

**Providing a Voice to Those who Cannot Speak:
The Use of the Digital Archaeological Record in Charting the Evolution of the African-
American Community**

by

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Abstract

In order to understand the foundations of African-American culture, one must look beyond the meager amount of written records available to researchers and study evidence that many scholars consider unconventional including archaeological records, maps, and oral traditions. Such non-traditional sources become more commonplace with the increased use of social media and Web 2.0 databases, and help to fill the gaps in the historical record of the African-American community as well as encourage contemporary generations of African Americans to learn about their heritage.

The following pages document an experiment in public history, academic history, and archaeology, to reconstruct what life for the slave and the freedman looked like and to bring recognition to important landmarks in African-American history that faded away over the course of time. Archaeologists and other cultural resource professionals pioneer the creation, preservation, and sharing of such data that improves the understanding of African-American history, and identifies the transfer of traditions, an idea of community organizing, and the virtues of self-reliance and nationalism extending from ancient African empires to contemporary society. The author intends his GIS project, "African Heritage in Alabama," to illuminate such factors and unite cultural institutions throughout the state toward a common purpose of fostering pride in African-American heritage.

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INTRODUCTION

This thesis intends to illustrate how the use of archaeological and archival records, along with present historical analysis, assists in reconstructing the evolution of African-American communities that existed during the periods of slavery and post-war reconstruction, and how current generations may use such information to preserve the memory of such communities in the future. This process requires the three following steps. The first step requires understanding what information archaeological investigations provide about the evolution of society and how they fill in gaps left in the written record of history. The second step requires observing how specialists from the realms of academia, the excavation field, and the museum and archive reconstruct a narrative of often-misunderstood perspectives like that of the slave and the freedman through the combination of artifacts, archaeological observations, written records, oral histories, and contemporary historical scholarship. The third step requires application of these techniques used in recent physical and digital heritage projects to develop strategies that would work well in states like Alabama where one sees evidence of African-American heritage on a daily basis, but where actual data regarding this heritage remains elusive or lost in the dark corners of designated archives or even the attics and basements of families with deep roots in the region. The ultimate goals of this thesis are to recognize and tap into the little-known histories of African-American communities that remain prevalent throughout the state and the nation but are locked within the memory of local citizens, and to harvest and share these stories through

technologies like GIS, attribute databases, social media, and other means of online exhibition and dissemination.

Chapter One will discuss how the archival world compares to the archaeological world and what each profession can learn from each other about properly preserving our heritage and sharing it with others. While each side readily promotes its' differences to the other, in actuality, both professions share the same concerns regarding how to use their materials to accurately portray the past and how to deal with the ever increasing flux of physical and digital records in order to permanently capture and store the most valuable information for future generations. The author will produce a thorough analysis of the archaeological profession rarely seen in most archival literature. Method of appraisal serves as the chief difference between the two professions, where archivists typically assign value to materials in accordance with the policy of the larger encompassing institution while archaeologists usually generate their own records and catalog them according to their own perspectives of value. In addition, archivists usually deal with two-dimensional objects, while archaeologists may work with a mixture of two-dimensional and three-dimensional objects.

The chapter opens with an investigation of where the archaeologist and archivist's workflows mirror each other, with a literature review that indicates that the archivist and archaeologist both maintain collections that serve as voices for societies who may or may not retain the ability to speak for themselves. Several archivists in anthropological repositories indicate their duties combine care of traditional archival media and artifacts/organisms under the same umbrella, while other professionals state that the defined differences between the duties of the archivist, the archaeologist, and the curator must remain clearly divided and should not mix. The author will trace the history of the archaeological record from its' origins during the

European Renaissance to present day, emphasizing that archivists and archaeologists deal with similar materials including photographs, paper, film slides, and out-of-date digital technologies such as floppy disks and punch cards, and ultimately rely on the same standards and associations to preserve their data for the future.

Chapter Two concerns the application of archaeological methods in reconstructing and understanding the history of the African presence in the New World., and illustrates how archaeologists, archivists, and academic historians combine their talents to use ordinary objects to reconstruct the little-known stories of slaves and freedmen that form the origins of black communities in America. Unfortunately, interest in Afro-centric history and archaeology remained restricted to African-American academics for much of the early twentieth century, due to the fact that those in the anthropological and historical realm whose work received credibility from the general public usually focused on race relations from the white perspective. With the advent of the ‘social history’ philosophy in the late sixties and early seventies, social scientists began looking at American history from the view of the downtrodden of society who held the minority of power in the country. Archaeologists and historians turned their attention from the estates of upper-class white society to the slave quarter, the tenant house, and the urban ghetto.

Archaeology and archives merged within the realm of African-American history to produce pioneering exhibits including the 1969 rescue of a tenant house and possible slave cabin from Ivy Neck Farm in Maryland and its’ reconstruction within the Smithsonian’s National Museum of American History. Descendants of the former occupants toured the one-room structure and shared their experiences of the house. Colonial Williamsburg, which told the story of America’s founding primarily from a white perspective, conducted its’ first excavations specifically related to African-American life in the slave gardens in 1979 and introduced its’ first

African-American re-enactors the same year. Experts on the subject of the African-American diaspora including David Eltis, Gwendolyn Midlo Hall, and Andrew Torget took these efforts a step further by looking at ship ledgers of the Middle Passage, estate inventories of the Louisiana Supreme Council, and the journals and newspapers of residents in Texas planter communities to produce projects including *Voyages: The Trans-Atlantic Slave Trade Database*, the *Afro-Louisiana History and Genealogy* database, and the *Texas Slavery Project*, which pursued the use of GIS and relational databases to give visual dimension to the raw data of the slave and freedman's experiences and allowed users to combine data in unique ways that shed new light on shaded areas of African-American history and to share this information with others through the expanding world of Web 2.0 technology.

Chapter Three will apply the technology used and lessons learned from projects developed in the 1980s and 1990s to trace the evolution of African-American settlement and to address the specific challenges heritage specialists in Alabama face when considering a similar undertaking. While one cannot deny that African Americans as slaves and freedmen played some of the most influential roles in the economic and geographic success and expansion of the state, the locations where African Americans built their communities as well as the factors that served as the foundation for those societies still remain steeped in mystery. Such communities, which originated chiefly between the time of emancipation and the early 1900s, often fell victim to rural overgrowth or to urban industrialism and still exist but tend to 'blend into the woodwork'.

Most primary materials that exist regarding such locations often end up scattered in the dark corners of repositories or in the attics of individuals who know little of their value. Organizations such as the Alabama Center for Higher Education or ACHE initiated projects over the course of the last half century including the 1979 *Catalogue of the Records of Black*

Organizations in Alabama, which served as a physical listing of churches, schools, businesses, community improvement associations, and statewide professional groups. For each institution that volunteered their representation in the catalog, the ACHE assisted them in appraising, processing, establishing access to their records for future generations to research.

AlabamaMosaic and the HBCU Library Alliance CONTENTdm servers currently act as most repositories' means for disseminating information regarding African-American life in the state, in addition to the Alabama Repositories Directory Database which provides links to institutions including the State Black Archives at Huntsville's Alabama A&M University and the National African-American Archive in Mobile. Unfortunately, these tools overlook documentation like Booker T. Washington's *The Story of the African-American*, regional publications including Montgomery's 1919 *The National Cyclopedia of the Colored Race* and Mobile's 1928 *Leaders of the Colored Race in Alabama*, archaeological reports stored at the Alabama Historical Commission and the University of Alabama's Archaeology Department, and the author's own questioning of experts regarding the formation of African-American settlements throughout the Black Belt and other regions of Alabama. The author will use GIS and relational databases to develop the "African Heritage in Alabama" application, which combines statistical, attribute, and spatial data along with media files that make the struggles and achievements of local black communities and their citizens come to life.

CHAPTER ONE

From Dirt to Digital: The Cultural Archaeological Record in the Digital Archive.

