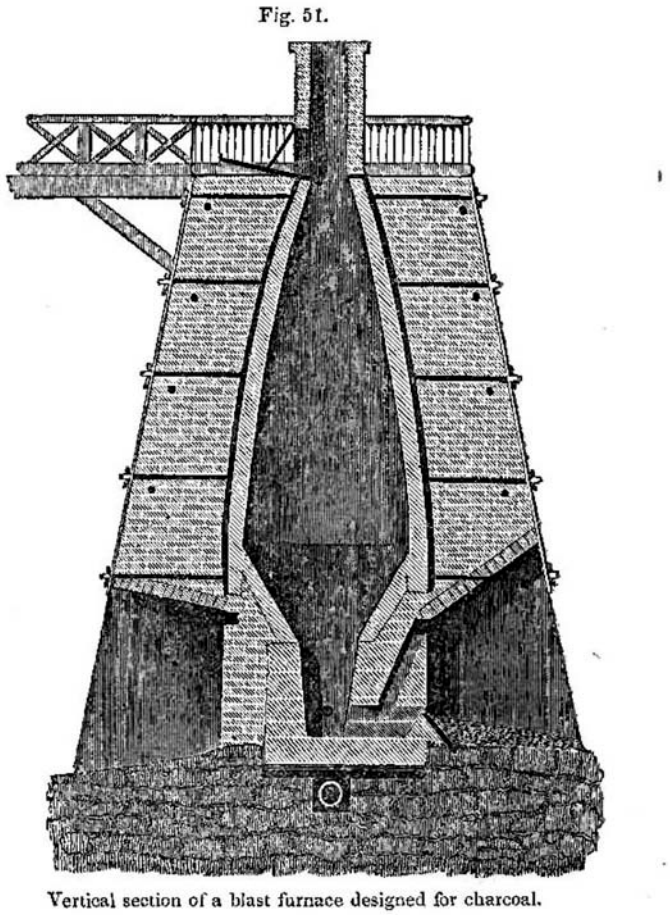

FIGURE 4. Blast furnace cross-section (Overman 1851).

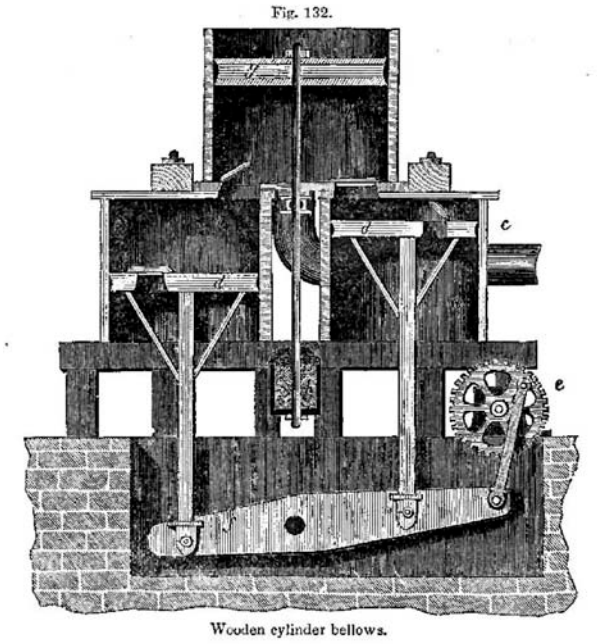

FIGURE 5. Blast machine of the type used for blast furnaces in East Tennessee (Overman 1851).

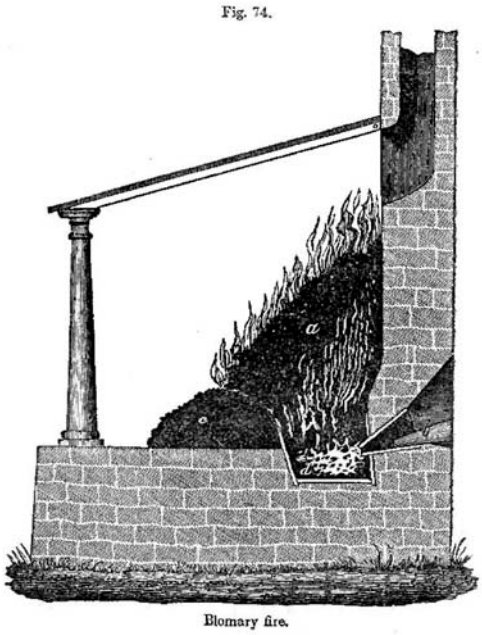

FIGURE 6. A bloomery forge cross-section (Overman 1851).

The blast furnace, then, was by necessity a large operation that required a resident community of workers to run the furnace without interruption, a constant source of ore, and a constant source of fuel. This meant miners and charcoal burners must also be kept employed more or less constantly, resulting in a huge cultural footprint on the community. The additional requirement of a constant air blast meant that the whole operation had to be situated to take advantage of water power (or later, steam power) to run the air pumps (Figure 5). These requirements resulted in a fairly narrow range of locations in which a blast furnace may be operated profitably, since it must be close to not only ore and fuel, but also to a stable community which can supply food. Additionally, the furnace itself had to be large enough to produce iron at a profit, taking advantage of the economies of scale. Most of the charcoal-era furnaces in our area were capable of producing from one to six tons of pig iron per day, an amount that requires a sizeable furnace stack and support structures. Since the furnaces were built of massive blocks of dry-laid stone, those off the beaten path tend to survive.

Wrought iron can be made by several processes, either directly from the ore or by refining cast iron pigs. An ironworks that produced only wrought iron was known as a forge, and could be as small as a two-man operation or as large as a blast furnace community, where they were often located (Figure 6). Types of forge works are the *Catalan forge*, which produced wrought iron directly from the ore, and the *Finery forge*, which produced wrought iron by partially remelting cast iron pigs with furnace slag in an open fire, which also lowers the carbon content. Both of these types of establishment were known historically as *bloomeries*, because the end product of the initial process is a spongy mass of low-carbon iron and slag called a “bloom” (Figure 7). These

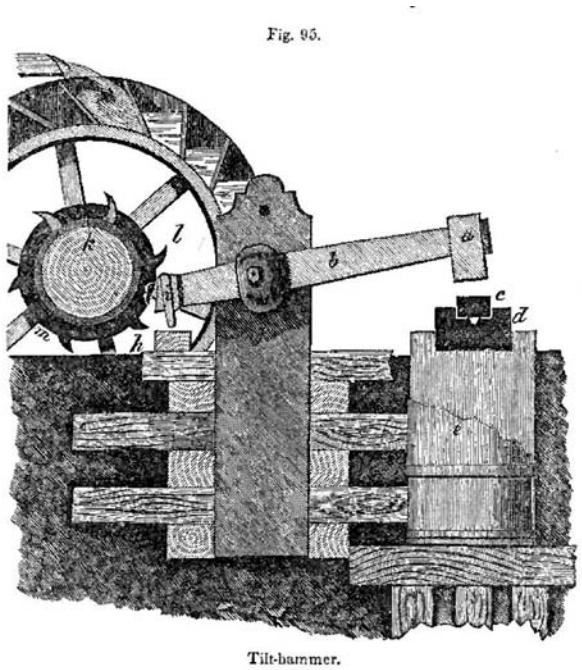

FIGURE 7. Water-powered trip hammer (Overman 1851).

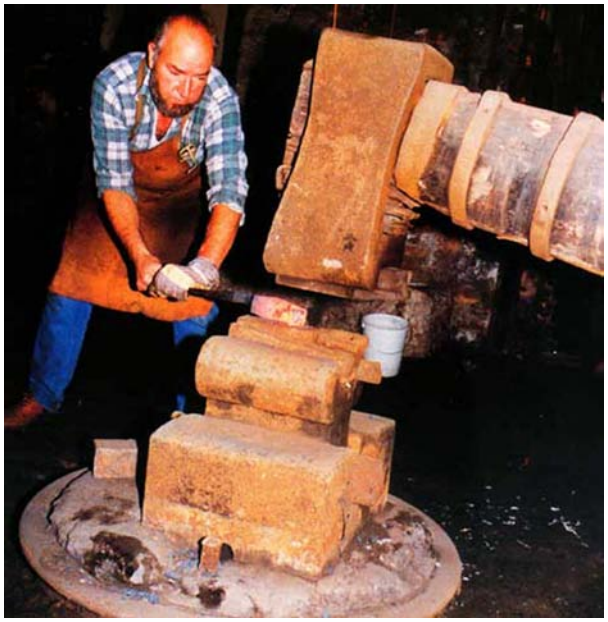

FIGURE 8. Water powered trip hammer in action, Germany.

"blooms" were then worked under massive water- or steam-powered trip ham mers or rolls into wrought iron bars, which could then be forged into anything from wagon wheel rims to hinges to nails (Figure 8). As transportation systems improved, raw blooms themselves were sometimes shipped to places like Cincinnati or Pittsburg to be forged there. The "Finery" type forge was almost always located alongside or at least near a blast furnace since cast iron pig and iron slag were needed as raw materials. Catalan-forge bloomeries, on the other hand, could be anywhere the requisite ore, fuel, and water power were located. These forges could be operated by a handful of men on an as-needed basis, as the following quote from the 1880 U.S. census of manufacture paraphrased in Case (1925:58) points out:

> *There are today--1880--about two dozen bloomeries in East Tennessee. Nearly every one is blown with the tromp* (Figure 9) [a type of water blast device with no moving parts]*, and in all other respects they are as barren of modern appliances as if the world's iron industry had stood still for 100 years. They are fitfully operated as the wants of their owners or the neighboring farmers and blacksmiths require, or as the supply of water for the tromps will permit. They furnish their respective neighbors with iron for horseshoes, wagon tires, harrow teeth, etc. The explanation of the survival in this region, of the primitive methods of iron making which have long been abandoned by progressive communities, is the fact that environments which hedged about the pioneer of the Valley have never been broken down and but slightly modified. Still cut off by their isolated situation and their poverty from all intimate relation with the outside world, they are to be admired for doing so well rather than condemned for doing so poorly.*

A third type of ironworks found in east Tennessee during the charcoal era was the rolling mill (Figure 10). This facility took in blooms or finished iron bars, reheated them, and rolled them out into everything from iron sheet to nail rods. These mills also generally produced cut

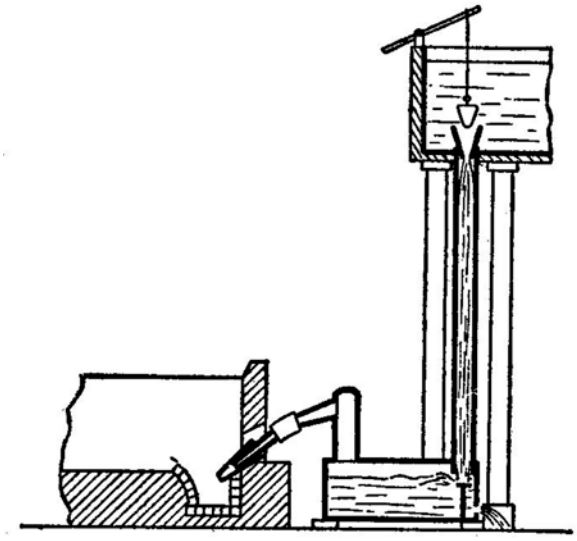

FIG. 36.—THE "TROMPE" BY WHICH COMPRESSED AIR WAS FURNISHED FOR CATALAN FORGES

FIGURE 9.Trompe illustration (Bond et al. 1939).

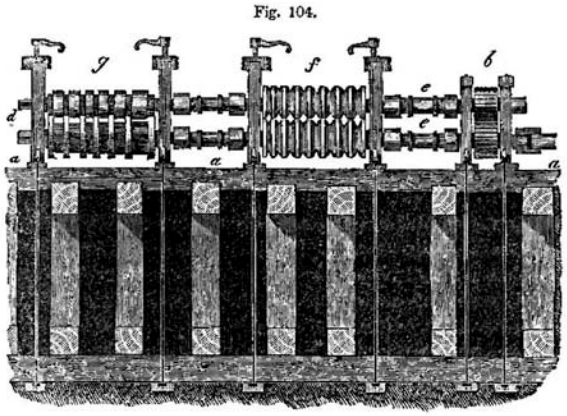

Fig. 104.

Roughing rollers, and foundation of timber.

FIGURE 10. A rolling mill (Overman 1851).

nails from the iron sheet they rolled (Figure 11). One rolling mill in Carter County also had a foundry and cupola furnace, in which cast iron pig or scrap could be melted down and cast into other shapes (Nave 1953).

Now that we've established the types of iron manufacturing locations found in east Tennessee during the charcoal-fired period, how many of each do we know existed? Further research will undoubtedly give us more examples of each, but for a good general starting point let's look at J.P. Leslie's 1859 tome, *A Guide to the Iron Manufactories, etc. of the United States*, in which we find that between the 1790s and 1859 our selected area was known to have had 28 blast furnaces, 78 bloomeries, and four rolling mills. What's left of all that?

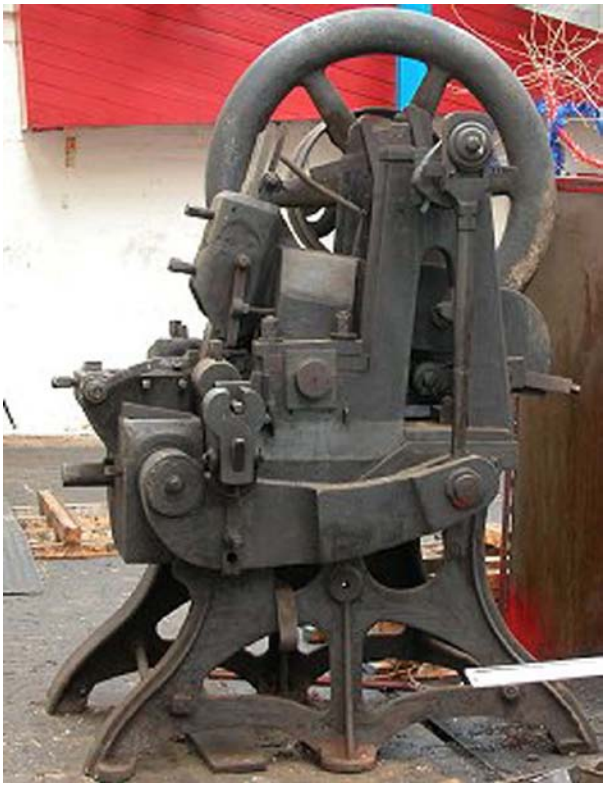

FIGURE 11. Nail-cutting machine, ca. 1870.

Blast furnace sites are typically the best known and preserved, since the imposing stone stacks were usually built away from the course of later development and so remain looming in the forests like Mayan pyramids (Figures 12, 13, and 14). This is in great contrast to what these manufactories looked like when in operation (Figure 15), with most of the furnace covered by wood frame buildings, and whole blocks of other support structures and employee housing located nearby. These furnaces became *de facto* community centers, and often supported a small town (e.g., Hayesville Furnace).

FIGURE 12. The stone stack of the Clarksville Iron Furnace, Unicoi County, TN looms from the forest. This furnace was built in 1832 and went out of blast for the last time in 1854 after a flood damaged the works.

FIGURE 13. The south wall of the Clarksville Furnace.

FIGURE 14. Looking west from the charging ramp of the Clarksville Furnace with a human included for scale.

FIGURE 15. Hopewell Furnace, a fully restored eighteenth century blast furnace complex in Pennsylvania. Photo courtesy of the U.S. National Park Service.

FIGURE 16. Hayesville Furnace remnant looking southwest. Photo courtesy of Mr. Don Bible.

All that remains of this community is a pair of stone stacks (Figure 16) but when in operation between 1869 and 1873 these furnaces produced a combined total of 10 to 12 tons *per day* of pig iron. The support staff for all this activity caused a small town to be built, which the employees named Hayesville after the superintendent, a Mr. Hayes. The area is still labeled "Hayesville" on quad maps (Figure 17, next to Cinder Hill and Coal Gap), even though only three structures are shown. None of these structures are related to the ironworks.