The *African Heritage in Alabama* project combines the use of historical analysis, archaeological records, and archival records into a central portal in order to provide one of the most accurate pictures available of how slave, freedmen, and their descendants overcame innumerable obstacles to build self-sustaining communities that strengthened African-Americans from within their isolated societies to fight the pressures of white supremacy on the outside. However, since most African Americans relied on oral tradition to pass their experiences onto future generations, a great deal of written records documenting life from the perspective of the predecessors who started these communities is lacking. We must therefore salvage whatever documentation we can find in our archives. Researchers must also realize the fact that records of African-American existence not only reside in manuscripts or photographs, but in landscapes, artifacts and specimens that fall into the realm of archaeologists. Unfortunately, there remains a wide rift between the archaeological and archival professions that must heal before work can proceed in reconstructing the history of African-American life in Alabama.

Archivists and archaeologists tend to operate within separate professional circles, but, in reality, mirror each other in several ways. Both strive to appraise, process, and disseminate information regarding the heritage of societies in various forms ranging from Native American villages to modern corporations, and face similar concerns regarding management of an ever-increasing wave of digital data. However, each field requires a specific set of skills, and the

archivist and archaeologist tend to pursue their work with different mindsets. For example, archivists work primarily with records created by an identified entity that typically documents its' own values, purpose for existence, and history. Archaeologists, on the other hand, usually work with cultures that lack written evidence of their existence, which forces field scientists to create their own records of the past through sketching their observations and taking notes regarding the landscape and analysis of artifacts. Despite their differences, the literature of each profession hits upon similar subjects including: the preservation of various types of media including paper and film; the use of digital technologies including Geographic Information Systems, relational databases, and Web 2.0 applications; and the sensitive nature and issue of rights regarding stored data, as well as the best means of sharing such information. This chapter will illustrate links often ignored between these two professions by comparing perspectives taken from each field, and identifying similarities in the methodology and technology used by both archivists and archaeologists.

Appraisal serves as a key component of both professions in deciding what materials to store within their repositories, how to preserve and catalog such records, and how to utilize such objects to their greatest potential through educational outreach in providing access to their content and promoting awareness of their existence as well as the people, places, and events they represent. Once we recognize the common goals of archaeologists and archivists to identify and promote the value of their holdings, we may then better understand what types of information archaeologists record, and how the original intentions for the profession, the patterns of human existence determined by sociologists like Charles Darwin and Lewis Henry Morgan, and the growth of technology including the camera and the personal computer affected how the documentation of archaeological observations and artifacts changed over time.

With a comprehension of the history and the intentions of the archaeological profession, we may then delve into a breakdown of the types of data archaeologists document in their records. The two major types of data, spatial and attribute, each manifests with its' own standards, means of representation, and unique methods and sharing information with others. Spatial data, which charts the relationship between the locations of two or more objects, may appear in the form of geographic coordinates, but may also take on the form of lines, polygons, three-dimensional objects known as computer-aided designs or CADs, or serve as simple layers of shapes or scanned maps that compose a more complex structure of information. Attribute data, consisting of the numerical and descriptive data of individual objects recovered or observations gathered from an excavation, often end up stored in relational databases where one may compare individual datasets to those gathered at the same site or to those taken from multiple sites. With the ever-increasing amount of Web 2.0 applications like WorldMap, Tripline, Thinglink, and Google Fusion Tables that allow one to mesh spatial and attribute data to form new perspectives of social phenomena, the ability to illuminate events like those pertaining to American slavery that once lived in our memories with an air of mystery or as the victors decided to tell the story now become more commonplace and foster more digital and print historical analysis.

For one to understand the records archaeologists produce and the value they place upon those records, the reader must first review the mindset and the workflow of the traditional archivist. The steps in managing the holdings within an archive typically include: survey and acquisition, or asking and planning for the reception of materials; accession, or accepting legal and physical custody of materials; appraisal, or determining the value of a repository's collections; processing, or the arrangement, preservation, security, and description of materials; and access, or the process of making materials available to the public. The Northeast Document

Conservation Center or NEDCC's *Assessing Preservation Needs: A Self-Survey Guide* serves as one of the chief doctrines for properly organizing an archive, and maintaining the repository by taking inventory and re-appraising one's collections on a yearly basis. The NEDCC emphasizes "preventive preservation" of materials for present and future generations as one of the major, if not the foremost, objectives in managing an archive – which states the obvious for archivists and other cultural resource professionals. However, the question remains as to how one goes about preserving his or her repository's holdings. The guide indicates that one must conduct a survey regarding the needs of the collection including environmental control, storage and handling, and reformatting or reproducing collections in microfilm, photocopy, or digital imaging. However, before completing a survey, the archivist or management of the institution must establish their mission and collecting policy or "selection for preservation" process - determining what provisions the archive must undergo to establish secure surroundings for their collections; whether the archive contains the funds, space, and staff required for such maintenance; and what the archive does with materials it deems no longer pertinent for its repository.¹

Appraisal plays the most critical role in determining what collections stay or leave the repository. However, in the last few decades, appraisal evolved into a struggle between maintaining a non-biased perspective in order to respect the creator and/or donor's intent for their materials and the archivist's urge to interpret the materials he or she processes. The latter post-modernist perspective illustrates the archivist as an activist for cultures often ignored and events usually untold and, as we shall see, establishes a common philosophy among the archivist and the archaeologist. The initial leaders of appraisal theory, Sir Hilary Jenkinson and T.R. Schellenberg, promoted a very conservative practice including Jenkinson's belief that documents

¹ Beth Patkus, *Assessing Preservation Needs: A Self-Survey Guide* (Andover, Massachusetts: Northeastern Document Conservation Center, 2003): 1, 5.

serve as part of an official transaction and that archivists must remain impartial in taking liberties to preserve the best accounts of what officially happened, and Schellenberg's enhancement upon Jenkinson's theory by dividing such an impartial analysis into primary values or administrative, fiscal, and operating uses dictated by the creator and secondary values or lasting values of the document when no longer in current use and for those other than the original creator.²

Of course, traditional archival repositories and other cultural institutions must ultimately reject impartiality on such occasions when they maintain a certain limit of space for their records, they serve as sites for a particular subject or type of record, and/or those who hold political and financial stock in the repository's existence dictate the authors and subject matter of the collections. Theories on using interpretation and appraisal in the preservation and storage of collections originated in the 1990s with articles including Richard J. Cox's "Archival Preservation Issues and Interests" and Tyler O. Walters' "Contemporary Archival Appraisal Methods and Preservation Decision-Making" in *American Archivist*. Walters discusses multiple methods of appraisal including: documentation strategy, which ensures "adequate documentation of an on-going issue, activity, function, or subject" and the sharing of data to gain "the perspective of examining what already exists within archival repositories...to devise ways to perform inter-institutional comparisons of archival collections"; and macro-appraisal, which "identifies the organizations most important to understanding the society of which they are a part...assesses the capacity of institutions to create records of value in a global way rather than

² See Jenkinson's *A Manual of Archive Administration* (Oxford, England: Clarendon Press, 1922), and Schellenberg's *The Appraisal of Modern Records – Bulletin Number 8* (Washington, D.C.: National Archives and Records Administration, 1956).

dealing directly, one by one, with the tens of thousands of record series, databases, and media collections which any large jurisdiction will contain.”³

Both archival and archaeological/anthropological repositories use these styles of appraisal today when developing digital collections and exhibitions to share materials with other scholars - “compelled,” as Terry Cook and Joan M. Schwartz’s “Archives, Records, and Power” article indicated, “by forces where they ‘must’ play particular roles, where their expectations about themselves and assumptions about their audience command a particular performance.”⁴ Cook seems to indicate that a repository staff’s ultimate mission remains to present a community’s past to its’ present and future generations, and to do so in a way that creates a bond between the audience and the creators of the records and artifacts on display. Such a theory creates a common goal between archivists and archaeologists who deal with cultures whose voices either only reach as far as the written record will take them, or more primitive societies whose voices remain further silenced by stones and ceramics that lack less literary value.

Elisabeth Kaplan’s article “Many Paths to Partial Truths” serves as one of the first articles to emphasize the need to recognize such similarities between archivists and archaeologists. Kaplan indicates that, in the late 1980s, the anthropological field faced the same issue as archivists in the fact that anthropologists applied scientific labels to their studies of man

³ Richard J. Cox, “Archival Preservation Issues and Interests,” in Barbara Buckner Higginbotham and Mary E. Jackson’s *Advances in Preservation and Access* (Westport, Connecticut: Meckler Corporation, 1992): 234 - 235. Tyler O. Walters, “Contemporary Archival Appraisal Methods and Preservation Decision-Making,” *American Archivist* 59, no.3 (Summer 1996): 330 – 332.

⁴ Terry Cook and Joan M. Schwartz, “Archives, Records, and Power: From (Postmodern) Theory to (Archival) Performance,” *Archival Science* 2 (2002), 171.

and neglected the fact that human behavior is dynamic and falls short of the ‘one-size-fits-all’ paradigm that both professions attempted to enforce on their records. Kaplan observed that,

“At their most basic, both are concerned with representations – of people, of cultures, of events, and ultimately of history and memory. Both exercise power in the creation and use of records, of observations, of information. Anthropologists (just like archivists) have traditionally viewed themselves as disinterested selectors, collectors, and assemblers of facts from a transparent reality. But both actually serve as intermediaries between a subject and its’ later interpreters, a function/role that is one of interpretation itself... This power over the evidence of representation, and power over access to it, endows us with some measure of power over history, memory, and the past.”⁵

Both anthropologists and archivists take pride in maintaining the information value of the original record for present and future scholars, and often state that academic inquiry is reserved for the “ivory tower” while they remain too busy in the “practice” of “running the shop” or maintaining the traditional archival workflow.⁶ However, Kaplan argues that maintaining focus on the “practice” leaves little room for intellectual self-examination that almost all academic professionals require to grow in their fields. In other words, if archivists and anthropologists refuse to study why they believe in a certain workflow or use of certain scholarship on which to base the arrangement and collections, they then fail to debate and bounce theories off of each other and may never reach conclusions that help them to preserve the truths in their records and to connect and prove themselves accountable to their patrons.⁷ Kaplan ultimately refers to famous scientists like ethnographer Melville Herskovits who stated in his 1948 *Man and His Works* that “judgments are based on experience, and experience is interpreted by each individual

⁵ Elisabeth Kaplan, “‘Many Paths to Partial Truths’: Archives, Anthropology, and the Power of Representation,” *Archival Science* 2 (2002), 211.

⁶ *Ibid*, 218.

⁷ *Ibid*, 219.

in terms of his own enculturation.” Clifford Geertz takes Herskovits’ philosophy into the field, whether processing collections or noting observations of human nature in scientific terms, in emphasizing “Thick Description” or the idea that “if you want to understand what a science is, you should look in the first instance not at its theories or its findings, and certainly not what apologists say about it; you should look at what the practitioners do.”⁸

Evelyn Wareham points out, ironically in the same journal volume, that streamlining one’s work as practical not only leads to misrepresentation of the subject or event but possibly no representation of those cultures who lacked control over the original creation of the record. Wareham indicates that, in the Pacific archives of the micro-states in Oceania, the types of records one encounters and the information one receives about a particular society depends on where one collects or looks for such material. The author references Eric Ketelaar’s statement that “to understand which recordkeeping strategies and methods will work in a particular environment, one must first analyze the characteristics of that culture.”⁹ Wareham sorts archivists in the history of the Pacific Islands into either collectors or government bureaucrats. “Bureaucrats” included the elite colonizers and missionaries to the islands who established proper civilizations and ultimately sent the memoirs of their experiences and official documentation regarding the rule of the lands to research libraries in Hawaii, New Zealand, Australia, and the United States. Even the official documentation regarding particular cultures that stay within the national archives of Fiji or Papua New Guinea ultimately come to reside in

⁸ Ibid: 213, 211.

⁹ Evelyn Wareham, “From Explorers to Evangelists: Archivists, Recordkeeping, and Remembering in the Pacific Islands,” *Archival Science* 2 (2002), 188.

poorly-funded, small repositories with questionable preservation and security methods and no more than five staff members per repository.¹⁰

“Collectors,” on the other hand, included the earliest explorers who often acquired carving, weavings, and biological specimens, and drew primitive maps and plans of the area. Most of these materials are still hidden in the stacks of repositories in the civilized fringes of the Pacific Rim, but modern scribes and native cultural analysts like Epeli Hau’ofa continue to generate records of the local primitive natives through the recording of oral histories. Hau’ofa indicates that villages like the one he grew up in Papua New Guinea contained very few books with few readers. Rather, life moved and continues to operate mostly on handed-down stories and economic transactions based on trusting one’s word instead of his or her writing. Despite missionary efforts to educate locals, memory in their native tongue is what continually structures the villager’s daily life. To this day, colonial governments refuse to acknowledge this fact and important information such as native claims to land and legal customs remain ignored.¹¹

To fully understand the various aspects of cultures like African-Americans that lack a well-preserved written record, one must look to and store materials related to the sociocultural realm or methods of organization, government, and creating meaning/memory, the biological or physical realm or how humans adapt to diverse environments through growth, development, and

¹⁰ Ibid, 190 – 191.

¹¹ Ibid: 194 – 195, 198 – 199.

death, and the linguistic realm or how patterns of communication shape identity and change.¹² To aid in the pooling of such knowledge, social scientists like the archaeologist usually end up creating his or her own record of the past. This process requires the collection and/or generation of materials including: cultural artifacts or man-made materials; non-cultural artifacts or “ecofacts” or natural materials including flora, fauna, and soil samples; associated records or “original records, or copies thereof, that are prepared, assembled, and document efforts to locate, evaluate, record, study, preserve, or recover a prehistoric or historic resources”; digital data including Global Positioning System data, data collected in a database, and Computer Assisted Design models; and research results or interpretation including site reports or conclusions of excavated data, books, articles, and results of “no finds”.¹³

Archaeologists ultimately rely on observations and statistical calculations they take at the excavation site. In addition, archaeologists avoid interpreting their own data not only because “it is the quality of the data, rather than the reputation of the individual, that is of primary importance,” but because no authoritative narrative and/or verified primary source usually exists by which to compare their findings.¹⁴ They must reach conclusions regarding their datasets and artifacts by comparing them to the materials recorded and retrieved at a similar location.

Archaeologists define the comparison of cultures to an unknown site and the application of knowledge concerning the common trends of human migration and social structures as middle-

¹² “What is Anthropology ?,” *American Anthropological Association*, <http://www.aaanet.org/about/whatisanthropology.cfm> (accessed December 5, 2013).

¹³ “Introduction to Curation,” in S. Terry Childs and Eileen Corcoran’s *Managing Archaeological Collections: Technical Assistance* (Washington, D.C.: Archaeology and Ethnography Program, National Park Service, 2000).

¹⁴ Nancy Parezo, “Preserving Anthropology’s Heritage: CoPAR, Anthropological Records, and the Archival Community,” *American Archivist* 62 (Fall 1999): 288.

range theory, a strategy archaeologists use to determine how people utilized artifacts and adapted to the geographic layout of the surrounding region. In order to understand the purpose behind the creation of an artifact, the archaeologist must identify its' context or the object's relationship to other artifacts.¹⁵

Archaeologists determine three types of context – spatial, temporal, and formal. Spatial context determines the purpose of an artifact based on where the archaeologist finds it in relative location to other objects. Temporal context refers to the assumption that an artifact originates from the same time period as surrounding objects. Archaeologists take note of the artifact's relative age compared to other artifacts found at the site, and its absolute age that determines how many years passed since an individual made or last used the object. Excavators typically use the geologic time clock, which indicates the age of an object and surrounding pieces based on the layer of soil in which the archaeologist finds them. Formal context classifies objects according to their form, attributes, and possible chemical composition. Archaeologists determine how individuals used objects such as tools, weapons, or building materials, as well as design features unique to a specific society. In addition to context, archaeologists must also take into account the factor of site formation processes, as well as the forces of continuous destruction and disturbance that occurred since humans last inhabited the site.¹⁶

¹⁵ Michael B. Schiffer, "The Structure of Archaeological Theory," *American Antiquity* 53, no. 3: 462 – 463.