The other types of iron manufactory haven't seemed to survive well. Most of the infrastructure of a bloomery was made of wood. The forge itself may be stone or brick, and the tilt hammer head and anvil were heavy iron, but otherwise these were not very permanent structures. The dams and water power systems of all the ironworks have long since been destroyed by logging, floods, and general disuse. The four rolling mills in East Tennessee in 1859 were in urban centers and have not survived later development.

Other traces of the charcoal iron industry are the raw material procurement locations, in other words the orebanks, mines, quarries, and coaling grounds that served the furnaces and forges. We have a general location for most of the known orebanks and mines thanks to the late Stuart Maher, a state geologist who also had an interest in the bygone iron industry. Mining was done both by formal contract and informally by local residents who lived near the ore deposits. Because of the residual nature of the brown ore deposits that formed the major source of ore for the industry in east Tennessee, mining was done by stripping off soil with mule-drawn scoops and simply picking up the ore, an activity most people could do. Hydraulic mining made an appearance at the

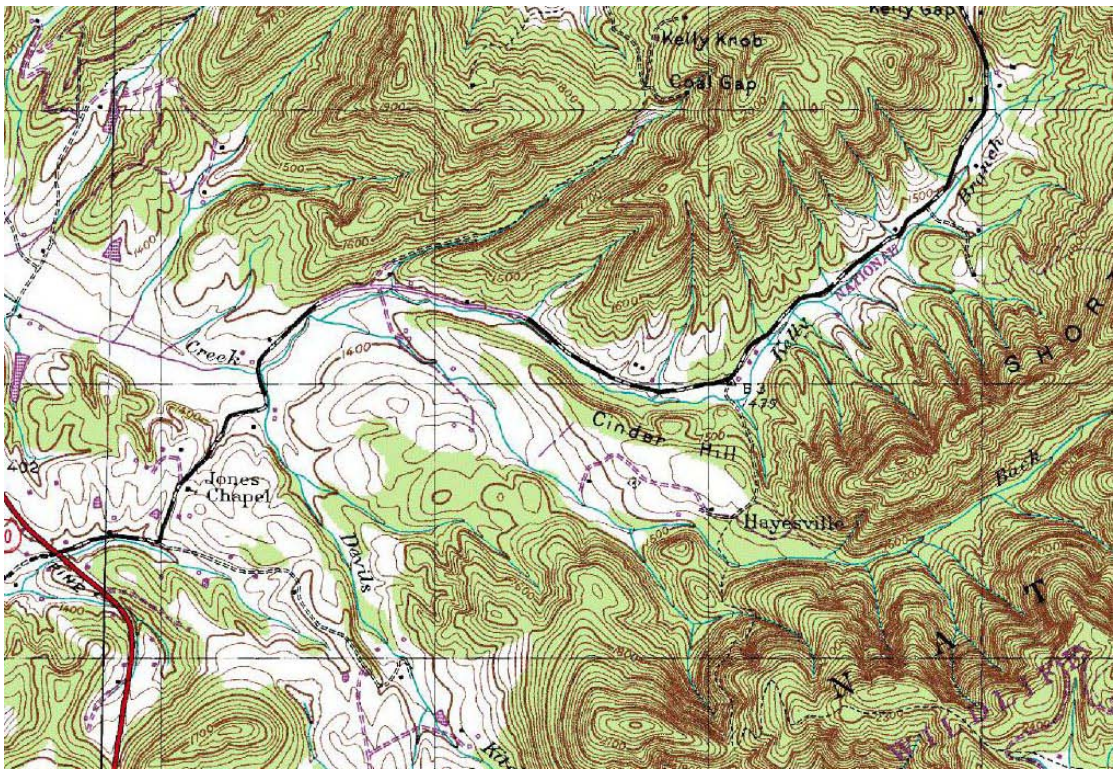

FIGURE 17. Hayesville Furnace site and vicinity (USGS 7.5 minute Davy Crockett Lake quadrangle, 181 SE).

very end of the charcoal period, but was not common until afterwards (Maher 1964). Magnetic ores along the North Carolina border and red hematite or dyestone ores along the face of the Cumberland Escarpment were extracted by professional miners in underground shaft mines. These ores formed a very small part of the charcoal-era iron sources in east Tennessee. However, Burchard (1913:157) notes that in 1854 only five furnaces and fourteen bloomeries were using the Silurian red hematite of the Rockwood formation, compared to at least 23 furnaces and 64 bloomeries using brown ores. This reliance on the residual brown ores helped hasten the end of the iron industry in upper east Tennessee. The brown ore beds were a finite resource that have now been almost totally mined out.

Coaling grounds are hard to find due to the nature of the practice and the fact that charcoal burning or even just wood-hauling for the ironworks was a major winter and part-time activity for farmers who lived near these operations. There were contract colliers, but the informal opportunistic charcoal production by local residents provided much of the fuel supplies and left little trace on the ground. This seems hard to believe at first, when one considers just how much hardwood charcoal was required by this industry. We have no good record of the amount of charcoal needed by a bloomery operation, but the ledgers of several furnaces have survived. One nineteenth century operation in Missouri had particularly good records of charcoal consumed per ton of pig iron produced. In 1854, for example, the Maramec works used 1,600 bushels of charcoal to produce 83 tons of pig iron (Norris 1964:43-52). This breaks down to about 19¼ bushels of charcoal per ton of iron. Over the course of the 1850s, the

FIGURE 18. Embreeville Iron Company boarding house (built 1897), fall 2007.

FIGURE 19. Embreeville Iron Company company house, fall 2007.

Maramec Furnace used an average of about 550 acres of hardwood timber per year to run one blast furnace, a finery forge, and a bloomery. This amount of deforestation is one reason for the decline of the charcoal iron industry worldwide. It is also the reason specific coaling grounds are hard to locate: they were virtually everywhere.

Place names recall the presence of the iron industry, such as the two Orebank communities (one near Kingsport, the other between Greeneville and Newport), the many communities with the words furnace or forge in their name, of which Pigeon Forge is the most famous, and names of natural features on quad maps such as the many furnace creeks, furnace hollows, forge creeks, and so on. There's even a "Coaling Grounds Ridge" that served Eagle Furnace (itself a community now) south of Rockwood. Place names can also be somewhat mystifying, such as "Ironworks Ridge" north of Mooresburg in Hawkins County where no ironworks was known to be. Perhaps someone once planned a furnace or forge that never came to pass. The Iron Mountains of upper east Tennessee were named for their orebanks, as was Iron Hill Island in Watts Bar Reservoir. Of course, the latter was plain old Iron Hill before TVA made it an island.

One of the major site types recorded by Smith et al. (1988) in their survey of Tennessee's western highland rim iron industry is the domestic architecture associated with owners, managers, and employees of iron-related industry in the area. In east Tennessee, the architectural record is considerably sparser for the charcoal iron period. If we include post-charcoal development of resources used during the charcoal period we can add the several structures in and around the Bumpass Cove mining district that date to the late nineteenth and early twentieth centuries, such as the boarding house (Figure 18) and a company house (Figure 19). If we include buildings associated with the coal and coke-fired iron industry, then there are many examples in LaFollette, Rockwood, and Dayton. If we add improvements associated with the coke, oil, and gas-fired foundries, then we can include vast tracts of Knoxville and Chattanooga, along with parts of almost every town that had rail access in the tcentury. It may come to that, but I would like to keep large-scale national industry out of the picture as much as possible, preferring to focus on the earlier, more localized

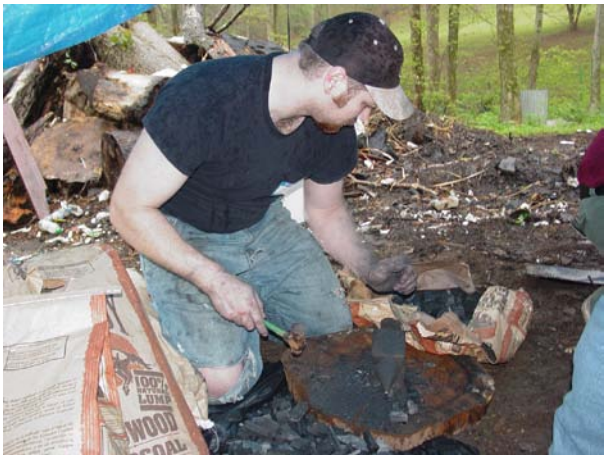

FIGURE 20. Breaking up charcoal in preparation for smelting.

FIGURE 21. Building a short-shaft bloomery furnace designed to produce high-carbon steel directly from ore. This is similar to the Japanese type of furnace known as a Kera.

FIGURE 22. The completed furnace in blast. Air is supplied by four tuyeres in the base.

FIGURE 23. Opening the furnace to reveal the bloom under a layer of charcoal.

aspects of iron production.

In closing, we have identified general and sometimes specific locations for most of the furnaces, forges, and rolling mills of the period in question through several earlier works by geologists, economic boosters, and census reports. What remains is to go out and ground-truth each one to see what's left, if anything.

I will finish my essay with a bonus: some pictures of one of the first charcoal bloomery furnaces to be operated in east Tennessee since the 1890s. Rather than a Catalan forge or blast furnace, this is an experimental short-shaft furnace designed to produce high-carbon steel blooms (halfway between wrought iron and cast iron) for makers of Japanese-style edged tools. This furnace was located in Bristol, Tennessee at a bladesmith's gathering. We've operated this furnace three times now, producing small blooms of steel each time.

Figure 20 shows the breaking of charcoal into small lumps for uniform combustion in the furnace, Figures 21 and 22 depict the construction of this furnace, and Figure 23 reveals the steel bloom under a

FIGURE 24. Consolidating the bloom.

FIGURE 25. The fruit of the furnace: a bar of bloomery steel destined to become a blade.

FIGURE 26. Pattern welded 4.5 inch pointing trowel made by the author. It contains a small amount of East Tennessee wrought iron.

layer of charcoal at the end of firing. Figure 24 shows the bloom being compressed and homogenized under an 80-ton hydraulic press using a propane-fired forge for heat, modern substitutes for a finery forge and giant helve hammer. Figure 25 is the final product: a bar of steel destined to become a knife blade.

FIGURE 27. The author presents the previously pictured trowel to Dr. Faulkner.

Finally, lest you think this type of experimental archaeo-metallurgy has no place in this paper, I present the following product of my labors (Figure 26). This item was fashioned into a presentation piece trowel used to honor Charles Faulkner, as seen in Figure 27.

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NEW ROCK AND CAVE ART SITES IN TENNESSEE: 2007

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Between 2006 and 2007, a number of previously unknown prehistoric open air rock art and dark zone cave art sites were discovered by archaeologists from and associated with the University of Tennessee. Included among these new sites are the oldest directly dated pictograph from the eastern woodlands, found in a cave near Knoxville, several cave burial sites that have associated art, and a number of pictographs found high on the bluffs of the Cumberland Plateau. Variability in this prehistoric art is discussed and several patterns in their nature and distribution are documented.

Today, the University of Tennessee is proud of its Cave Archaeology Research Team (CART), a group of faculty, students, and allied avocational cavers that is engaged in discovering, documenting, and interpreting the prehistoric and historic use of dark zone caves in the southeast of North America. One of the central foci of activities has been prehistoric cave art sites in the region (Simek and Cressler 2001; Simek and Cressler 2005). At the same time, CART has recorded open-air prehistoric and historic rock art sites in Tennessee, because these may well reflect and relate to ceremonial art production activities we see underground (Simek, Frankenberg, and Faulkner 2001). By the end of 2007, more than sixty cave art sites were listed in the CART databases, with 47 of these in Tennessee alone. Thirty-three open-air rock art sites have also been documented. All of this activity is a direct outgrowth of Charles H. Faulkner's pioneering work in Tennessee prehistoric cave and rock art; indeed, he was the founder, and is still a member today, of the UT cave research team.

Faulkner's interest in prehistoric ceremonialism goes back to his first days in Tennessee. When he first came to the University of Tennessee as a fresh, new young anthropology professor, one of the first projects he took on was a study of the previously excavated materials from The Old Stone Fort, a remarkable Woodland period enclosure in Coffee County, Tennessee (Faulkner 1971). His interest in the sacred landscapes of prehistoric Tennesseans has never waned. Most famously, he began work in 1979 on Mud Glyph Cave, one of the very first deep dark zone cave art sites ever recognized in North America (Faulkner 1986; Faulkner et al. 1984). That work led him to initiate a successful search for other cave art sites (Faulkner 1988; Faulkner and Simek 1996), and it is following Faulkner's lead that CART continues systematic cave survey work today. To honor Dr. Faulkner, we present here the most recent results of CART's work, a description of the thirteen prehistoric art sites discovered in Tennessee in 2007. We should note that discoveries of these important sites occurs with increasing frequency, another legacy of the attention to detail and completeness that characterized all of Charles Faulkner's research, including that into Tennessee's sacred prehistoric landscapes.

The year 2007 was very productive for the Cave Archaeology Research Team at the University of Tennessee. Four new prehistoric cave art sites were discovered

FIGURE 1. Red disk pictograph on ceiling of 40th Unnamed Cave, Tennessee.

in Tennessee, as were several in other southeastern states including the first such find in Florida. Three of the four Tennessee caves are located on public land holdings. In 2007, nine open-air rock art sites were also recorded. These open-air sites are varied and impressive, and the fact that they are as widespread and seemingly predictable in their location suggests that this site type may be far more common (if sometimes difficult to perceive) than previously thought. This article will illustrate many of the sites we cataloged in 2007 and then present some brief thoughts on what we might learn based on this year's efforts in the field.

Cave Art Sites[1]

The first cave site we will discuss is on public land in the southern portion of the Cumberland Plateau. Fortieth Unnamed Cave is a site that we previously recorded in our survey as containing several engraved boulders at the mouth, but despite extensive examination inside, we had never seen evidence for parietal art in the cave. But survey crews from the University of the South located two pictographs on the ceiling of the cave's dark zone, one a nondescript stripe of red color, the other a well defined red disk around 15cm in diameter (Figure 1). We have occasionally seen other such disks in caves in Tennessee, specifically in several burial caves where they are scattered above the area where interments were located. This cave may well contain or have contained burials, as looter pits are frequent in the floor sediments.

We visited 49th Unnamed Cave in Montgomery County, Tennessee, at the

FIGURE 2. Petroglyphs from 49th Unnamed Cave, Tennessee.

request of the Tennessee Division of Archaeology and in consultation with the Eastern Band of Cherokee Indians, to rebury a human cranium removed from the cave along with many others in the 1940s; this specimen, of a young female who had been scalped, had somehow made its way to collections held by the state of Iowa. During our search for a safe and hidden place to bury the cranium, we identified two petroglyphs incised into the limestone of the cave wall (Figure 2). One of these petroglyphs corresponds to what we have called a "toothy mouth," an image associated with mass human burials (Simek et al. 2004). It is not surprising that this image occurs in 49th Unnamed Cave given the known presence of numerous interments here.

Fiftieth Unnamed Cave is also located in Montgomery County, making a total of three cave art sites in this western Highland Rim county (including Dunbar Cave; Simek et al. 2007). The cave is owned by the State of Tennessee and protected with a massive gate. Joe Douglas had observed a large-scale saltpeter works in the cave along with some possible human remains, and it was at his urging that we went to the site. At the entrance, Alan Cressler noticed several pictographs. On further examination, we also identified at least one petroglyph, a fan-shaped set of incised lines, all of these just inside the

FIGURE 3. Red pictograph from 50th Unnamed Cave, Tennessee.

twilight zone of the cave vestibule. One of the pictographs (Figure 3) is quite impressive, comprising a large disk with four appendages and open areas that may represent eyes in a face effigy. A second pictograph is a concentric circle and disk, with white pigment used to outline the inner circle (Figure 4). A third is a "toothy mouth" next to the red disk face (Figure 5). The disk is presently nearly three meters above the sediment floor of the vestibule and must have been produced either standing on a platform or before the vestibule sediments were excavated down during saltpeter production in the cave. Thus, these images are likely prehistoric. Further into the cave's dark zone, Douglas's suspicions were confirmed with the identification of two human teeth, three human phalanges, and a possible human long bone fragment, all indicating human burials in the cave consistent with the "too-

FIGURE 4. Circle pictographs from 50th Unnamed Cave, Tennessee.

thy mouth" motif observed at the entrance.

Fifty-first Unnamed Cave is located along the Clinch River in East Tennessee on property managed by the Tennessee Valley Authority. We first identified a number of mud glyphs in the cave in 2005 during a survey of the area for TVA. These comprise dense panels of meandering lines and circle shapes (Figure 6). In 2007, during a visit to the site associated with the SEAC annual meeting in Knoxville, two new and rather wonderful images were discovered on the ceiling of the cave. Both are avian images (Figure 7), probably ospreys given the feathers depicted on the back of the heads. One of these has a second bird head (Figure 8), this one a woodpecker, incised inside the outline of the osprey profile. These are remarkable images indeed.

FIGURE 5. "Toothy mouth" pictograph from 50th Unnamed Cave, Tennessee.

FIGURE 6. Panel of meandering line mud glyphs from 51st Unnamed Cave, Tennessee.

FIGURE 7. Avian, possibly crested bird, head petroglyph from 51st Unnamed Cave, Tennessee.

FIGURE 8. Second avian head petroglyph from 51st Unnamed Cave, Tennessee; this one has a second dissimilar bird head effigy for the eye.

Open Air Rock Art Sites

Five of the nine open air rock art sites documented in 2007 were recorded in the southern Cumberland Plateau area of Tennessee, reflecting CART's increased activity in that region due to Sarah Sherwood's joining the faculty at the University of the South in Sewanee, where four of the sites we will discuss are located. A number of open sites were already known in this region (Hensen 1986; Faulkner 1996; Faulkner et al. 2004), so the addition of more sites is not surprising.

The Sentic Brothers Shelter is not on the University of the South campus, although it is not far away in Coffee County, Tennessee. The site is in a sandstone outcrop and contains a panel of deeply incised petroglyphs (Figure 9) under a shallow southwest-facing overhang high on the western escarpment of the Cumberland Plateau. A variety of forms are present, including cross-in-circles and possible avian images. The panel has been chalked, although poorly. According to the gentlemen that took us there, this is one of several similar sites in the immediate area, a rumor we have been following from other sources for some years.

Four sites in the South Cumberland are located on the Sewanee domain, and three of these were identified by Sewanee archaeologists and recorded in the Domain site files, although not listed in the state files. All four sites contain red pictographs in small numbers (Figure 10), with a uniform theme of anthropomorphic representations. All are located in Pennsylvanian sandstone at the top of the west-

FIGURE 9. Petroglyphs at Sentic Brothers Shelter, Tennessee.

ern Plateau escarpment except for a single red pictograph that we discovered on a large float boulder just below the rim rock. The human images are usually simple line figures with hands or feet emphasized (Figure 11). In one case, the anthropomorph bears horns on the head (Figure 12). Many of these are quite faded, as they are exposed on cliff walls without much protection from the elements. In past years, we have recorded at least five other sites in the same area, both on the Sewanee Domain and other examples in north Alabama, with similar motifs (Figure 13). This would seem to represent a unitary and consistent South Cumberland rock art type rare in other parts of Tennessee.

FIGURE 10. Anthropomorph pictograph from South Cumberland Plateau, Tennessee.

FIGURE 11. Faded anthropomorph pictograph from South Cumberland Plateau, Tennessee, showing emphasis on fingers.

FIGURE 12. Horned anthropomorph pictograph from South Cumberland Plateau, Tennessee. Left image is raw photograph; right image is enhanced.

FIGURE 13. Typical anthropomorph pictograph from South Cumberland Plateau, Tennessee.

FIGURE 14. Faded red pictorgraph from the Overlook Shelter in the Middle Cumberland Plateau, Tennessee.

FIGURE 15. Cross in circle pictograph from the Baker Mountain Shelter, Tennessee.

Two open sites were discovered this year in the Middle Cumberland Plateau region north of Fall Creek Falls State Park in Van Buren County, Tennessee. One of these, the Overlook Shelter, contains a single, very faded red petroglyph (Figure 14) that may have been similar to those just described for the Sewanee region. This site is on state property. The second site, Baker Mountain Shelter, is a more elaborate locality containing at least ten black pictographs in charcoal pigment. These pictographs are well preserved and comprise monolithic axe images, crosses and cross-in-circle images, and a fine, complex multi-component version of the cross-in-circle motif (Figure 15). Iconography would suggest a classic Mississippian age for this site. Baker Mountain Shelter, along with the site we consider next, is rather anomalous for open pictograph sites in Tennessee, given that it comprises black paintings (which most often appear in caves) rather than the red ones most common in the open. We saw evidence for human interments in the shelter floor, and it may be that the black color, associated with death in southeastern Native American color symbolism (Mooney 1900), reflects this association.

In the northern Cumberland Plateau, Skinner Mountain Shelter is in a remote area not far from the Kentucky state line. It contains two black pictographs (Figure 16), one an abstract shape composed of a bent line and the other a very complex and detailed anthropomorph silhouette with a deformed lower limb and small projections on the head. Both pictographs are quite bright in appearance, surprising given that they are rather exposed, located on the ceiling of an open rock shelter near

FIGURE 16. Black pictographs from the Skinner Mountain Shelter, Tennessee.

a small waterfall. Skinner Mountain is somewhat anomalous both in its technology and preservation, and initially, authenticity was an issue. We therefore sampled the pictographs for pigment analysis.

Black pigment analyzed from Skinner Mountain Shelter consists of carbon black, or charcoal, mixed with clay, a specific prehistoric recipe for paint now identified in a number of southeastern rock art sites. Energy Dispersive X-ray Spectrometer (EDS) identified major carbon, 22.82 percent, the characteristic component of bone black and charcoal. The presence of vegetal carbon is more probable due to the absence of parallel elements such as calcium and phosphorous, indicative of bone black, or calcium phosphate plus carbon. Elements indicative of aluminum-silicates and clay minerals were also identified and include potassium, aluminum and silicon. The control sample was primarily comprised of silicon and oxygen from silicon dioxide (i.e., quartz-bearing sandstone basal rock). A significant percentage of carbon was also found in the control sample. This occurrence is likely the result of organic deposits on the face of the sandstone. In short, the black paint used at Skinner Mountain consisted of charcoal and clay that was likely mixed with water (the recipe mentioned above), which allowed the paint to penetrate into the basal rock. The sandstone rock here is comprised of well-cemented silicate particles shown in Figure 17, and the pigment was so indurated in this matrix, so as to be quite difficult to remove for analyses. These results make it highly likely that the Skinner Mountain pictographs are ancient.

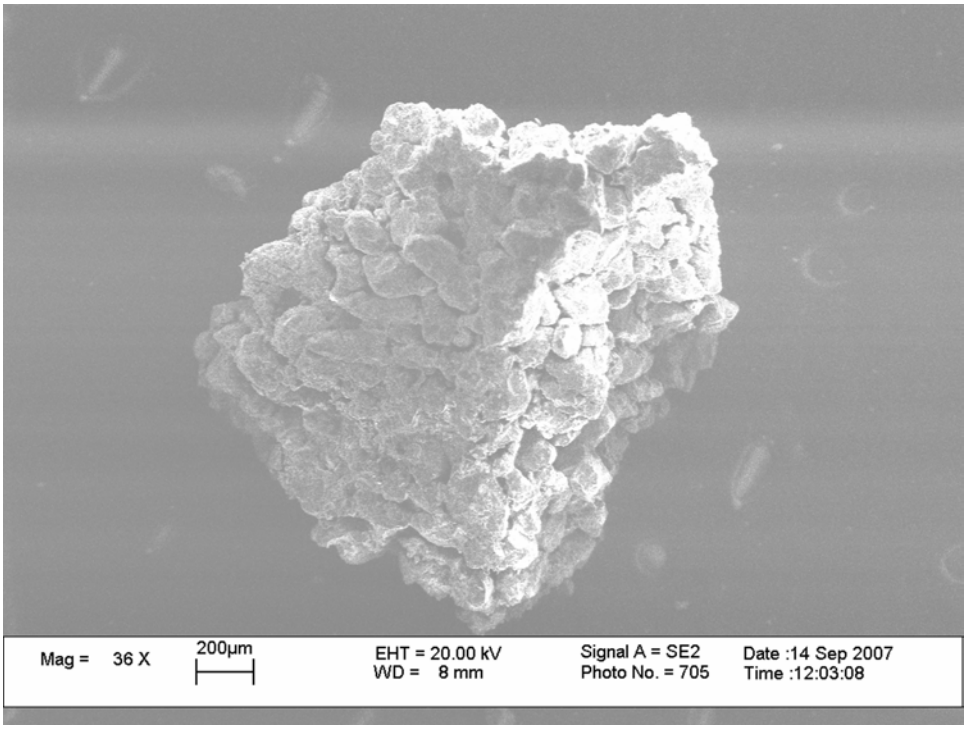

FIGURE 17. Scanning Electron Microscope Photomicrograph of pigment and limestone from Skinner Mountain, Tennessee.

FIGURE 18. Petroglyphs on boulder near Cookeville, Tennessee (p*hotograph by Kevin Smith*).

One last site we mention in passing that was brought to our attention by Kevin Smith of Middle Tennessee State University. A single elaborate petroglyph panel was found on a boulder in a streambed near Cookeville, Tennessee, and certain elements of the design recall late prehistoric designs (Figure 18). We have been able to view this specimen only with a centimeter of water over the top, but our

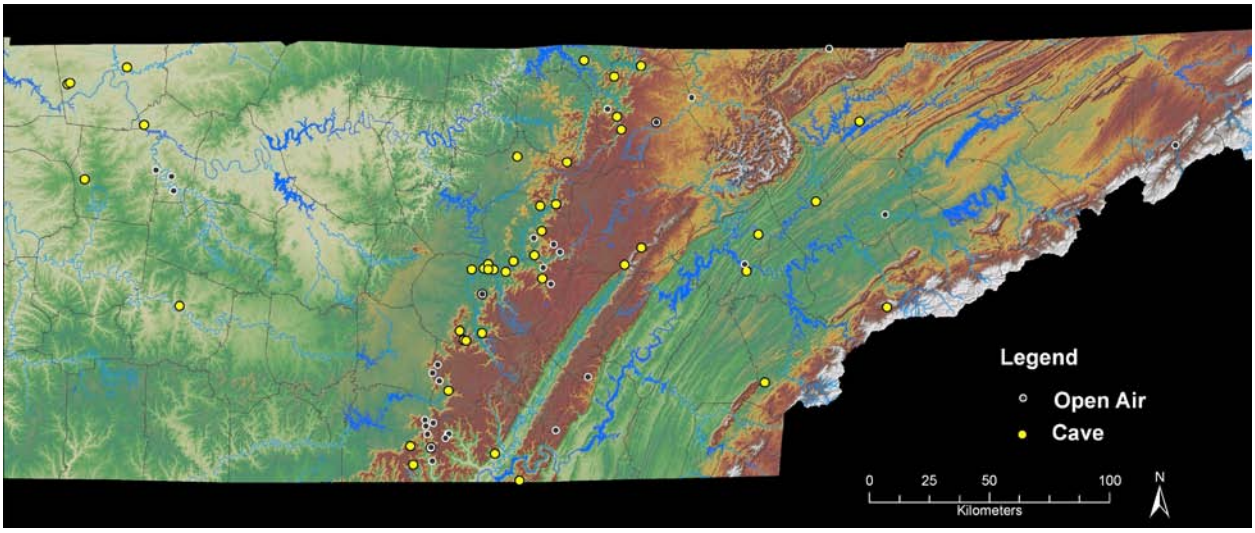

FIGURE 19. Map of distributions of prehistoric rock art and cave art sites in Tennessee.

impression is that the lines were probably produced with metal implements and that the petroglyph is historic. Further study is warranted.

Patterning on the Landscape

Now that we have a number of sites in each art site category (33 open air and 47 in caves) we can begin to look at spatial structure in the locations of these sites. Figure 19 shows the distribution of both open air and dark zone cave art sites in Tennessee. A few things are immediately evident. First, both site types have a few representatives along two major river courses: the Tennessee River in the east, with a few sites in the low hills at the western edge of the Tennessee Valley leading towards the Cumberland escarpment, and the Cumberland River in the west. Second, the vast majority of both site types are confined to the Cumberland Plateau and adjacent eastern Highland Rim regions of central Tennessee; here, rock art sites form a nearly straight line all along the western part of the Plateau. Third, cave art sites seem to be relatively uniformly distributed along the western escarpment, but open rock art sites are concentrated in the central and southern areas of the Plateau. Fourth, there is an empty area between the Cumberland sites and the western Cumberland River drainage sites, and we believe (although we will not pursue this point here) that the western sites are part of a different stylistic province than are the eastern ones.

Why this pattern exists is not clear, but we can speculate a bit as to its meaning. In Tennessee, there appears to be a systematic relation among rock art sites, with the great majority located along the western escarpment of the Cumberland Plateau. This is true despite the fact that suitable rock outcrops and caves exist throughout East and Middle Tennessee. It is also true despite the lack of large-scale habitation centers in the Plateau region, especially during the Mississippian period that was the time when most of the art was produced. The Cumberland Plateau, in fact, was an area that saw only specialized use during much of prehistory, with little evidence for large-scale, permanent settlement and only one known Mississippian mound site at elevation. This is in contrast to other areas in the eastern woodlands. In both Arkansas and Missouri, rock art sites and (in Missouri)

caves are located in relation to ceremonial habitation sites in systematic ways. In Missouri, the three site types cluster together on the landscape (Edging and Ahler 2004; Kreisa et al. 2002). In Arkansas, rock art sites were located in the uplands around ceremonial centers in the valley bottoms (Hilliard et al. 2005).

It seems, therefore, that prehistoric rock art in Tennessee, as in Arkansas and Missouri, was an organized alteration of the landscape using visual symbols above and below ground as the primary means of expression. These locations suggest cosmological as well as geographic criteria for determining art site locations. However, this alteration is topographically constrained to the limestone uplands of the Cumberland Plateau, a region that lacks intensive large-scale habitation in the way that characterizes the river valley regions both to the east and west. This suggests that these visual features were positioned along a boundary, between the prehistoric cultures of the East Tennessee River valley, closely related to cultures further to the south, and the Cumberland River drainage cultures that have cultural affinities to the north and west. Thus, Tennessee rock art may have served as boundary markers at certain times in prehistory.

However, there are other aspects of this art that indicate that if boundary marking was one function, there were other, complex uses of the sites. Many of the caves were locations where elaborate rituals occurred (Simek and Cressler 2008; Simek et al. 2001). Many cave sites are associated with burials, and color symbolism seems to be part of the patterning, with red the dominant color for pictographs in the open air and black the dominant color inside caves. Prehistoric rock art in Tennessee certainly served many functions, and the relationships between geography, symbol, and function is only beginning to be determined. We will have other interpretations of Tennessee's prehistoric visual landscapes in the near future as our research progresses.

Conclusion

Charles Faulkner began research into prehistoric rock and cave art in Tennessee when he initiated his investigations at Mud Glyph Cave nearly 30 years ago. Over the years, he has continued to discover and interpret new sites, and his enthusiasm and support have now driven several generations of researchers to pursue understanding of the beautiful and enigmatic work in Tennessee's caves and on its bluffs. The discoveries from 2007 reported here are natural culminations of his pioneering work. We are forever indebted to him for his leadership, guidance, friendship, and insight in this work. His will always be the foundation on which we build.

Notes

[1] We use a numerical system of identifying prehistoric cave sites in the Southeast rather than the cave's actual or common names, and we will not reveal locational information. This is because many of these sites are on private land, unprotected except by the efforts of their owners, and they are vulnerable to the looters and artifact thieves that continue to plague both archaeologists and landowners.