¹⁶ David L. Webster, Susan Toby Evans, and William T. Sander., *Out of the Past: an Introduction to Archaeology* (Mountain View, California: Mayfield Publishing Company, 1993), 18.

By taking on the role of scientists, most scholars searched for physical evidence that proved the connection between seemingly-different cultures. Archaeologists defined this scientific process as the study of the nature of the world rather than an individual's perceptions of it, and the idea that a common objective view of the natural world allows cultures to interact and understand each other. Scientists attempted to maintain an unbiased attitude toward their observations by comparing the results of their experiments or observations made under controlled circumstances, to well-established theories or results of previous testing of similar experiments. Social scientists, in particular, observed the effects of variables like climate and agriculture on local settlements.¹⁷

Europeans developed an obsession with objects from antiquity by the 1820s, which spawned Alexander von Humboldt's research in the Americas concerning the ruins and ancient practices of Native American societies like the Maya and Aztec. Humboldt's observations also noted the existence of a mound-building society that left evidence of its existence scattered across the North American continent. Naturalists inspired by Humboldt's writings began searching for the locations of such burial mounds, and used the technique of surface survey mapping to document several clusters of such mounds in the Ohio River Valley, along the Atlantic seaboard, and the Southeastern United States. During the late and early nineteenth centuries, Thomas Jefferson conducted the first excavation on American soil in 1784 when he investigated a burial mound located on his Poplar Forest, Virginia, estate.¹⁸

¹⁷ Ibid, 30.

¹⁸ Ibid, 34. See Gene Zechmeister's "Jefferson's Excavation of an Indian Burial Mound," *Monticello Research Report* (November 2010), <http://www.monticello.org/site/research-and-collections/jeffersons-excavation-indian-burial-mound> (accessed October 31, 2014).

Jefferson pioneered the documentation of the soil layers in the mound and any artifacts found at each layer, both to preserve a record of how each artifact was recovered and to later make inferences about the culture that once inhabited the site. Jefferson's work established great insight into Native American views concerning death, agriculture, and social life. His research added to the foundation of nineteenth-century social philosophers like Thomas Malthus who theorized that environmental factors determined the wealth, virility, and strength of societies to either become world empires or collapse into extinction. Earth sciences also gained popularity in the early 1800s through William Smith and Charles Lyell who promoted the law of superposition, the deposit of stratified material in the soil under the normal forces of erosion and deposition results in the older material settling at the bottom and the younger material at the top. Smith also developed the concept of the index fossil as a measurement of time in archaeological research, stating that an organism readily found in a particular layer of soil or strata could be related to that time period. With this information, archaeologists could then look at a cutaway of soil and determine the time period of artifacts based upon their locations in the ground. Earth sciences and social philosophy eventually meshed to create evolutionary theory popularized by Charles Darwin. Darwin's philosophy used observations from excavations to determine that societies that died out lacked the ability to adapt to their environment. C.J. Thomsen took a more constructive view of evolution in 1806 when he developed the "three-age sequence" theory, stating that stone tools were usually found at the bottom, bronze or copper tools in the middle, and iron tools on top. Thomsen's research established the three major epochs of industrial history – the Stone Age, the Bronze Age, and the Iron Age which continues into contemporary society.¹⁹

¹⁹ Ibid, 40.

Evolutionary theory developed by Malthus, Lyell, and Darwin, fueled the desire of late nineteenth and early twentieth century archaeologists to develop strict standards for documenting the data they collected from their observations. They developed more concentrated description fields to record the specific attributes of the artifacts and topography of each excavation site. Archaeologists also attempted to pinpoint the time period of each culture's existence and the impact of their social institutions and material culture upon the development of neighboring societies. Faced with a lack of written records concerning the great majority of these ancient cultures, archaeologists applied scientific methods to their work to eventually produce a historical account of those who lived in prehistoric times. Modern means of recording archaeological data have undergone an intellectual evolution over the last 170 years, just as dramatic as the biological and geological transformation theorized by Darwin. Anthropologists divided this time into three stages – the “Descriptive Period” extending from 1840 to 1910, the “Historical Period” of 1910 to 1945, and the “Explanatory Period” extending from 1945 to the present, with each period building on the excavation and documentation methods invented before it.²⁰

Archaeologists of the “Descriptive Period” made the first attempts to establish a uniform system of identifying artifacts and the cultures they represented. The American Lewis Henry Morgan developed an ethnographic spectrum in 1877 that indicated that the type of artifacts found at a site determined the level of technological advancement and social complexity that would have been found within that culture. Morgan applied a cultural outlook by classifying them as savages, barbarians, or civilizations. Savages began as gatherers and gradually adopted fire and the bow and arrow to hunt animals. Barbarians evolved from the savage level by using

²⁰ Ibid, 47.

pottery for food storage, domesticating animals and cultivating farmland, building homes, and adopting iron tools. A society officially became a civilization when it adopted an alphabet and writing system. Morgan's ethnographic scale provided a major tool that helped archaeologists reconstruct the culture of ancient societies.²¹

Archaeologists also pioneered the method of relative dating and absolute dating, which carried the archaeological profession and recording techniques from the "Descriptive Period" into the "Historical Period". Relative dating established the age of sites or artifacts based on their similarity to other items, while absolute dating determined the number of years elapsed since an object was made or used. These two practices identified numerical time frames for the existence of settlements and cultures, and introduced the concept of diffusionism that indicated the spreading and sharing of traits among isolated sites meant that new cultures evolved and rose out of pre-existing ones. The "Historical Period" also ushered in the use of experimental archaeology, which promoted the idea that the observation of cultural practices and the rate of environmental change in a modern society such as the accumulation and burial of their garbage would provide a model for studying the development of ancient cultures in the same region.²²

Archaeologists during the "Historical Period" began the process of organizing and linking site and artifact records together to construct a timeline for the evolution of each specific culture. They understood that a piece of observational data or an artifact had little significance without supportive documentation to place that record in the larger context of history. The Smithsonian Institution, the Peabody Museum at Harvard University, and the American Museum

²¹ Ibid, 50.

²² Ibid, 62.

of Natural History became some of the nation's major repositories of archaeological materials and research centers at turn of the century. In addition, professional organizations, such as the Society of American Archaeology of 1934, mandated the production of detailed archaeological records for all American excavations. Archaeologists created categories of provenience documentation, analytic documentation, administrative documentation, and project reports that preserved excavation data in a detailed format that gave context and meaning to associated artifacts and also provided insight into the history of the archaeological profession.²³

Provenience documentation consisted of field, accession, and catalog records. Field records contained observational and experimental data obtained at the site including survey forms, field notes, sketches and maps, specimen catalogs, and visual media like still photographs and motion picture film. Analytical documentation served the same purpose as field documentation, and contained data regarding laboratory analyses of artifacts, biological specimens, site geography, and any synthetic experimentation related to the excavation. Accession records reflected standard archival accession records including copies of the site data, any correspondence concerning the process of excavating a particular site and the curation of the collection in a particular repository, and legal documents to reflect the archive's ownership of rights to the specific collection. Such materials were often associated with catalog records that documented the stabilization, preservation, and restoration processes conducted towards artifacts and other materials in the field or the archive. Administrative records included grant proposals, research designs, contracts, and financial material that made each excavation project possible. A project report served as the summation of the project in documenting the conclusive findings of

²³ Don D. Fowler and Douglas R. Givens, "The Records of Archaeology," *Preserving the Anthropological Record, 2nd edition* (New York City: Wenner-Gren Foundation for Anthropological Research, Inc., 1995): 2.

the excavation, including analyses of the recovered material, the contextual relationships of the artifacts, and the impact of the collected data in the larger body of archaeological knowledge.²⁴

Early twentieth-century archaeologists defined the records required to preserve the integrity of artifacts and observational data, but they also molded field observation methodology by creating specific data categories to consider when recording information about the various aspects of the site. Field scientists began addressing components such as animal and plant remains, the attributes of ceramics or pottery and lithics or objects made of stone, and also studied the composition of the surrounding soil. Archaeologists used this information to go beyond establishing a historical timeline for a particular society, and begin making inferences and observations concerning the rise and demise of settlements. By the end of World War II, the American archaeological profession surpassed the eras of recording purely descriptive and chronological data to reach an “Explanatory Period”, emphasizing the need for “processual” archaeology that analyzed the long-term processes of cultural change revealed the archaeological record. Processualist methods promoted the idea that understanding the lifeways of an ancient culture helped modern descendants of the same region to improve their own environmental and social conditions.²⁵

Cultural resource management originated in the 1960s with the arrival of computer technology in the archaeological field. Archaeologists intended computers to provide an efficient means of storage and documentation of site observations at each excavation. Computers provided the capacity for archaeologists to expand the categories of their records and the

²⁴ Ibid, 3.