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BUFFALO ROCK (11JS49): A HISTORIC PERIOD NATIVE AMERICAN ROCK ART SITE IN JOHNSON COUNTY, ILLINOIS

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The Buffalo Rock Site is a pictograph site located in a rockshelter in Pope County, Illinois. Here, we present a site description, history, and historical context for the location. We conclude that the Buffalo Rock site paintings represent a series of related images created over a very short period of time, possibly even in a single visit, by ca. A.D. 1700-1800 Native American peoples traveling along the Golconda-Kaskaskia Trace through southern Illinois.

Illinois has long been known to contain a rich heritage of prehistoric rock art (i.e., pictograph and petroglyph) sites (McAdams 1887:25-42), approximately 40 of which survive today (Wagner 1996:47-79). Less well known, however, is that the state also contains a small number of historic period pictograph sites created between A.D. 1673 to ca. 1835. In this article we describe in detail one of these sites—Buffalo Rock (11JS49)—which consists of a bison, crescent moon, star/planet, and other paintings located on the walls of a rock shelter in Pope County, Illinois (Figures 1 and 2). The shelter containing these paintings is directly immediately north of the intersection of the Golconda-Kaskaskia Trace and the Le Grande (or Hunter's) Trace, two very important late eighteenth to early nineteenth century overland trails that once linked the Ohio and Mississippi Rivers. Although the exact age of the bison and other paintings is unknown, recent studies have revealed that bison were present in northern parts of Illinois as early as 2,000 years ago (Harn and Martin 2006:9-13; Martin and Harn 2006:9-66; McMillan 2006). We argue in this article, however, that stylistic and historic data indicate that the Buffalo Rock site paintings were most likely created by Great Lakes Algonquin peoples traveling through southern Illinois along either the Golconda-Kaskaskia Trace or Le Grande-Hunter's Trace at some point in time between ca. A.D. 1700 to 1800.

The bison painting is now so faded that it appears only as a slightly darker area on the shelter wall that is difficult to photograph under normal conditions (Figure 3). To make it more visible, photographer Charles Swedlund enhanced the red colors to create a much more vivid image (Figure 4). He also photographed it in color and then created a false color image that exaggerated red and green colors. He then converted this image to a black and white photograph in which the reddish-orange bison painting appeared as a light (white) rather than dark image (Figure 4).

Site Description

The Buffalo Rock site (also known as the Bleeding Buffalo, Indian Buffalo Painting, and Gum Spring Hollow site) consists of a west-facing rock shelter located in a narrow interior creek valley called Gum Spring Hollow on the Shawnee National Forest (SNF) in the rugged Shawnee Hills region of southern Illinois (Figure 1). This high-roofed (ca. 8 m at the drip line) sandstone overhang has a heavily eroded dirt floor that slopes westward towards Gum Spring Creek, a spring-fed creek that holds water year-round. The L-shaped shelter consists of a vertical east-west oriented wall located beneath a

FIGURE 1. Buffalo Rock site location, Johnson County, Illinois.

slight overhang at the north end of the site, which extends eastward beneath the roof of the main part of the shelter to meet the north-south oriented wall that forms the back wall of the shelter. A faded red-dish-orange painting of an east-facing bison is located on the vertical wall at the north end of the shelter, while the other paintings—crescent moon, star/planet, cross, and miscellaneous areas of faded red ocher—are located on the rear (east) wall of the shelter (Figure 2).

The shelter is located directly on the former route of the eighteenth to nineteenth century Golconda-Kaskaskia Trace, an important early trail that once extended in a northwest-southeast direction across southern Illinois (Figure 4). This trace still exists today in the form of a Shawnee National Forest (SNF) dirt hiking/horseback trail located immediately west of and adjacent to the shelter. This trail intersected with another major early trail called the "Hunter's Trace" or "Le Grande Trace," which originally linked the French posts of Ft. Massac along the Ohio River and the town of Kaskaskia along the Mississippi River (McCorvie and Morrow 1994), immediately south of Gum Spring Hollow and the Buffalo Rock site. The reason for the junction of these two trails at Gum Spring Hollow is that this hollow, which also is known as "Moccasin Gap" represented the major passageway through the eastern Shawnee Hills during the late eighteenth to early nineteenth centuries (Walsh 1948:127). By the early nineteenth century the Golconda-Kaskaskia Trace had superseded the Le Grande-Hunter's Trace in importance, with immigrants traveling down the Ohio River landing at the river port of Golconda and then traveling westward across southern Illinois on this road.

In 1807 a General Land Office (GLO) surveyor mapped that section of the Golconda-Kaskaskia trail that passed by Buffalo Rock. His map indicates that the Golconda-Kaskaskia Trail ran in a northwest direction directly toward Moccasin Gap (i.e., Gum Spring Hollow) and Buffalo Rock, with a second trail—a "wagon" road leading to Ford's Ferry on the Ohio River—heading in a northeast direction towards this same gap (Figure 5). "Ford's Ferry Road" appears to be an early 1800s name for the former Le Grande-Hunter's Trace (Walsh 1948:27), suggesting that the name of this old French road had been changed by American settlers who traveled along s it to reach Ford's Ferry in present-day Hardin County, Illinois, during the first decades of the nineteenth

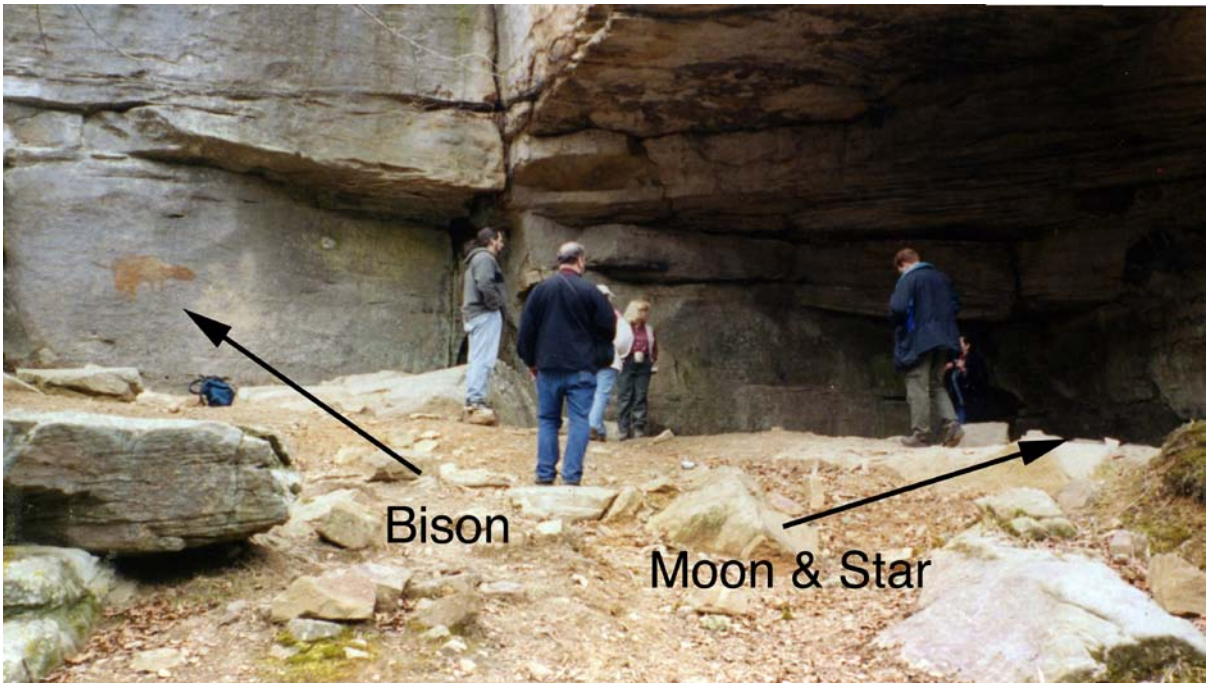

FIGURE 2. Buffalo Rock site, 2001 (*photograph by Mark Wagner*)

century. As noted above, Buffalo Rock is located immediately north of the junction of the two trails, meaning that overland travelers heading on one of these two trails toward Kaskaskia and the Mississippi River would have passed directly by the site if they had taken the lower route running in front of the shelter.

Trail ruts, however, also are present on the bluff top above and *east* of the shelter, indicating that the combined Golconda-Kaskaskia-Le Grande Trace probably separated into creek bottom and upland branches upon entering Gum Spring Hollow-Moccasin Gap. This is typical of late eighteenth-nineteenth century trails in Illinois, with the upland and bottomland branches representing alternate routes used during wet and dry periods of the year, respectively. During rainy periods, for example, the creek bottom branch running through Gum Spring Hollow may have become impassible, with travelers instead taking the upland branch that ran along the bluff top in the same general direction as the bottomland trail.

Pictographs

The shelter contains two groups of paintings: (1) a large reddish-orange pictograph of an east-facing bison located on the exterior vertical wall at the north end of the shelter (Figures 2, 3, and 4); and (2) a series of seven badly-faded paintings located on the rear wall of the main part of the shelter, the most discernible of which are a crescent moon and a possible star-planet. The bison painting is a well-known local landmark that reportedly was first discovered (at least by Americans) when American settlers “first came to the vicinity” in the early 1800s (Allen 1963:101). The existence of the second group of paintings remained unknown until we discovered them during a systematic inspection of the shelter walls in 1994. The reason for this oversight appears to be that visitors to the site are immediately drawn to the bison painting, consequently failing to inspect the darker interior walls of the shelter for additional paintings. This

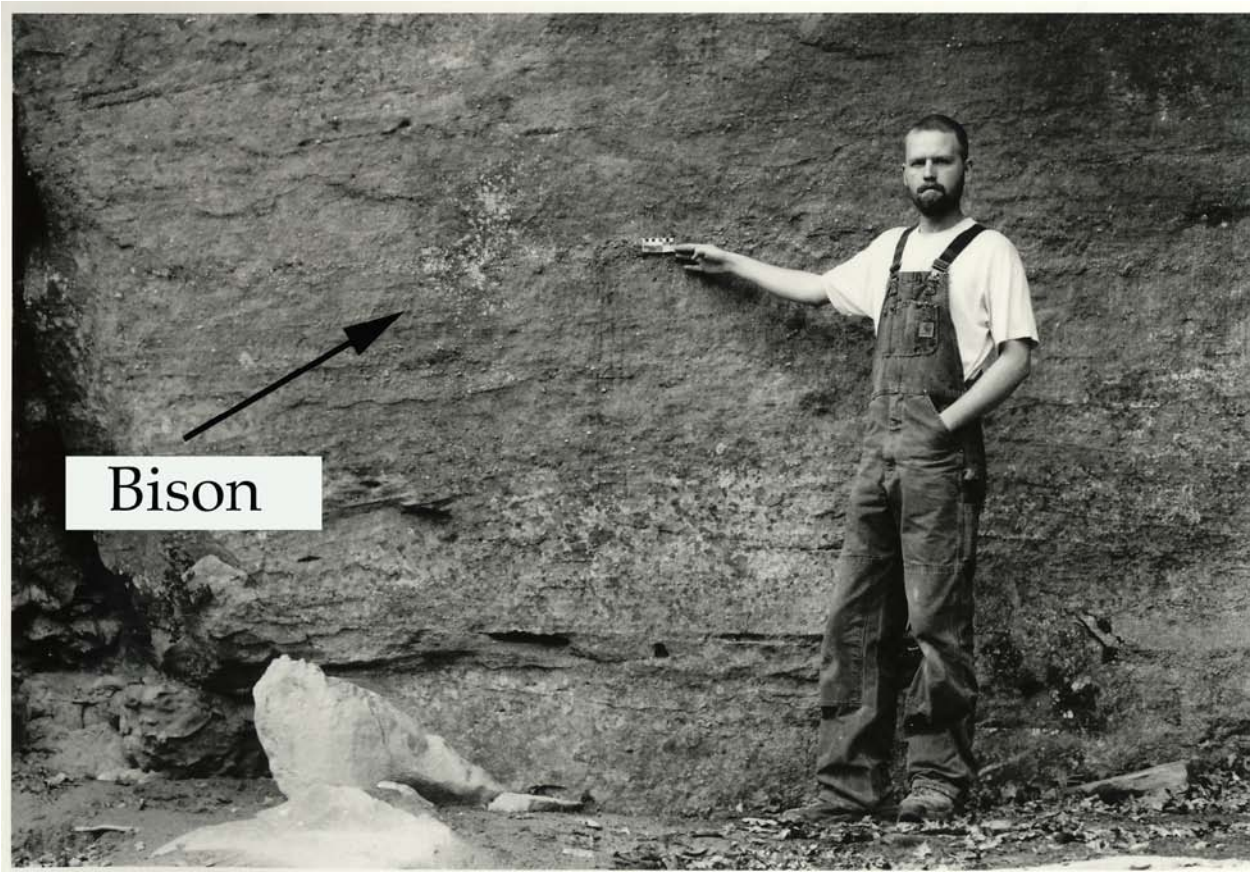

FIGURE 3. Present-day faded appearance of bison painting, 2008 (*photograph by Mark Wagner*)

lack of attention has helped to preserve these smaller paintings, which (with one exception) have escaped the series of repainting episodes that have seriously affected the integrity of the bison painting.

North Wall Paintings

The single painting on the north exterior shelter consists of the well-known bison painting (Figures 2, 3, and 4). This 5YR 4/4 reddish brown to 5YR 6/6 reddish yellow painting of an east-facing bison covers a maximum 110 cm long by 53 cm high area of the rock face. Located 1.4 to 1.93 m above the floor of the shelter, the bison has a humped back, short downward pointing tail, four short legs that curve forward, and a hornless head with a rounded snout or muzzle. A small (ca. 2 cm) depression that appears to represent an eye is located in the center of the head (Figure 6). Rather than being a pecked pit, this ca. one cm deep shallow pit appears to represent a natural feature on the rock face that the Native American artisans incorporated into the bison painting.

As we discuss later in this article, historical accounts indicate that the bison painting has been repainted several times since at least the 1930s and its appearance has clearly changed through time. As such, it is possible that the current color of the bison painting is not the same as its original color. Our impression after viewing the bison painting on numerous occasions over the past fifteen years, however, is that the modern chalk or other materials used by people trying to “save” the bison painting by repainting it tends to wash off over the years, with the painting eventually resuming its typical faded

FIGURE 4. Enhanced photograph of the bison painting (*photograph by Charles A. Swedlund*)

appearance. Another possible indication that the current (2009) color of the bison painting is close to or the same as its original color is that the one of the two Munsell color values—5YR 4/4 reddish brown—for the bison painting is identical to those colors recorded for the east wall paintings within the shelter, which (with one possible exception) appear never to have been repainted (see below).

East Wall Paintings

A series of seven small paintings extend over an approximate 2.35 m long by 1.0 m high section of the back or east wall of the shelter (Figures 2 and 7). In contrast to the solid-colored bison painting, four of the east wall paintings consist of outlined images with unpainted interiors.

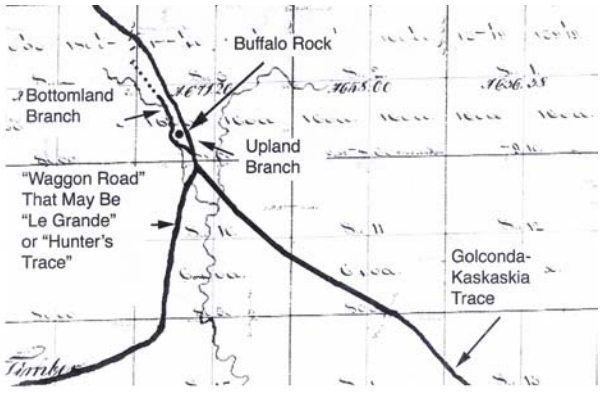

FIGURE 5. Early nineteenth century trails leading to the Buffalo Rock site.

Identifiable motifs include a crescent moon, a crossed circle representing a probable star or planet, and a simple equilateral cross. The remaining images consist of solid-colored areas, outlined circles, and other designs that are not readi-

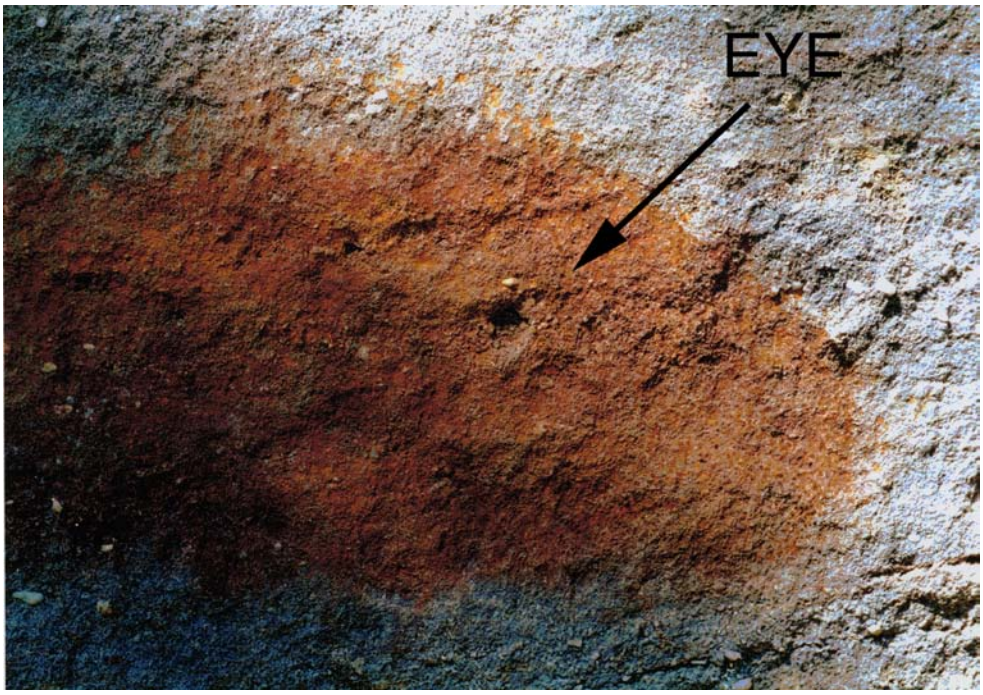

FIGURE 6. Detail of bison head showing natural pit representing possible eye (*photograph by Charles A. Swedlund*).

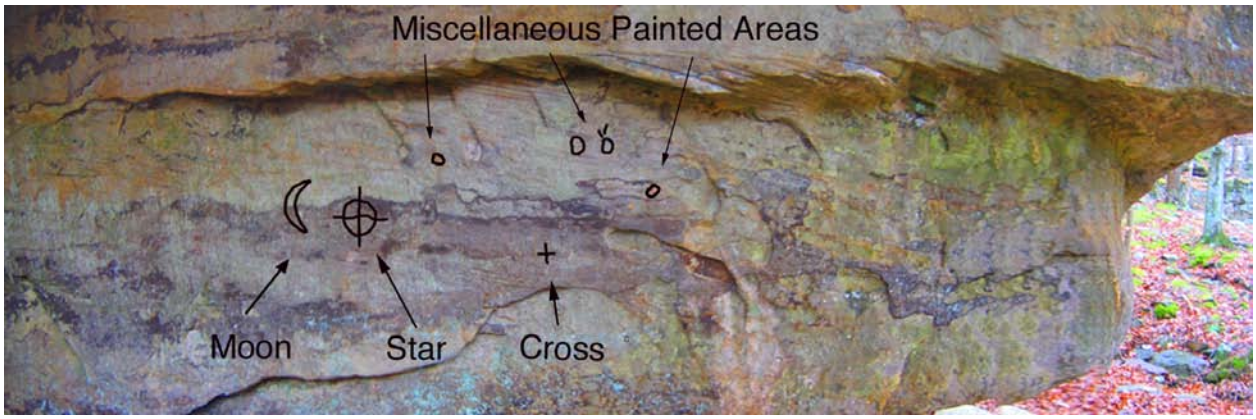

FIGURE 7. Moon, star, cross, and other paintings, east wall of shelter (*photograph by Mark Wagner*)

ly classifiable as to motif type.

The first of these paintings—the crescent moon—consists of a 5YR 4/4 reddish brown right-facing crescent that measures 24 cm long by 6 cm (maximum) wide (Figures 7, 8, and 9). This image appears to depict a waning moon, that is, the moon as it appears when decreasing in size during the second week of the lunar month.

The second identifiable image—the probable star or planet—consists of a 24 cm diameter 5YR 4/4 reddish brown quartered circle in which the arms of the cross extend through and outside of the circle (Figures 7, 8, and 9). A small (six cm diameter) solid-colored red circle is located 28 cm south and above the quartered circle. The quartered circle is located only 14 cm south and at the same approximate elevation as the crescent moon, vocational characteristics that suggest the two im-

FIGURE 8. Digitally-altered photograph of moon and star paintings, east wall of shelter (*photograph by Charles A. Swedlund*)

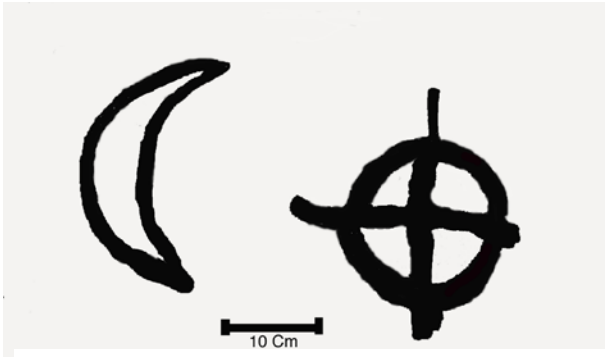

FIGURE 9. Drawing of moon and star paintings, east wall of shelter

ages are associated with each other. Although cross-and-circle or quartered circle designs interpreted as world symbols (Hall 1997:119-127) are a common prehistoric Mississippian period (A.D. 1000-1550) rock art motif in southern Illinois (Wagner 1996:47-79; Wagner et al. 2004:42-64), the Buffalo Rock site cross-and-circle differs from those images in the extension of the arms of the cross through the circle. Rather than a world symbol, the Buffalo Rock quartered circle appears to represent a four-pointed star or planet similar to two examples associated with crescent moons in Missouri (Diaz-Granados and Duncan 2000:200).

The third identifiable motif—a small equal armed cross that measures 16 cm high x 16 cm wide—is located 70 cm south and slightly below the star-planet motif (Figure 7). This lightly ground image, which is not shown in this article due to the difficulty in photographing it, is covered by a faded 5YR 4/4 reddish brown pigment. Beyond this are a pair of 5YR 4/4 reddish brown outlined designs, the left (northern) one of which resembles a capital “D” while the right (southern) one resembles a circle with two diverging lines coming out of the top. The two diverging lines are brighter in appearance and have a different color value (5YR 4/6 yellowish red) than the two D-shaped designs, suggesting they may have been added by vis-

FIGURE 10. Early 1900s appearance of bison painting (Smith 1912)

itors to the site.

The final painted image on the east wall consists of a 12 cm x 9 cm solid-colored 5YR 4/4 reddish brown oval located approximately one meter south of the equilateral cross. This last design is the only image on the eastern wall that appears to have been recognized by visitors to the site in the past and chalked over for photographic purposes (Figure 7).

Site History

John Allen (1963:101) noted that the Buffalo Rock site was known to the earliest American settlers in southern Illinois. If correct, this statement indicates that the site had been "discovered" by at least ca. A.D. 1800. Another local researcher, William Nelson Moyers, further suggested that the Buffalo Rock site bison painting may have been created by eighteenth century French bison hunters (Moyers 1931:26-104). Eighteenth or nineteenth century accounts in support of these statements, however, have not been found. Although the site indeed must have been known to eighteenth and early nineteenth century travelers along the Golconda-Kaskaskia Trace, knowledge of the existence of the site beyond a local level most likely decreased throughout the nineteenth and early twentieth centuries as this trail fell into disuse and became a local back road. Visitors to the site during this time most likely consisted of nearby farm families who visited the site during trips to nearby Gum Spring to obtain water as well as to wash their clothes in the creek. Pope County farm resident Ruby Oliver, for example, remembered visiting the site as a girl in 1926 during a trip by her family to Gum Spring to obtain water and do their laundry. Afterwards her father

took her to see the bison painting at Buffalo Rock, which local residents believed had been painted by the Indians in blood on the rock face.

The earliest known published reference to the site occurs in George Washington Smith's 1912 *History of Southern Illinois* (Smith 1912:31-32). The value of this reference lies not in Smith's very brief account of the site (i.e. a "Buffalo painting on a bluff in Johnson County"), but in a photograph of the bison painting that accompanied his limited description (Figure 10). This image, which represents the first known photograph of the painting, illustrates that in 1912 the bison appeared as a dark-colored right (east) facing quadruped with a large distinct hump on its back. In contrast to the way the bison appears today, the 1912 photograph shows a single large horn extending out of and extending backwards from the top of the head. The photograph also shows what appears to be a lighter area of paint connecting the front of the hump with the back of the head immediately below the base of the horn. This area of lighter paint, together with the very solid dark appearance of the rest of the image, suggests that the bison may have been repainted shortly before the photograph was taken, with the lighter area representing an area that escaped repainting (Figure 10).

The bison definitely had been repainted by 1931 when local historian William Nelson Moyers provided the first detailed description of this painting (Moyers 1931:74; italics added):

> [To create the image] *yellow ochre*, mixed with water, was rubbed into the pitted [rock] surface and followed the crude outline of an animal. The only paint showing now is that within the pits. It is sort of a silhouette, with neither mouth, ears, eyes, horns nor mane; the legs are more like bench legs, there are no hoofs; the tail is too short and has no tuft; there is no suggestion of sex.

The "yellow ochre" described by Moyers actually appears to have been a yellow paint or chalk applied to the painting in the early 1930s. Harrisburg newspaper columnist Clarence Bonnell, for example, reported in a 1933 article that the painting had been "originally painted in brown but *recently smeared over with a yellowish tinge* evidently for the purpose of making it plainer" (Bonnell 1933:32; italics added). Bonnell's article, which appeared in a small book on southern Illinois outdoor attractions, appears to have been taken from his newspaper column and was probably already several years old by the time it appeared in his 1933 book. As such, the "yellow ocher" described by Moyers in 1931 is quite likely the same "recently smeared…yellowish tinge" described by Bonnell two years later (Bonnell 1933:32; Moyers 1931:74). This yellow paint apparently washed away fairly rapidly with the bison once again appearing as a faded reddish brown iron oxide painting by 1950. It maintained this color from at least the 1950s to early 1970s with various authors describing the color of the bison painting as "light brown" (Peithmann 1951:4; 1952:93), "light rust" (Peithmann 1955:99), "pale rust" (Allen 1963:101), and "brownish red" (Pulcher 1973:29). It is possible, however, that the 5YR 4/6 reddish yellow color value recorded on part of the bison painting in 2007 was taken on a still-surviving remnant of the 1930s "yellow ochre" paint or chalk mentioned by Bonnell and Moyers.

By the early 1950s Buffalo Rock had come to the attention of professional archaeologists with James B. Griffin recording the site in the Illinois Archaeological Survey (IAS) site files in 1950 as part of

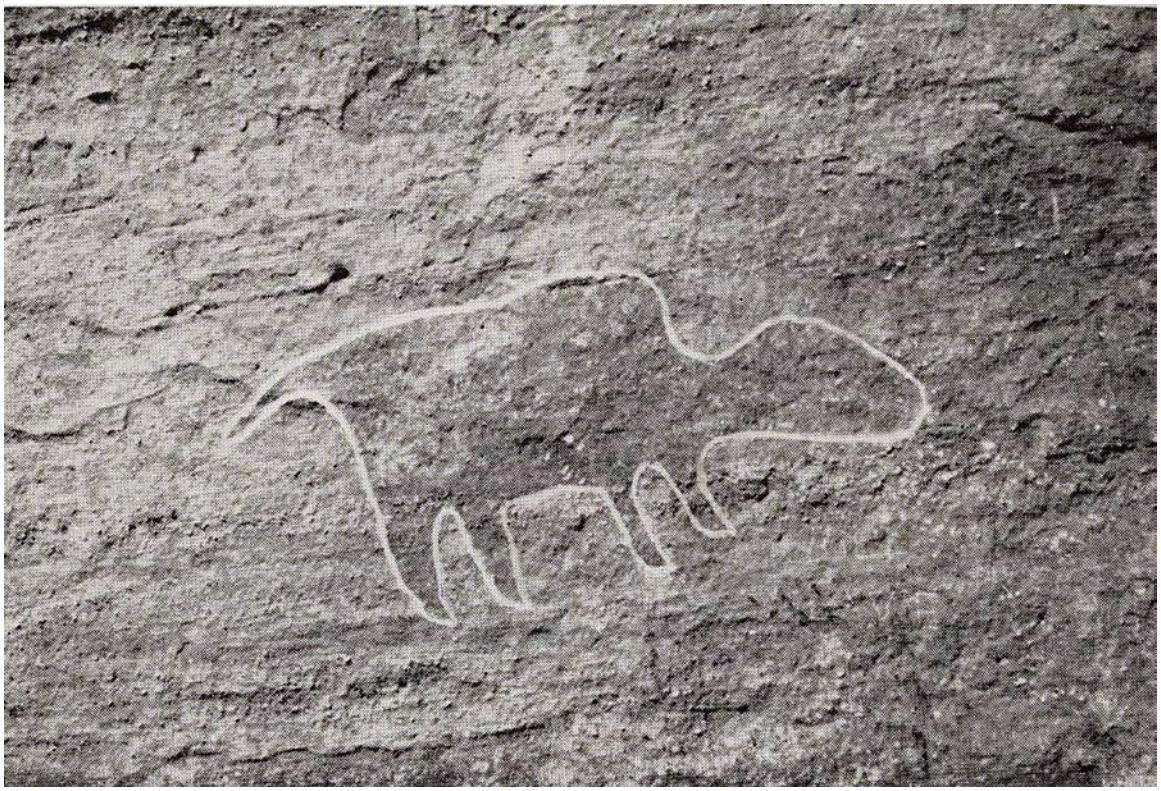

FIGURE 11. Ca. 1950 appearance of bison painting (Peithmann 1951)

the Mississippi Valley Archaeological Survey project. Griffin probably obtained his information on the site from amateur archaeologist Irvin Peithmann who in 1951 published a short article on the archaeology of southern Illinois that included the first known photograph of the bison (Figure 11) to appear in print in 40 years (Peithmann 1951:4; see also Peithmann 1952, 1955). Peithmann's photograph of the bison (Figure 11) differs significantly from the 1912 Smith photograph, most particularly as regards the shape of the head (rounded rather than square), end of the snout (rounded rather than flat), and presence or absence of horns (absent).

Irvin Peithmann also may have repainted the bison in the 1950s, similar to what he is known to have done to at least two other southern Illinois rock art sites during that same time (Wagner 2002:7). Peithmann was associated with the Southern Illinois University Museum in the late 1940s and early 1950s where he held the title of Curator of Archaeology (Peithmann 1951, 1955). One possible indication that Peithmann indeed did repaint the bison is that during our 1994 work at the site long-time local resident Orville Cook informed us that "someone from SIU had painted it maroon" at some point in the past (Cook 1994). Given Peithmann's known interest in the site as well as his predilection for "saving" rock art sites by repainting them, Orville Cook's comment very well may have applied to him.

Buffalo Rock, to our knowledge, has been repainted at least once more since Peithmann photographed it in the 1950s, with this most recent episode occurring in the late 1980s. Its current appearance is very similar to that of the 1951 Peithmann photograph rather than the 1912 Smith photograph. Ronald Pulcher, then a graduate student at Southern Illinois University, visited the site in April 1972, as part of

his study of Illinois rock art. Pulcher's unfinished manuscript contains some brief notes on the site including a sketch of the bison that again is similar to the 1951 Peithmann photograph (Pulcher 1973:29, 62). No mention is made in any of the various articles written between 1912 and 1973 to the pictographs on the east wall of the shelter which, to our knowledge, remained unknown until we recorded them in 1994.