²⁵ Thomas F. King and Margaret M. Lyneis, “Preservation: a Developing Focus of American Archaeology,” *American Anthropologist* 80, no. 4 (December 1978): 874 – 875.

taxonomy used in artifact classification, and also held the potential to create visual reference models of excavation sites. In 1966, Jacques and Victoria Bordaz addressed the capabilities and limits of processing computerized archaeological data. They supported archaeologists like Irving Rouse who envisioned a detailed systematic structure of archaeological data that identified both analytic classification of mode, or sorting of artifacts by the determined purpose of the object, and taxonomic classification of type, or sorting of artifacts by their attributes including shape of object and style of engraved patterns. Rouse determined that artifacts could have more than one mode or type, that there could be numerous links between several points of data gathered in the classification structure of an artifact, and that analytical and taxonomic structures could overlap each other.²⁶

Regarding the use of automated processes to create and read archaeological records, the Bordazes indicated that “archaeologists are new to the computer field and lack the necessary experience in the use of this research tool...that no programs are available that have been specifically designed for archaeological data...and that the processing of associative data is still an art” that lacked descriptive standards in the 1960s.²⁷ Before investing in computer technology, one of the archaeologist’s primary focuses required a rapid, efficient, and inexpensive system for the retrieval of data. The most popular devices for recording data became semiautomatic punch-card machines, specifically IBM’s Termatex system. Termatex utilized inverted data-processing technology, which used a drill and a descriptor card with 10,000 possible data choices to transform stored digital data into a physical manifestation by punching out specific areas of

²⁶ Irving Rouse, “The Classification of Artifacts in Archaeology,” *American Antiquity* 25, no. 3 (January 1960): 314 – 316.

²⁷ Jacques Bordaz and Victoria Bordaz. “A Critical Examination of Data Processing in Archaeology, with an Evaluation of a New Inverted Data System.” *American Antiquity* 31, no. 4 (April 1966): 496.

the card that indicated mode and type. When placed over a light reader, the holes in the card indicated the features of each object through a binary system, where a hole indicated “yes” or 1, while no hole indicated “no” or 0. Data from one excavation could fill at least 1,000 cards, and each was color-coded to indicate the piece of information it held.²⁸

Punch cards revolutionized the archaeological profession as the first automated records used to store excavation data. However, the rise of computer mainframes and personal computers in the early 1970s allowed archival institutions and individual archaeologists to preserve and share digital site records through networks known as “archaeological data banks”. Robert G. Chenhall became the authority for creating description standards for these data banks in his 1967 *American Antiquity* article “The Description of Archaeological Data in Computer Language”, and spearheaded the world’s first data bank project designed by the Arkansas Archaeological Survey and the General Retrieval and Information Processor for Humanities Oriented Studies (GRIPHOS), or the Museum Computer Network in 1972. The greatest concerns for undertaking such a task included whether the research value would be worth the time and money invested to create the data files and the best structure for the digital files that would provide optimal research access. Nevertheless, Chenhall pioneered archaeological use of computer programs that gave record creators high-speed data processing power to record more detailed and accurate observations about their excavations and to present their findings to the research community, along with the creation of an open-ended database model that allowed users to compare and manipulate data to reach their own conclusions without damaging the original record.²⁹

²⁸ Ibid, 498 – 499.

²⁹ Sandra Scholtz and Robert G. Chenhall, “Archaeological Data Banks in Theory and Practice,” *American Antiquity* 41, no. 1 (January 1976): 91.

By the 1970s, the Arkansas Archaeological Survey contained location and artifact information concerning over 7,500 sites within the state, with some excavation files containing over 1,000 records. Chenhall and his staff's objectives included creating some minimal level of information on all known sites and artifacts, as well as several data categories that allowed for multi-purpose use of each file and comparison of findings between different excavations. Those who worked on the project included graduate students who specialized in a specific area of the database whether maintaining the site description file, floral and faunal data, human skeletal records, or improving methods of recording pottery attributes. All of the information would be combined into excavation reports produced by the Survey Registrar that proved useful to various government agencies involved in cultural resource management. Chenhall also created several means of metadata searches including free-form unstructured data, general key word indexing, category indexing, and an overall hierarchical structure with links between the overall site file, category files, and each individual record.³⁰

The Arkansas Archaeological Survey – GRIPHOS data bank served as the prototype for the modern digital cataloguing system and paved the way for archival preservation and access of electronic records. The pioneering technology of the GRIPHOS project and other projects promoted the contemporary use of electronic preservation in the worlds of archaeology and cultural resource management from the 1980s into the 2000s. Several regional archaeological archives in the United States including the Thomas Jefferson Foundation at Monticello and the Research Laboratories of Archaeology at the University of North Carolina – Chapel Hill (RLA-UNC) utilize database management systems to preserve accession ledgers and associate artifact descriptions with digitized photos or primary historical material, which allow archaeologists to

³⁰ Ibid: 93 – 94.

manage and extend the life of their excavation data, while providing anthropological and ethnographic scholars unbiased evidence concerning the development of Native American society and African American cultures in the Southeastern United States.

The development of the British Archaeological Data Service (ADS) and the American counterpart of Digital Antiquity allow field researchers to create and share excavation notes, survey maps, datasets concerning the description of artifacts, and cumulative reports with fellow archaeologists and historians. The staff for both websites experiment with electronic records management systems including FEDORA Commons and collections software like Open Context, which allow the preservation of a wide range of material from Geographic Information Systems to digital images of artifacts and create item-level metadata standards for each artifact. The concept of big data, or the theory that archaeologists typically produce a collection of thousands of digital records from a single excavation and expect to process and store collections from several excavations in a single digital archive, currently serves as the biggest challenge to most archaeologists. ADS and other digital archaeological repositories cope with this problem by adopting a method of using cloud servers created by companies like Oracle, which allows repositories to preserve greater amounts of files at a faster rate than traditional digital archives.³¹ Organizations like ADS and its American counterpart, Digital Antiquity, pioneered the dissemination of data and the ability to use archaeological data to reconstruct the history of once unknown cultures, including that of African Americans.