Discussion

Culturally diagnostic artifacts that could be used to indirectly date the age of the Buffalo Rock site paintings are not present on the shelter floor, nor have any archaeological investigations to recover such materials ever been conducted within the shelter to our knowledge. Consequently, the precise age of these images is unknown. Although the presence of bison imagery would at first glance appear to indicate a late prehistoric or historic (post-A.D.1673) period age for the paintings at the site, recent evidence from the Lonza-Caterpillar site in north central Illinois has revealed that bison were present in that part of the state by approximately 400 B.C. (Harn and Martin 2006:9-13). Marshalling a variety of geological and biogeographical evidence, McMillan (2006:108) has argued for an even greater antiquity for bison in the state, concluding that bison most likely "were present soon after, if not before, the establishment of the full-blown prairie in [central] Illinois" at ca. 4,200 B.C. As such, the bison painting at the Buffalo Rock site potentially could have been created at any point in time between ca. 4000 B.C. to A.D. 1835 when the last Native American groups were removed from the state.

In contrast to northern Illinois, however, faunal evidence from archaeological sites in southern Illinois suggests a relatively late date for the arrival of bison within the region. Bison remains have not, to our knowledge, been recovered from any prehistoric site within this part of the state. In addition, excavations at the Millstone Bluff site, which is located in the same county as the Buffalo Rock site and is one of the latest (ca. A.D. 1250-1550) occupied Mississippian sites in southern Illinois, failed to produce any bison remains although other relatively uncommon species such as elk and mountain lion were represented within the relatively large faunal assemblage recovered from this site (Butler and Cobb 2001).

Rather than being prehistoric in origin, we believe that stylistic and historic data indicate that the Buffalo Rock site bison painting dates to either the proto-historic or early historic periods. Most notable in this regard is the stylistic dissimilarity of this and the other paintings at the site to the prehistoric art tradition of the state which is dominated by Mississippian period (A.D. 1000-1550) motifs associated with Southeastern Ceremonial Complex (Wagner 1996:47-79). This dissimilarity also is evident at the only other Illinois rock art site (Clarida Hollow, 11PP8) that contains bison-related motifs. Located immediately east of Buffalo Rock, Clarida Hollow contains a series of unique bison-related images including staked-out flayed bison hides contained within cosmic circles; a skinned and partially butchered bison with an arrow or dart sticking through it; and a magical being with bison-like forelegs, tail, and tufted head (Wagner and McCorvie 2002). The imagery at both sites is markedly different in method of execution (paintings as opposed to petroglyphs) and style from those at the nearby Millstone Bluff site (A.D. 1250-1550), which contains well-known Mississippian period icons such as the bi-lobed

arrow, cross-in-circle, antlered serpents, and falconoid birds as the dominant images (Wagner et al. 2004:42-64).

The interpretation of the Buffalo Rock bison painting as dating to the protohistoric or historic periods also is strengthened by the presence of bison-related images at rock art sites and on portable bone and stone items dating to these same time periods in Illinois and elsewhere in the Midwest (McCorvie and Morrow 1993). Bison paintings very similar to the Buffalo Rock bison painting, for example, occur in a late prehistoric Oneota context in Wisconsin (Boszhardt 2000:361-373). Depictions of bison also occur on pebbles and smoking pipes recovered from late prehistoric to protohistoric contexts in northeastern Illinois (Bluhm and Liss 1961; Herold et. al 1990:72), Missouri (Bray 1963:1-163), Ohio (Tankersley 1986:289-303), and Kentucky (Webb 1998). The creation of bison images on portable objects continued on into the early historic period as evidenced by the recovery of a bison rib decorated with an engraved bison from the eighteenth century Illini-occupied Guebert site in Randolph County in southern Illinois (Warren 2001:15).

As such, rather than being prehistoric in origin, we believe it more likely that the Buffalo Rock bison painting was created by Great Lakes Algonquin peoples from outside of southern Illinois who entered into the region at some point in the late seventeenth or (more likely) eighteenth centuries. Historic data indicate that by the beginning of the eighteenth century enough bison were present in southern Illinois that commercial market hunting of these animals became feasible. In 1700 Charles Juchereau de St. Denys applied to the King of France for a license to establish a buffalo hide tannery and fort along the lower Ohio River in extreme southern Illinois (Fortier and Chaput 1969:385-406). Accompanied by over 30 voyageurs and the Jesuit missionary Father Mermet, Juchereau established this post in 1702 and began dispatching bison hunters throughout southern Illinois and adjacent areas of the lower Ohio valley. This small establishment attracted the attention of the Mascouten, a Great Lakes Algonquin group who had begun a southward movement into the Illinois River valley during the late seventeenth century (Temple 1966:159). The Mascouten established a village next to the tannery, serving as hide-hunters to the French in return for trade goods. Perhaps more significantly, especially as regards the occurrence of bison and bison-related motifs at rock art sites in southern Illinois, is that the Mascouten believed in a powerful bison manitou that lived beneath the earth who gave life to all bison as well as having the power to restore the sick to health (Fortier and Chaput 1969:399; Thwaites 1899:237-239). The Mascouten belief in the power of the bison manitou was tested in 1703 when a contagious illness broke out among them, decimating their population and claiming the life of Juchereau de St. Denys. The tannery was abandoned upon the death of Juchereau but in little more than one year while it was in operation, Juchereau's hunters, undoubtedly assisted by the Mascouten, reportedly had collected as many as 8,000 to 15,000 bison hides (Fortier and Chaput 1969:401).

The abandonment of Juchereau's Tannery marked the end of the large-scale market hunting of bison in southern Illinois and adjacent areas of the lower Ohio River valley until the mid-eighteenth century. This activity resumed in the early 1760s when the British trader George Morgan obtained a contract from the British government to supply bison beef to

the British garrisons in the Illinois country (McCorvie and Morrow 1993:5-6). From his trading post at Kaskaskia on the Mississippi River, Morgan sent bison hunting expeditions down the Mississippi and up the Ohio River to Kentucky from 1765 to 1772. In 1767 alone, Morgan's hunters brought 50,000 pounds of bison meat back to the British-held post of Ft. de Chartres. The impact of Morgan's operation on the bison population was amplified by French market hunters from both the Illinois country and New Orleans who were actively hunting bison in Missouri, southern Illinois, Arkansas, and Tennessee. In December of 1767, the same year in which his hunters harvested 50,000 pounds of bison meat, George Morgan complained that the French had taken so many bison that year that the number of these animals in the lower Ohio Valley had decreased 95 percent from the year before (Baker 1997:593).

The extent to which Native Americans were involved in Morgan's bison hunting operation is unclear. The majority of his hunters clearly were American frontiersmen who worked for him on a contractual basis. Morgan carried a large supply of Indian trade goods at his store at Kaskaskia, however, and it is likely that at least some Native American hunters traded bison meat and hides to him as well. Bison continued to be present in small numbers in southern Illinois until at least 1795 with the last bison in the state reportedly being killed in 1808. In sum, the archaeological and historical data suggest a maximum date range of ca. A.D. 1550-1800 for the bison painting at the Buffalo Rock site. Given the history of the market hunting of bison in the region and the participation of Native Americans in that endeavor, however, we would suggest that it is more likely that the bison painting dates to the period between A.D. 1700 and 1800.

We also believe that the crescent moon and star paintings at the Buffalo Rock site represent historic period creations that are most likely contemporary with the bison painting. The crescent-and-star is an infrequent motif in southern Illinois with the only other known examples consisting of a painting on the ceiling of the Tripp site, a small rock shelter of unknown age located 31 km due west of Buffalo Rock, and as a petroglyph at the Mississippian-era Fountain Bluff site (11J41) in western Jackson County adjacent to the Mississippi River (Wagner 1996:63). The crescent-and-star motif also occurs in nearby southeastern Missouri, where Diaz-Granados and Duncan (2000:181-182) have alluded to the possibility that it represents the supernova of A.D. 1054. This supernova was so bright that when it first appeared it could be seen in the morning sky in combination with the waning moon. Combination crescent moon and star designs interpreted as possible records of the A.D. 1054 supernova also have been documented at a number of other rock art sites in western North American (Brandt and Williamson 1977; Brandt et al. 1975; Mayer 1977:179-201; but see Ellis 1975:59-88, for a contrary opinion).

The night sky, however, formed an important aspect of the mythologies of many historic period Native American groups. As such, it is likely that at least some crescent moon and star designs are associated with mythological events of the religions of various historic period groups rather than being a record of a specific historical event such as the A.D. 1054 supernova. Among the nineteenth century Pawnee, for example, the conjunction of the planet Venus and the waning crescent moon in the early morning sky each April was viewed as an embodiment of the

Pawnee creation myth in which Morning Star pursued Evening Star across the night sky (Chamberlin 1982; Hall 1997:86-94).

The crescent-and-star motif also was used by late eighteenth and early nineteenth century Great Lakes Algonquin peoples on wooden grave markers and on religious clothing. Henry Schoolcraft, for example, illustrated a Chippewa (Ojibwa) wooden grave marker erected in 1793 that contained two crescents, one light and one dark, which represented the "dry quarter" of the moon (Schoolcraft 1851:356, Plate 50). Schoolcraft also noted, however, that the crescent moon motif shown on the sides of tent used by Algonquin shamans represented one of the manitous summoned by the shaman as part of the "shaking tent" ceremony. Crescent and star designs, in combination with bison-related clothing, also were used as part of the late eighteenth to early nineteenth century Great Lakes Medewin healing society ceremonies. In 1804, for example, a British officer who witnessed a Medewin ceremony noted that the Medewin priest wore a "cap…made of the shaggy skin of a buffalo's head with the ear and horns on. A *Buffalo Robe* hung on his broad shoulders in the inside of which was worked in figures of sun, *moon, stars*, and other Hieroglyphics" (in Belue 1996:151-152; italics added). In sum, rather than being strictly a prehistoric period phenomenon, the crescent moon-and-star motif clearly continued in use as a motif among Great Lakes Algonquin peoples. As such, it is our opinion that the east wall crescent moon-and-star painting at the Buffalo Rock site is probably a historic period creation contemporaneous with the bison painting on the north wall.

Conclusions

In conclusion, we interpret the Buffalo Rock site paintings as representing a series of related images created over a very short period of time, possibly even in a single visit, by ca. A.D. 1700-1800 Native American peoples traveling along the Golconda-Kaskaskia Trace through southern Illinois. The meaning of these images and the purpose for which they were created is, to say the least, problematical. Historic period Algonquin peoples in eastern North America often linked discrete images together in a series to form narratives of specific events such as raiding parties, hunting expeditions, or the exploits of deceased warriors (Coy 2004:3-18). Such groups of linked images served as mnemonic devices that could be used to recall to memory the details of specific events by individuals familiar with that event. In the case of Buffalo Rock, the bison painting, crescent moon, and star in combination may detail the history of a single Native American bison hunting expedition that took place during the first part of the month in the spring of a particular year. It is equally possible, however, that the crescent moon and star/planet represent the Morning Star (Hall 1997:86-94) while the bison painting could represent a manitou similar to that of the Mascouten (Thwaites 1899:237-239) whose power could be accessed by painting its image on the walls of the shelter. Although it cannot be proven, the location of the Buffalo Rock site on a major trail linking the Ohio River, where the Mascouten served as hide hunters to the French in 1702 and 1703, and Kaskaskia on the Mississippi where George Morgan ran a similar large-scale bison hunting operation from 1765-1772, also raises the possibility that the images at the site may have been created by Native American hunters work-

ing for one of these two enterprises. Regardless of which (if any) of the above scenarios is correct, the Buffalo Rock site paintings represent an important aspect of the Native American rock art tradition of Illinois. Only through the detailed documentation of the designs at this and other "late" sites such as the Clarida Hollow site will we begin to delineate the methods, styles, and types of images associated with the very end of the Native American rock art tradition in Illinois.

Acknowledgements: First and foremost we would like to acknowledge Dr. Charles Faulkner, whose painstaking research at Mud Glyph Cave and other rock art sites in Tennessee in the 1980s (Faulkner 1986) and later is largely responsible for the revitalization of rock art studies as a legitimate field of research in eastern North American archaeology. Mary and I also would be remiss if we did not thank Charlie for his continued interest and support for our careers ever since we were graduate students at the University of Tennessee in the late 1970s. We also wish to thank Charles A. Swedlund, emeritus professor of photography at Southern Illinois University Carbondale (SIUC), whose superb photographic skills have aided greatly to the documentation of southern Illinois rock art sites. Also acknowledged are the past and present personnel of the Shawnee National Forest, most particularly current Forest Supervisor Allen Nicholas, whose continued interest and support over the years have aided greatly to the preservation of the Buffalo Rock and other rock art sites located on the forest. Finally, we also wish to thank a number of local residents of southern Illinois including Mark Bensen, Orville Cook, Gary Hacker, and John O'Dell who have shared information and photographs of the site over the years or helped us map the site on various occasions.

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CRADLE OF THE MIDDLE CLASS?: CERAMIC AND ARCHITECTURAL ANALYSIS OF TWO SOUTHEASTERN URBAN HOUSEHOLDS

Amy L. Young

The emergence of the American white-collar middle class followed on the heels of the Second Great Awakening and coincided with the creation of industrial capitalism. It is within this cultural framework that the "cult of domesticity" arose. This phenomenon, though national in scope, has been the subject of archaeological studies predominantly in the urban Northeast. This study presents data from two middle-class urban sites, Blount Mansion in Knoxville, Tennessee and The Oaks in Jackson, Mississippi. Analysis of ceramics, domestic architecture and historical data indicate that Southeastern housewives during the late antebellum period were full participants in the cult of domesticity that sought to define the values of the emerging middle class.

Scholars from a variety of disciplines have long recognized that the American middle class evolved its essentially modern form in the Victorian Era (Coontz 1988; Fitts 1999; Ryan 1981; Schlereth 1991; Wall 1991). While emergence of the white-collar middle class was, in part, a reaction to the Second Great Awakening (approximately 1790s to the 1840s), it nevertheless incorporated many aspects of Protestant Christianity as part of its identity. Thus middle-class identity had at is core an understanding of the importance of proper Christian behavior and the relationship between private family life, on the one hand, and public, economic and political society on the other (Cott 1977; Ryan 1981). An important facet of middle-class family life defined the role of the American housewife through the "cult of domesticity." At the heart of the cult of domesticity was the notion that American housewives, in addition to the many and arduous tasks necessary to keep a house, played fundamental moral and religious roles in shaping the values of their children and in creating the ideal environment for attaining Christian salvation for themselves, their family, and society at large. In other words, within the private sphere of the home, women were to create and maintain a domestic atmosphere that would instill in their children Protestant Christian values of being honest, frugal, gentile, and industrious. Though scholars focusing on the cult of domesticity have often utilized etiquette books, fiction, and other forms of prescriptive works, they recognize the potential biases of the ideals expressed in that literature may be different from the realities of everyday life (Clark 1987:144, Fitts 1999:31). Nevertheless, this literature is useful for exploring how middle-class housewives interpreted the ideals and incorporated them into their material culture in that it provides a baseline for understanding the array of material culture to which housewives had access.

The material correlates of the middle-class cult of domesticity have been identified and examined on urban sites in the northeastern United States (Fitts 1999; Wall 1991). The movement is not only linked to a reaction to the Second Great Awakening, but also to the shift in style from classical to romantic in domestic architecture and domestic furnishings (Clark 1976:33-31). The prevailing popular theory during the Victorian Era was that the environment in which children were reared was a potent force in shaping personality and morality, wherein virtue and order were equated with beauty, and vice

and disorder with deformity (Clark 1976:45-46). Although urbanization and industrialization out of which the middle class emerged were more significant forces in the Northeast, the extremely popular advice literature such as Catherine Beecher's (1851) *Treatise on Domestic Economy*, Andrew Jackson Downing's (1850) *The Architecture of Country Houses*, and magazines like *Godey's Lady's Book* suggest that the cult of domesticity and the middle-class movement were not just limited to the urban and industrial Northeast. This study examines two middle-class urban farmsteads in the Southeast for elements of the cult of domesticity expressed in their ceramic assemblages and domestic architecture; the Blount Mansion site in Knoxville, Tennessee and the Oaks in Jackson, Mississippi. Both residences served as home to their respective mayors during the late antebellum period. Knoxville, established about 1780, experienced rapid growth. Knoxville's population in 1850 was 2,076 but had grown to 32,637 in 1900 (Gray and Adams 1976:74). Jackson, established in the early 1820s, was a relatively small town for most of the period of this study, growing from 1,818 in 1850 to 7,816 in 1900 (McCain 1953:312). The Oaks, constructed in 1853, was home to a single family until it was sold and converted to a museum home in the 1960s. The Blount Mansion site has a more complex history as it dates between ca. 1790 and the 1920s when it, too, became a museum home. Blount was home to a number of different and unrelated families during its history. Ceramic data from Blount Mansion for this study are limited, and come primarily from the cistern and a cistern conduit in the rear yard near the detached kitchen. Ceramic data from the Oaks are more extensive and derived primarily from test excavations in the detached kitchen that was built at the same time as the dwelling, and fell into disuse when a new attached kitchen was constructed about 1880.

Fitts (1999) and others (Clark 1976; Coontz 1988) observed that as the white-collar middle class emerged in the mid-nineteenth century in the U.S., members constructed a distinct set of values that set it apart from elites and the working classes, particularly recent European immigrants. Coontz (1988:192) argued that the "…rapidly emerging economic and social milieu with far higher rates of geographic and occupational mobility than before, middle-class children had to be taught not their parents' skills, rapidly being outmoded, but general values and appearances that would gain them entry to the places where new skills were taught." The middle-class core values merged Protestant Christian morality, folk psychology that maintained that the environment molded the personality of the individual, and the ideals of the romantic revival movement. This placed the emerging white-collar middle-class home in sharp contrast to industrialization, the competitiveness of capitalism, and urban living that was associated with intemperance, disease, and crime. The middle class began to move away from inner cities to commuting suburbs where homes became domestic sanctuaries presided over by middle-class housewives.

Architects like Andrew Jackson Downing utilized ecclesiastical elements in the design of family dwellings in the mid-nineteenth century. Gothic Revival style architecture became increasingly common beginning about 1840. Their characteristic features include steeply pitched roofs, steep cross gables, ornamented gables, and wall surface extending into the gable without a break (McAlester and McAlester 1986:197). This architectural style evoked

an image of medieval Gothic churches and a more religious age. At the same time, stained glass became popular in domestic architecture (Clark 1976:44). According to Clark (1976:44), guidebooks recommended that the three primary colors be used to symbolize the Trinity. Not only houses, but also stoves, furniture, and ceramics were designed using Gothic standards.

Another element to consider is the dining room. Before the 1850s, pattern books that presented plans for middle-class American homes rarely depicted separate dining rooms. Dining rooms and the elaborate ritual of dinner parties were primarily concerns of the upper classes. When dining rooms became more popular for middle-class dwellings about 1850, the rooms were conceptualized as places for family dining rather than formal entertainment. It was not until about 1880 that middle-class dining rooms began to be associated with more elaborate, formal mealtime rituals, although on a smaller scale than typical of elite society (Clark 1987).

While Gothic Revival architecture was relatively rare in the Southeast (McAlester and McAlester 1986:200), Southern women most likely constructed their own version of middle-class domesticity and gentility through other material culture. As Wall (1991) and Fitts (1999) pointed out, paneled Gothic style whiteware, ironstone, and porcelain tablewares were apparently markers of middle-class sensibilities in the Northeast. Essentially these studies suggest that the use of paneled Gothic-style ceramics (white granite, ironstone, and porcelain) were used in family and friendly situations to enhance "the sacred aspect of women's domestic role within the ritual of family meals" (Wall 1991:79). Fancier tea sets used at tea parties, on the other hand, may have been used by a woman in competitive displays designed to impress guests with the "refined gentility of her family" (Wall 1991:79). Given that Gothic Revival architecture was rare in the Southeast, did middle-class women nevertheless adopt similar patterns in their choices of ceramic table and tea wares? This study addresses that issue.

Blount Mansion, Knoxville, Tennessee

Blount Mansion is located in the heart of downtown Knoxville, Tennessee. Situated on one of the original town lots, it was the home of William Blount who was appointed by President Washington in 1790 to govern the new Southwest Territory. Construction of the original home began around 1792 during the pioneer era of Knoxville when most settlers lived near forts or stations (Young 2000). The home was continuously occupied until the 1920s when the property was rescued from demolition by preservationists. Between the 1790s and the 1920s, the structures and layout were remodeled and reorganized (Faulkner 1985, 1988; Faulkner and German 1990; Young 2000). By ca. 1860, the lot contained the main dwelling consisting of a two-story central block, with a one-story east wing and a one-story west wing (Young 2000). Of the original outbuildings, only the office is extant. The original detached kitchen was reconstructed on its original foundation. Other original structures identified in the archaeological record include a slave house and an unidentified structure. All of the early pioneer-era structures appear to have been enclosed in a substantial fence, perhaps acting as a compound in the fear of Indian attacks. The original slave house was moved onto the main house structure and became its west wing. Another slave house was constructed in the rear yard

after about 1830 and is visible in the 1865 photograph of Knoxville (Rothrock 1972:149).

According to a detailed architectural study (Emrick and Fore 1992), the Blount Mansion dwelling was originally a hall-and-parlor house over a nearly full basement between its construction and about 1795. Sometime after 1800, the original slave house was moved and attached as the west wing, and a second story was added to the original hall-and-parlor between 1812 and 1825. The single-story east wing was added between 1815 and 1830. The dining room at Blount may have been added while the property was considered more elite than middle-class, and most likely before the middle class assumed its modern identity.

The Blount Mansion property changed owners a number of times between ca. 1820 and 1840 when it was purchased by Matthew M. Gaines, who served as Mayor of Knoxville in 1843 (Deaderick 1976: 627, Appendix C). In 1845 the property was purchased by Samuel B. Boyd, and remained in the Boyd family for 75 years, though during the latter period was used for rental purposes (Emrick and Fore 1992; Young 2000). It appears that the property was occupied by the Boyd family until at least 1882 (Faulkner and German 1990:9). Samuel Boyd, like Matthew Gaines, served as Mayor of Knoxville from 1847 through 1851 (Deaderick 1976:627, Appendix C). He also served as judge on the chancery court bench until 1851.

Samuel Boyd appears in the 1850 Knox County (Knoxville) census with his wife and eight children ranging in ages from 16 years to eight months. The slave schedule for that year shows that Boyd owned three slaves, a female aged 20, a male aged 16, and a male aged 2. According to the architectural report by Emrick and Fore (1992), alterations to the main dwelling were minor. It is likely that during the Boyd occupation that the kitchen was attached to the main house via the west wing, an early porch removed, and a Victorian porch was added. It is not known whether the second slave house was erected by Boyd or by earlier residents.

By the time the families of Matthew Gaines and Samuel Boyd occupied Blount Mansion, the main dwelling consisted of a two-story central block, the east wing that was likely the dining room, and the west wing that originally stood in the rear yard but had been moved and attached to the central block, which likely became a sleeping chamber. As Clark (1987:142) stated, the dining room became a hallmark of achievement of middle-class respectability.

Archaeological work at Blount Mansion, under the direction of Dr. Charles Faulkner, began in 1984 with testing in the rear lot to locate outbuildings and activity areas. In 1987, testing was conducted to locate remains of a possible late eighteenth century rear porch (Faulkner 1988). In 1989, Faulkner exposed a filled cistern conduit. Test excavations resumed at Blount in 1992, and continued in 1993, 1994, and 1996 (Faulkner 1998; Young 2000) with a primary goal of investigating the earliest period of the site. Of particular interest here is the testing of the cistern conduit at Blount shown highlighted in Figure 1 (Faulkner and German 1990).

The Oaks, Jackson, Mississippi

The Oaks is located at 823 North Jefferson Street in Jackson. It is only a short distance from the Old State Capital at the center of the antebellum town. The property became the home of the Boyd family in 1853 and consisted of four acres of a five-acre lot designated as Lot 7 in the

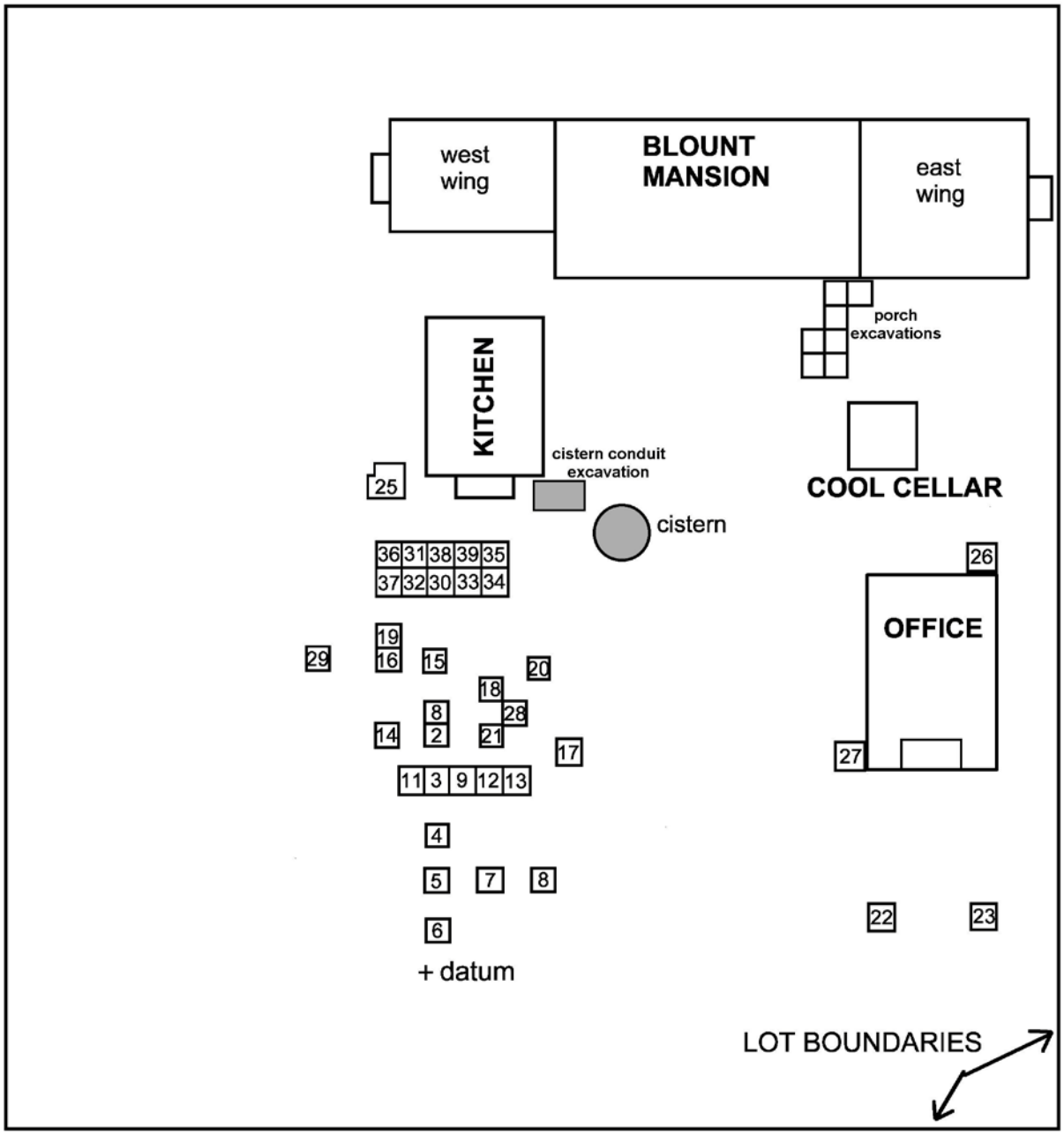

FIGURE 1. Excavation units at Blount Mansion.

town of Jackson. It was constructed as a suburban home on the edge of town.

The Oaks was the home of James Hervey Boyd, who settled in Jackson in 1823 at the age of 23. He was born on November 14, 1809 in Mason County, Kentucky. Boyd was a businessman; at various times a brick merchant, an auctioneer, and a drug store owner and a furniture store owner. He was also a stakeholder in the Pearl River Steam Navigation Company and briefly owned two Pearl River steamboats, "Pearl Plant" and Bloomer." Boyd was active in local politics, serving as the Mayor of Jackson in 1842, 1843, 1852, and 1858 and an al-

derman in 1844, 1847, 1862, 1863, 1865, and 1866. He was a founding member of the First Presbyterian Church in Jackson and remained an elder until his death in 1877. In 1843, James Hervey Boyd married Eliza Ellis, also a Kentucky native. The Boyds had six children; Newton, Sarah, Mary, James, Sue, and Jonnie. Ten years later, the Boyd family moved to the Oaks. James, Sue, and Jonnie were likely born there (Young 2005). The 1850 slave schedule for Hinds County, Mississippi shows James H. Boyd with one slave, a female aged 22. This was before the Oaks property was purchased. The 1860 slave schedule does not indicate that the Boyds had any slaves, but family accounts mention a slave woman with a child. There is no apparent genealogical connection between Mayor Samuel Boyd of Knoxville and Mayor James Hervey Boyd of Jackson.

Interestingly, the deed dating to 1853 indicates that Mrs. Eliza Boyd purchased the Oaks, and not her husband, James Hervey Boyd. The deed does not indicate whether a dwelling was already located on the property at the purchase date. The Greek Revival cottage still on the property today has features consistent with an early 1850s construction date. The dwelling was originally a four-room, single story house with a central hall. It is unknown whether the front porch that is currently on the house was original or added later. The original dwelling likely had a rear porch, although that has yet to be unequivocally demonstrated (Young 2005).

The dwelling and lot were modified and modernized. A kitchen ell was added and the back porch was enclosed. At some point, part of that enclosure was converted into a bathroom. Apparently, most renovations occurred after the death of James Hervey Boyd in 1877. Receipts included in the Boyd Family Papers in the Mississippi Department of Archives and History special collections date between 1878 and 1883. They record purchases of nails, lumber, bricks, lathes, and gutter pipes, and include labor payments for bricklaying, painting, whitewashing, and plaster work. A series of Sanborn Fire Insurance Maps of Jackson that include the Oaks provide important information about modernization and modification of structures in the town. The earliest Sanborn that includes this section of town dates to 1904 (Figure 2). The entire Lot 7 is not shown on this Sanborn map, only the northern portion. Compared to an 1875 map of Jackson showing the Boyd property, the lot has been subdivided. The 1904 map shows that the section of the Boyd lot that fronts on North Jefferson was long and narrow while the rear of the lot is located on North Street. The dwelling with a kitchen ell, along with a front and back porch, are shown on the map. Neither the front nor the back porches are depicted as being enclosed. A covered shed shelters the cistern and appears to connect the kitchen ell on the main dwelling with the old detached kitchen. Two building that probably functioned as barns or stables are indicated, as also suggested by the address of 823 ½. The small, circular dairy is shown on the southwest corner of the dwelling. Two small outbuildings are shown, one north of the cistern and one south of the detached kitchen. Archaeological testing at the small structure south of the detached kitchen indicated it was a greenhouse and dated after the detached kitchen had been abandoned. The function of the small outbuilding north of the cistern has not yet been determined (Young 2005).