Archaeologists can combine spatial data and attribute data to explain the characteristics of African-American sites and assist in developing an understanding of the slave and freedman's

³¹ Archaeological Data Service, "Archival Strategies and Digital Lifecycles – Guides to Good Practice," University of York. http://guides.archaeologydataservice.ac.uk/g2gp/ArchivalStrat_1-1 (accessed July 20, 2012).

daily experiences. Archaeologists pioneered the use of digital technology for sharing data and published research with fellow professionals and researchers in various fields of study. They also adopted the practice of bringing portable computers and other electronic recording devices into the field, which ensured the preservation of fragile pieces of data that could not be replaced if corrupted. Born-digital records also complimented paper-based observations to create more accurate and detailed descriptions of each settlement. Field scientists discovered that computers added substantial processing capabilities and a depth of understanding in producing the initial survey of the excavation, entering fieldwork data concerning topography and artifacts, analyzing and comparing the data collected at each site, and using visualization techniques that transformed statistical data into a virtual picture that other social scientists could incorporate in their own studies. Before beginning an excavation of a site, the archaeologist or cultural resource manager must develop a research design to plan their investigation. Excavators must also determine the matrix of the site, or the material in which the archaeological evidence is embedded, that serves as an indicator of how well natural forces preserved the site context and sheds light on the environmental conditions a prehistoric culture may have encountered. Once archaeologists identify a concentrated location of artifacts, they use equipment to create a grid that divides the site into analytical units. A datum point is established and provides a reference for stratigraphy.³²

Two types of information archaeologists obtained by digital means were spatial data that documented locations of manmade and natural structures within a site, and attribute data used as standard categories for the description of recovered objects. Archaeologists who pioneered the use of the modern site record promoted the visualization of spatial and attribute data with the creation of plotted maps and artifact sketches in field journals. Field excavators were some of the

³² Webster, Evans, and Sanders, *Out of the Past*, 120.

first professional scholars to utilize photographic technology, beginning with the use of daguerreotype plates during Middle Eastern expeditions in the 1840s and 1850s. Over the course of the twentieth century, archaeologists experimented with various types of film format and camera lenses to determine which would provide the best detail at specific locations.³³

However, slides and negatives of such valuable information could lose their integrity or disintegrate if they were not properly organized and preserved. Such media became archaic when the Sony Corporation introduced the MAVICA or the Magnetic Video Camera in 1981, which converted a captured image into electronic binary signals that would then be etched onto two-inch floppy disks called MAVIPAKs. Special playback viewers allowed for image display on television sets and video monitors, and the user could obtain physical copies through a color printer specifically designed for MAVIPAKs that was developed shortly after the release of the MAVICA.³⁴

The MAVICA became the forefather of the digital camera and the concept of the USB drive that allowed for transfer of images and other data onto computers for permanent storage and sharing capabilities. Along with the use of digital cameras at the excavation site, the development of scanners and the transmission of satellite images to computer databases transformed the geographic mapping of a settlement's features from hard-copy documentation into a digital code that allowed archaeologists to analyze spatial data of their excavations in various formats. Archaeologists utilize Geographic Information System or GIS software for such

³³ Peter G. Dorrell, *Photography in Archaeology and Conservation – Cambridge Manuals of Archaeology, 2nd ed.* (New York City: Press Syndicate of the University of Cambridge, 1994), 15 – 30.

³⁴ “Sony Advertisement Announcing the Sony Mavica Electronic Still Video Camera, August 24, 1981,” http://www.digicamhistory.com/1980_1983.html (accessed August 30, 2012).

projects, which establishes links between digital mapping tools and attribute databases to create searchable three-dimensional models of excavated sites. GIS software allows archaeologists and others to produce maps regarding various types of statistical data, to design distance scales and symbol legends that illustrate the relation of locations and indicate points of relevance, and the ability to assign metadata phrases, multimedia files, and website hyperlinks to specific features on each map. Scholars who access GIS-generated maps maintain the ability to choose from and combine a range of attribute data stored within a particular program, in order to determine correlations between data and reach conclusions the original map developer may not have anticipated.³⁵

Archaeologists assign all spatial and attribute data to the vector model in the form of graphic primitives. Graphic primitives range from individual coordinate points or nodes, lines or line segments formed from a group of nodes, polygons formed from a group of lines, networks made from a group of polygons, and any other symbol that marks a place of importance on the landscape. While each node serves as a link to a single dataset, each line contains the datasets for all nodes connected within that line, a record of the segment drawn between every two coordinates within the line, and the direction in which the line was drawn to connect each coordinate. A polygon references each line segment that makes up its shape, as well as a central geometric coordinate within the shape, known as a centroid, that contains the numerical and descriptive datasets for all disparate points covered within the area of the polygon.

Archaeologists and geographers refer to the collection of datasets within a line or a more

³⁵ Ian N. Gregory, *A Place in History: a Guide to Using GIS in Historical Research*, 2nd ed., (Belfast, Northern Ireland: Centre for Data Digitization and Analysis at Queens University, 2005), 8 – 12.

complex primitive as the topology of that particular figure. The topology serves as the code for creating a digital geometric object, but also indicates what data the figures convey.³⁶

Networks group polygons together that are located within the same geographic region or that share close distance to each other. Digital objects contained within a network also tend to share similar attribute data. An archaeologist applies the theory of networks when reconstructing the layout of a house or a neighborhood. The separate rooms of a house and the individual parcels of land within a community are their own polygons with specific line boundaries and centroids, but these individual figures also serve as building blocks for larger structures by sharing the same owner or the same class of inhabitant.³⁷

The GIS developer does not create but rather acquires vector data as either a primary source generated by a Global Positioning System or GPS or satellite remote-sensing technology, or as a secondary source or piece of print media scanned and uploaded into the GIS program. If an archaeologist scans an item onto the computer, he or she will use a digitizer tablet or table that places the image within a grid format and allows the developer to mark the location on the image that corresponds with the same point on a vector model. The GIS creator also assigns attribute data for all features captured with a pixel, unless a digital recorder assigns such metadata at the time of image creation. When overlapping vector models with raster models, the features on the real-time image or uploaded map often fail to match the proportion of the graphic primitives created by the GIS developer. While such techniques create a nice presentation of spatial data for

³⁶ Ibid, 23.

³⁷ Ibid, 23.

the researcher, most cartographers understand that such maps manipulate scale and distance in order to create a visual understanding of statistical information.³⁸

GIS software allows map developers to create individual two-dimensional raster and vector models that may be combined into a single enhanced raster model. However, GIS creators and researchers may also layer various raster and vector models that each document a specific attribute of a geographic area, in order to produce a cultural and physical three-dimensional picture of a region that illustrates the correlations between otherwise disparate characteristics. Ian Gregory, author of *A Place in History*, elaborates regarding the process of layering by stating,

“a DTM (digital terrain model) may be used to model the relief of an area, a raster surface to model its’ land use, a point layer used to represent buildings of interest, a line layer to represent rivers, a network layer to represent the transport system, and polygon layers to represent field patterns and administrative boundaries.”³⁹

Two important tools archaeologists use when generating primary GIS and CAD data at the excavation site are the geo-browser pocket/tablet computers and the total station. Former Vice-President Al Gore promoted the idea of geo-browser applications or digital globes with his 1999 “Digital Earth” Internet browser strategy, which encouraged the development of spatial data infrastructures that laid out geographic-based solutions to problems regarding environmental dangers, health epidemics, and ethnic and economic inequality. Gore proposed universal access to all existing GPS data, giving community leaders and policy-makers open-source capabilities to produce virtual scenarios toward fixing social problems, a web network to share one’s model

³⁸ Ibid, 36.

³⁹ Ibid, 27.

for improvement and various multimedia files with other communities, and a search query function that allowed the critique and manipulation of other organizations' data collections for new means of research. The "Digital Earth" initiative and its offspring NASA's World Wind, Google Earth, and Microsoft Virtual Earth allow archaeologists to access published GPS vector and raster data for their particular location while stationed at the excavation site and to manipulate the viewpoint of the digital landscape, as well as isolate vertical cross sections of a land plot stratigraphy or the horizontal layers of statistical data within a GIS model.

Archaeologists may use portable pocket/tablet computers like the Trimble Geo-Explorer and the xPlore iX104 coupled with programming software like ArcPAD and ArcGIS to create GPS coordinates for a site, upload shape-files or data files for spatial information and Keyhole Markup Language or open-source XML scripting language for GIS and CAD programs from the excavation into the geo-browser, and assign multimedia files to the site and establish a hierarchy for viewing images and video through an "image-pyramid" application.⁴⁰

Similar to the realm of archival collection management software, GIS development software comes in a variety of commercial and open-source formats. However, open-source applications like Google Maps, Harvard University's WorldMap application, and Quantum GIS prove to be the most user-friendly software when uploading field-generated spatial data, layering raster images and graphic primitives, and documenting new GIS projects with administrative and descriptive data. Google Maps, the software platform for the creation of Google Earth, provides the basic tools academic, private, and government organizations require to document the

⁴⁰ Steven J. Whitmeyer, Jeremy Nicoletti, and Declan G. DePaor, "The Digital Revolution in Geologic Mapping," *GSA Today* 20, no. 4/5 (April – May 2010): 4 – 7.

existence of a historic site or archaeological excavation on a map and to create awareness among the general public regarding the significance of a specific location.⁴¹

Google Maps serves as a pioneer in the creation of websites fueled by user-contributed data as well as the ability to geo-reference or tying historical depth to a location on a map. Such techniques permit free development, maintenance, and availability of geospatial datasets and other digital objects that once cost millions of dollars to produce. Benjamin Lewis and Weihe Guan of the Center for Geographic Analysis at Harvard University enhance and expand upon the capabilities of Google Maps' revolutionary design in order to create WorldMap GIS software. WorldMap staff members promote cartographer Michael Wegener's theory that "whatever occurs, occurs in space and time." In most cases, a witness to an event records the occasion and its' location in a drawing or manuscript for posterity, turning those documents of primary and secondary accounts into spatial datasets. WorldMap envisions the ability to assign historic publications and media to their corresponding geographic coordinates on commercially-produced base maps or general reference maps of the world that serve as a canvas for layering specialized GIS data in order to establish a complete spatial picture of world history. Despite the Internet's vast capacity of knowledge, it only contains a small percentage of the world's published material.⁴²

⁴¹ <https://maps.google.com> (accessed December 31, 2012).

⁴² Benjamin Lewis and Weihe Guan, "Jumpstarting the next level of online geospatial collaboration: Lessons from Africa Map," from Songnian Li, Suzana Dragecevic, and Bert Veenendaal's (eds.) *Advances in Web-based GIS, Mapping Services, and Applications* (London: CRC – Taylor and Francis Group, 2011), 255 – 263.

Map creators and editors support their uploaded materials with open-source administrative and descriptive metadata approved by Dublin Core and the Open Archival Initiative or OAI, in combination with the ISO 8601 standard for assigning date ranges to digital objects and the Google Maps KML protocol, in order to ensure the interoperability of World Map geospatial data with external websites. In terms of providing ease of reference use, Harvard's Center for Geographic Analysis utilizes a gazetteer from the U.S. National Geospatial Intelligence Agency that associates geographic place names with their proper map coordinates and/or relative distance to other landmarks and allows users to conduct map query searches by location instead of longitude and latitude. World Map applies de-facto or universal standards in the display of query results through either a map view or the concentrations of a specific attribute on a map, a time graph where a cultural characteristic appears in history, or a word cloud terms related a specific queried phrase. In addition, such technology narrows search results to specific datasets that contain mention of an attribute – compared to traditional search engines that pull a list of webpages by title that may or may not contain the spatial data the researcher desires.⁴³

While many of these applications remain in the development stage, World Map's most important feature concerns the ability to add and take away layers of GIS data from a base map in order to achieve various cultural, historical, and statistical perspectives of a particular region of the world. World Map currently holds a repository of 1,688 maps that range in subject matter from urban development, health epidemics, employment and the economy, natural resources and political climates of various nations, and racial and gender studies. Each map developer chooses a particular set of symbols to represent their emphasized data, as well as historic maps to overlay

⁴³ Ibid, 267.

or link to the real-time view of the same location in order to illustrate a transparent evolution of land development in a particular region.⁴⁴

Joseph C. Torres III of the University of Pennsylvania takes a useful approach in applying the concepts of historic preservation and archaeology when creating spatial visualizations and comprehension of communities and neighborhoods, but adds an additional dimension of computer – aided design or CAD to the traditionally flat GIS model. Torres views cemeteries as central institutions within a society, which not only provide clues regarding the population biology of a region including the average lifespans of citizens, time periods with greatest or lowest concentrations of birth and death, and possible indications of epidemics, but also illustrate architectural styles regarding the structure and composition of each tomb. The St. Louis Cemetery No. 1 in New Orleans serves as a perfect example of an inconspicuous location that reveals a great deal of historical information, and Torres harnesses this information through a GIS program that uses a Microsoft Access “Tomb and Marker Survey” database to record and store seventy-three types of attribute data regarding burials spanning the cemetery’s existence from 1789 to 1895. Torres then links the data to a Google Map site of the cemetery, but also produces graphs and charts demonstrating comparisons of health statistics as well as tomb structure.⁴⁵

⁴⁴ Ibid, 270 – 271.

⁴⁵ Torres, Joseph C., III. *Resurrecting Saint Louis No. 1 Cemetery: Integrating Archival and Field Research with Digital Tools to Spatially Analyze, Map, and Reinterpret Site Evolution and Morphology. (Master’s Thesis)* Philadelphia: University of Pennsylvania, 2011. http://repository.upenn.edu/cgi/viewcontent.cgi?article=1182&context=hp_theses (accessed November 13, 2012), 4 – 23.

In order to create a virtual representation of the cemetery that gives patrons a realistic, interactive experience, Torres utilizes tools including Microsoft Photosynth and Google-Trimble Sketch-Up to construct three-dimensional frames on which to drape photographs and print materials of the cemetery according to proper geographic location. Microsoft Photosynth allows registered users to upload photographs to a web-supported desktop application in order to build panoramas or displays of stitched or composite images that provide a 180 to 360-degree view of a geographic location from a single stationary position. Users may also create photosynths, which operate in a similar fashion as panoramas but allow the spectator to view each building or object as a three-dimensional model. Along with an Image Composite Editor, the Photosynth Desktop Application provides the patron tools to construct a wire-frame for the photographed object and to place uploaded images against the corresponding pieces of the frame. CAD developers may also use the Google-Trimble Sketch-Up application to create such models from scratch with additional capabilities to move around outside and inside one's structure, to establish animation for different objects within one's model, and to access and export data from another creator's model with their consent.⁴⁶ Using software like Photosynth and Sketch-Up to create virtual models of historic properties or archaeological renderings regarding what an extinct society might look like provides opportunities to make history come alive, but public historians, archivists, and other professionals who participate in such projects must remember to use three-dimensional models regarding historic events and locations while avoiding embellishment and risking the integrity of the records and data involved.

While evidence of physical features could be documented by a drawing and a camera, archaeologists also turn to laboratory techniques to identify attributes. Material description went

⁴⁶ Ibid, 24 – 45.

beyond basic observations concerning a piece of pottery, metal, or animal remains, to analyze the elemental makeup of the artifact and determine where the object may have originated or was created. Archaeologists applied their understanding of natural clocks, theorizing that all organic and inorganic materials changed and deteriorated over long periods of time. The most common method of absolute dating is radiocarbon dating, or the measurement of the loss of carbon-14 isotopes after an organism has died.⁴⁷

Archaeologists create detailed typologies of the collected artifacts in order to compare the features of an object to others at the same site or another excavation, as well as to make observational data available to other scholars for the purpose of future research and interpretation. In his book *Using Computers in Archaeology*, Gary Lock documented the popular use of relational database management systems or RDBMS to preserve large amounts of typological data collected at each site. Relational databases consist of spreadsheet tables called relations that are defined by the type of data they contain including a specific type of item or material, the structures found in each lot of the excavation site, and even media or documentation collected during field observations. Each row, or dataset, in a relation table represents a single typological record for an object or documentation of a geographic feature obtained from an excavation, and each column documents a specific type of attribute pertaining to the artifact.⁴⁸

The most important aspect of the relational database is the ability to integrate or link typological records from different relation tables based on a specific attribute field. One of the

⁴⁷ Webster, Evans, and Sanders, *Out of the Past*, 133.