Five years later, the Boyd property appears on the Sanborn Maps again (Figure 3). The lot still extends from Jefferson to North Streets. One of the stables or barns

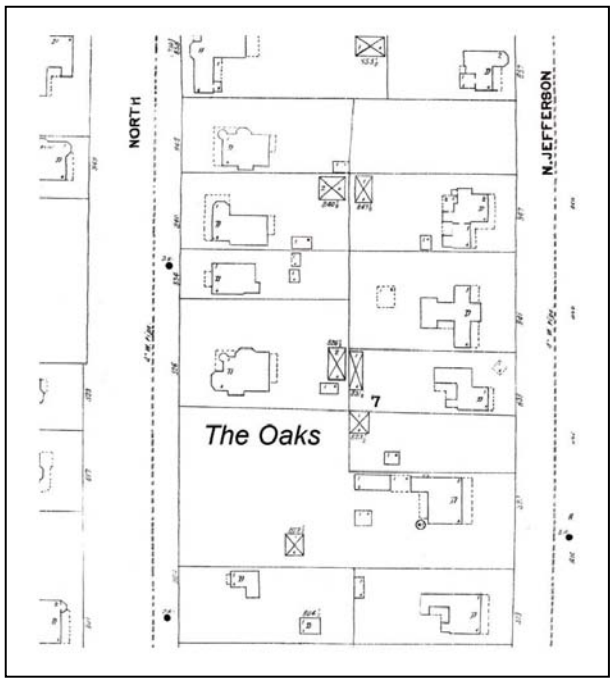

FIGURE 2. 1904 Sanborn, the Oaks.

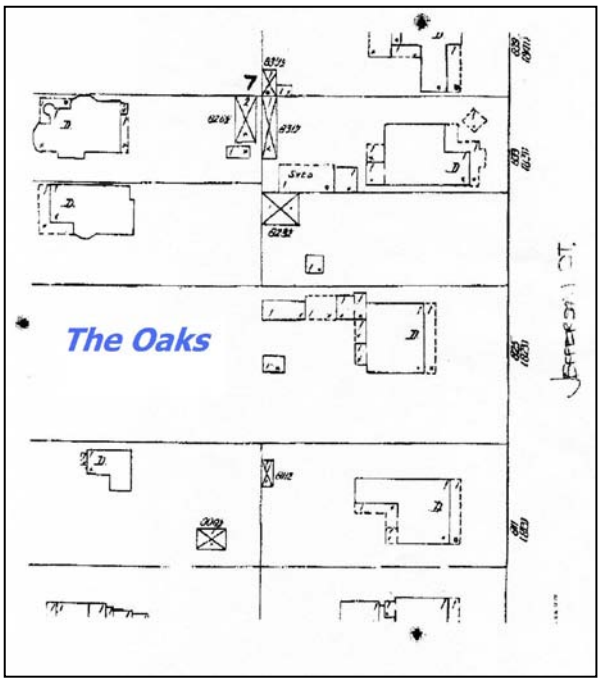

FIGURE 3. 1909 Sanborn, the Oaks.

is gone. The rear porch appears partially enclosed. The round dairy is not shown, although it undoubtedly existed. The lot is shown as L-shaped with a new dwelling shown behind (west) of the remaining barn/stable fronting on North Street (Young 2005).

The Boyd property also appears on the 1918 Sanborn. The lot was further subdivided. A new dwelling was built on the rear of the 1904 Boyd lot, facing North Street. Neither of the barns/stables shown on the 1904 Sanborn is extant in 1918. By 1925 (Figure 4), the Sanborn map shows only the dwelling and the covered cistern, along with the two small unidentified buildings that are left on the Boyd property. The original detached kitchen is gone, evidently torn down between 1918 and 1925. Local residents recall that the detached kitchen was in ruins and covered with vegetation in the early part of the twentieth century (Young 2005). The original dwelling, apparently, was designed to include a separate dining room at the Oaks. Evidence for the dining room

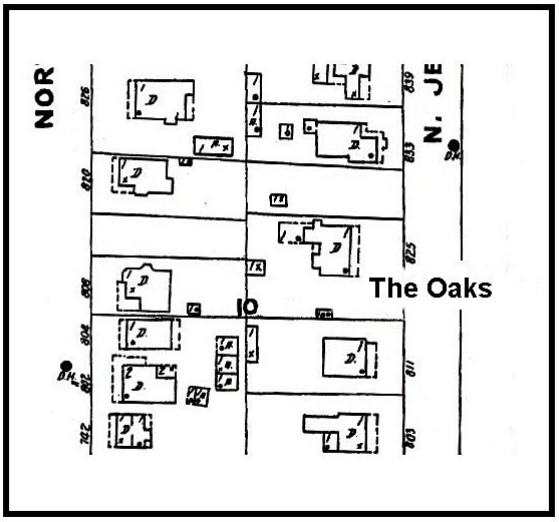

FIGURE 4. 1925 Sanborn, the Oaks.

comes not only from the design of the house, but also from a collection of documents and family remembrances (Young 2005).

Archaeological testing at the Oaks commenced in 2004 and continued in 2005. The goal was to locate and identify the remains of outbuildings and activity

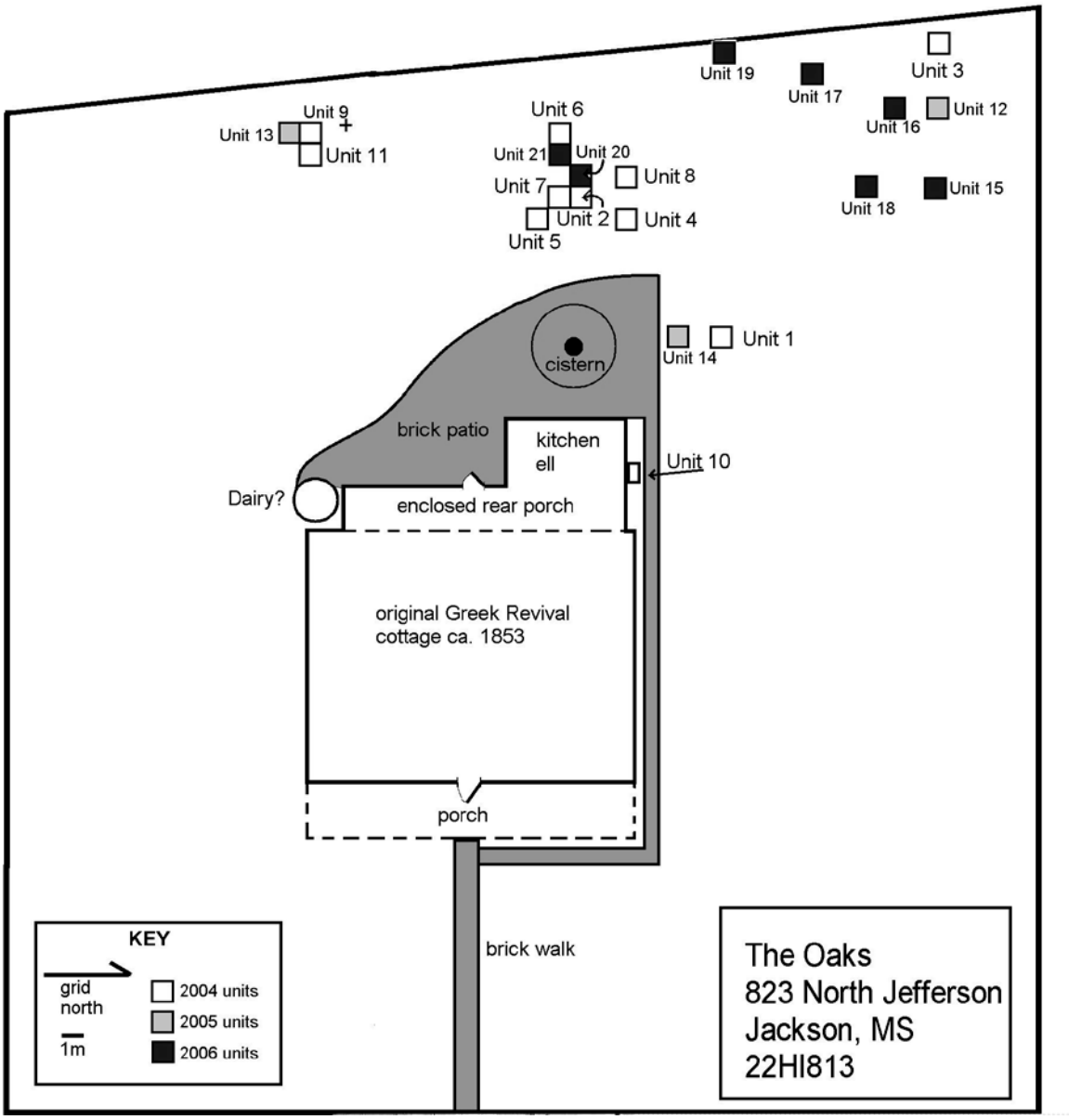

FIGURE 5. Excavation units at the Oaks.

areas, particularly those associated with the occupation of James and Eliza Boyd. In all, twenty 1x1 m and one 1x0.5 m units were excavated in the rear and side lots of the property (Figure 5). Of particular interest are the first six units excavated in the remains of the 1850s detached kitchen which contained the majority of the ceramic assemblage recovered from the site.

The Ceramic Assemblage from Blount Mansion, Knoxville, Tennessee

The ceramic assemblage from Blount Mansion was recovered from cistern fill and from excavations of the cistern conduit (Faulkner and German 1990). According to Faulkner and German (1990:8), the cistern fill was probably deposited during the occupation of the house by the

TABLE 1. Refined Ceramics from the Cistern and Cistern Conduit at Blount Mansion.

Ware	Cistern Frequency	Conduit Frequency*
Unidentified CC	1	0
Ironstone	21	7
Pearlware	1	2
Porcelain	3	8
Whiteware	23	111
TOTAL	49	128

*Faulkner and German 1990:Table 1

TABLE 2. Refined Ceramics from Kitchen Excavations at the Oaks.

Unit	ironstone	porcelain	pearlware	whiteware	TOTALS
2	1	1	0	14	16
4	14	64	4	71	153
5	1	0	0	19	20
6	2	2	0	0	4
7	4	10	0	8	22
8	21	45	3	55	124
TOTALS	43	122	7	167	339

TABLE 3. Decorated Porcelain from the Oaks.

Interior Decoration	**Exterior Decoration**	**Frequency**
none	none	74
	blue underglaze	1
	underglaze blue	1
	Embossed	2
	embossed panels	2
	gilding on edge	1
	gilt band	2
	gilt	2
gilt band		2
gilt band	pink floral w/ yell. band	1
gilt		6
underglaze banded		1
floral underglaze		2
blue underglaze		1

Boyd family. Table 1 presents the distribution of the ware types from the cistern and cistern conduit.

The refined ceramic assemblage at Blount is dominated by ironstone and whiteware, with very little porcelain. Interestingly, the cistern conduit contained little ironstone.

Decorated ceramics were common in the Blount Mansion ceramic sample. Only two sherds were undecorated while the remaining 47 sherds exhibited some form of decoration including transfer-printed, polychrome painted, flow blue, decal and gilt, blue underglaze with pink luster, and blue shell-edge. The cistern conduit included three undecorated sherds of porcelain, two undecorated sherds of ironstone, one undecorated sherd of pearlware, and 37 sherds of undecorated whiteware (Faulkner and German 1990: Table 1).

At least one matching dinner and tea set was identifiable in the Blount cistern assemblage. Either the Gaines family or, more likely, the Boyd family (see Faulkner and German 1990) possessed a set of ironstone with molded Gothic panels. Three cups, a coffee or teapot, three saucers, a pitcher, and 11 plates were identified. The Boyds may have possessed a tea set decorated with decal and gold gilt. Although only saucers were identified in the assemblage, either family may have possessed a whiteware tea set decorated underglaze painted red, blue, and green. Two saucers and a flow blue serving dish in whiteware may also constitute another set.

The Ceramic Assemblage from the Oaks in Jackson, Mississippi

During the 2005 field season, six one-by-one meter units were excavated in the area of the detached kitchen. Three brick pier supports and a portion of the chimney foundation were uncovered in the excava-

TABLE 4. Decorated Ironstone from the Oaks.

Interior Decoration	Exterior Decoration	Ware	Frequency
None	none	ironstone	34
	blue paint on rim	Ironstone	3
	blue painted design	ironstone	1
	gilt on handle	semi-vitreous	1
	maroon stripes; overglaze	ironstone	1
	molded leaf pattern	ironstone	1
	green leaf, black stem, red flower	ironstone	2
blue painted and gilt		ironstone	1
polychrome (green/red)	green glaze	ironstone	1

TABLE 5. Decorated Whiteware from the Oaks.

Interior Decoration	Exterior Decoration	Frequency
	blue glazed	1
	gold gilt	1
	painted	2
	red transfer print	1
blue embossed edge		1
blue embossed shell edge		17
blue shell edge, other		2
blue transfer print		1
dipped	dipped	5
painted		6
painted	painted	3

tions. The lack of artifacts in the builder's trench around the fireplace suggests that the kitchen was constructed before the lot was inhabited, probably at the same time the dwelling was constructed. Table 2 shows the distribution of refined ware types recovered from the six units in the kitchen. Overall, the refined ceramic assemblage is dominated by whiteware and porcelain.

Decorated ceramics (Tables 3-5) were relatively rare in the refined ceramic assemblage from the kitchen test excavations. Blue shell-edge embossed without scallops was fairly common on whiteware and all sherds comprise large plates. Gold gilding was found primarily on porcelain and consisted primarily of a gilt band along the edge of vessels (plates and cups). A few polychrome painted tea wares were also found. A number of sets based on decorations can be reconstructed for the Oaks. The most common consisted of undecorated whiteware dinner and teaware with no molded design. Also common was a dinner and tea set of porcelain, but otherwise undecorated. Less common but definitive was a porcelain dinner and tea set decorated with gold gilt bands.

Vessels found that consisted of cups and saucers included two polychrome whiteware sets painted with sprigs, a fluted porcelain teacup and saucer set, and ironstone and whiteware tea wares with molded Gothic panels. This distribution contrasts rather sharply with ceramic assemblages described by Wall (1991) and Fitts (1999). There is no evidence of dinner sets molded in the Gothic pattern.

However, the Boyds had a set of porcelain dinner and tea wares exhibiting a gold gilt band which may have been used to entertain guests at dinners and teas rather than for family meals. Undecorated porcelain dinner and tea ceramics may have been used for formal entertaining or special family meals.

Discussion

It appears that the Boyd family in Jackson did not have a set of molded Gothic panel dinnerware that was used at family meals, although tea wares in this pattern were found. The Boyds of Knoxville, however, seem to fit the pattern described by Wall (1991) and Fitts (1999) much more closely and possessed a set of molded Gothic style dinnerware and teaware. Both sites apparently used a dining room for family meals, and may also have entertained formally in the dining room.

Given the overwhelming plainness of the Oaks dinnerware assemblage, it may be that Eliza Boyd, between 1853 and the 1880s, most likely used her dining room almost exclusively for family meals. Here she may have used plain whitewares and blue shell-edge plates for serving family meals. Perhaps more formal teas were served in the parlor. It may be that the gold gilt dinner and tea set she possessed may have been used as she converted her dining room into a more formal setting, but when serving family meals in her dining room, perhaps she used her plain porcelain dinner and tea set.

In 2006, additional excavations were conducted at the Oaks. One unit in the back of the lot uncovered a refuse dump that contained a large amount of ceramic sherds. Most of these materials exhibited decoration, with decal being the most prominent. The difference between the pre-1880 ceramics and the post-1880 ceramics in the dumping area is striking. Most of the late ceramics exhibit elaborate decorations. It may be that after Eliza Boyd constructed her attached (and presumably modern) kitchen, her dining room became even more elaborate as she formally entertained there. Certainly it appears that Eliza Boyd deliberately cultivated her image of being artistic to increase the public stature of her household through her artful and colorful collection of ceramics (see Clark 1987:157).

Middle-class morality and gentility may have been expressed through ceramic choices in the period between about 1840 and 1880. It appears, however, that there was some variability in ceramic assemblages in Southeastern urban farmsteads. Differences between these two assemblages may have been due to the fact that the Boyds of Knoxville had slightly higher economic status, as evidenced by the fact the family owned three slaves. The difference in the size of the towns and the rate of their development may have affected the market availability of some ceramics. At Blount Mansion in Knoxville, family meals may have been eaten on molded Gothic-style ironstones. At the Oaks in Jackson, Mississippi, family meals were eaten on either plain whiteware or plain porcelain. It appears that both middle-class families, like those described for New York families (Fitts 1999; Wall 1991), utilized fancy teawares in part of their display of wealth and gentility. Both Southeastern families had access to separate dining rooms, also signs of middle-class status.

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