⁴⁸ Gary Lock, *Using Computers in Archaeology: Towards Virtual Pasts* (New York City: Routledge – Taylor and Francis Group, 2003), 89.

best examples of a relational database is the DAACS system designed by archaeologists and IT professionals at the Thomas Jefferson Foundation, which documents the excavation finds of over a dozen plantation communities throughout the Caribbean Islands and the Mid-Atlantic United States. Each excavation is identified by a project number and contains relation tables concerning site information such as the institution conducting the dig, the name and location of the site, and the timespan of habitation at each plantation; the context or soil composition of an excavated lot and description of each artifact type collected such as beads, glass, or ceramics.⁴⁹

Patrons may submit artifact queries in order to retrieve information on specific datasets within the database. Queries sometimes consist of a basic or detailed inventory of the finds from a particular site, but a researcher can also request to see specific attributes of the objects from an excavation or compare the regional characteristics of a type or types of object unearthed at various different plantations. Patrons can combine data from several relation tables into a new record that allows for future interpretation concerning the material culture of a region's slavery practices.⁵⁰

With the creation of Great Britain's Archaeological Data Service or ADS in 1996, Richards and fellow staff at the University of York encouraged archaeologists to consider "lifecycle management" of the electronic records they produced when addressing the issue of preservation and access to their data. Archaeologists needed to ensure their data could be refreshed or renewed in the future as present formats and technologies became outdated, and

⁴⁹ Digital Archaeological Archive of Comparative Slavery. DAACS Database Structure. Thomas Jefferson Foundation. <http://www.daacs.org/aboutdatabase/structure.html/>. (accessed June 5, 2012).

⁵⁰ DAACS Artifact Queries. <http://www.daacs.org/querydatabase/artifactqueries.html/>. (accessed September 9, 2012)

they could approach this process through strategies of technology preservation, emulation, migration, or data sharing and selection services. In technology preservation and emulation, archaeologists kept their data in the original format and retained the older hardware and software required to view such records. While these practices were somewhat beneficial, archaeologists faced the risk that older technology would eventually break down and be irreplaceable. The process of migration required scientists to create records in a flexible format that would allow for easy conversion to future digital management systems. Archaeologists had to consider whether to develop relational databases and media files by means of open-source or proprietary standards, whether to encode datasets in binary language or in plain text like ASCII or XML, and the risks of loss in using compressed files.⁵¹

The Archaeological Data Service provided a new method of migration through data sharing and selection, in which excavation and laboratory workers could preserve their digital records in an online server while working on a project, and could add to and rearrange their collection as they generated more records. Archaeologists who had registered accounts with ADS could upload streams of artifact datasets and other digital objects into an Open Archival Information System or OAIS server with the assistance of preservation intervention points or PIPs. PIPs allowed archaeologists to save a record at a particular stage of development, in order to develop it further at a later date and have a back-up file of a piece of raw data in case later altered versions of that data became corrupted. The first point of intervention preserved data stream generation or the initial images and statistical data uploaded from a digital recording device. In addition, archaeologists used PIPs to determine the fate of processed data including in-

⁵¹Archaeological Data Service, “Archival Strategies and Digital Lifecycles,” *ADS Guides to Good Practice*, http://guides.archaeologydataservice.ac.uk/g2gp/ArchivalStrat_1-1 (accessed July 7, 2012).

device processing or those records altered or discarded through use of cameras and other technologies, in-field processing or records discarded as being outside the area of interest in the excavation, and the creation of raster and vector models or triangulated irregular networks or TINs from satellite photos and plot maps. A fifth PIP allowed for the storage three-dimensional models intended for future dissemination to researchers.⁵²

In addition to providing tools for the sustainability of archaeological data and formats of various records, the Archaeological Data Service also required specific types of metadata to be associated with each record. Metadata standards went beyond the description of the observed artifact or context, in order to document the information that allowed for the reusability of a digital object entered into the OAIS server at each PIP. Categories of functional or preservation metadata included resource discovery metadata, which described the types of media files used to create a particular record, the evolution of the modified record compared to the original data stream of information, and the level of PIP used to transfer the record into the OAIS server. Each record also contained information concerning clear migration paths for adaptation to future technology, the flexibility of use that allowed data to be applied in other research projects, and the ability to repeat the original methods utilized to create a particular piece of data. Preservation metadata also included the retention policy determined by the archaeologist in compliance with the rules set by a particular digital database, as well as the value or cost of preserving data.⁵³

The ADS server provided a flexible and hands-on application to archaeologists that allowed storage, preservation, and management of access to a variety of electronic records,

⁵² Ibid.

⁵³ Ibid.

which could be uploaded while working at the excavation site or analyzing specimens in the laboratory. ADS staff also attempted to give researchers more control over harnessing such data for interpretation in other fields like history and science, specifically through the creation of the Arch Search engine in 1998. By 2011, the Arch Search catalog served as a digital repository for over one million metadata records of sites registered in Great Britain's National Monuments Records database, and site records collected each county through the Historic Environment Records project. ADS intended Arch Search to foster communication among cultural resource management professionals by creating links between excavations and corresponding grey literature, or excavation field notes, project reports, and memorandums regarding efforts of historic preservation. In addition, patrons could contribute tagged metadata to a specific location or piece of literature, which would provide more accurate results to future keyword searches regarding a specific site or topic.⁵⁴

The major issue faced in providing specified access to the server's massive amount of records was a lack of standard metadata description for each record. The Arch Search browser interface provided a faceted classification template including "What", "Where", and "Resource" options that contained their own gazettes or sets of historical and descriptive terms, from which the patron could narrow his or her search. Users could indicate whether they were looking for information related to an event, evidence, maritime studies, monument types, or object types. They could also indicate the location of desired information (such as England, Scotland, or Wales), as well as the era documented within a site like Early and Late Prehistoric, Roman and

⁵⁴ Julian Richards, Stuart Jeffrey, Stewart Waller, Fabio Ciravegna, Sam Chapman, and Ziqi Zhang, "The Archaeology Data Service and the Archaeotools Project: Faceted Classification and Natural Language Processing," *Archaeology 2.0: New Approaches to Communication and Collaboration* (Los Angeles: UCLA Cotsen Institute of Archaeology Press, 2011), 34.

Early Medieval, and so forth. Researchers could also choose from a wealth of resource archives including the Defense of Britain Archive, the Museum of London Archaeological (MOLA) Archive, Internet Archaeology, radiocarbon dating, and grey literature created specifically for use in the ADS. Some search results included links to PDF versions of project reports and GIS maps of excavations, while others provided source information for records available outside of the Arch Search server.⁵⁵

Another similar project created by the staff at Arizona State University was the Digital Antiquity project. This was to continue ADS's progress concerning the proper preservation and future migration of electronic excavation data, as well as to develop a similar model of data-sharing server designed specifically for the storage of documentation of American archaeology as few archaeological archives had the resources to develop digital technology. However, while ADS provided a Web 2.0 or user-friendly interface that gave patrons complete viewer access to most donated material, Digital Antiquity established a cyber-infrastructure or developer-friendly interface that placed power of information dissemination in the hands of the creators and donors of the records.⁵⁶ The Digital Antiquity server known as the Digital Archaeological Record or tDAR database allowed archaeologists who registered with the website to have full control over assigning metadata and establishing access restrictions to digital materials, including the ability for donors to alter restriction policy to a record without former consent from the staff of Digital Antiquity. In comparison, ADS only accepted records generated from excavations conducted by

⁵⁵ ADS Arch Search browser, <http://archaeologydataservice.ac.uk/archsearch/browser.jsf> (accessed October 3, 2012).

⁵⁶ Keith Kintigh, "The Promise and Challenge of Archaeological Data Integration," *American Antiquity* 71, no. 3 (July 2006): 568. See also Stuart Dunn's "Poor Relatives or Favorite Uncles? Cyber-infrastructure and Web 2.0: a Critical Comparison for Archaeological Research," *Archaeology 2.0*, 96.

academic scholars and professional institutions, and required standard metadata description for all deposited data.⁵⁷

Patrons not only had to register to contribute records, but also to obtain access to any search-generated media files. Those who did acquire access to the tDAR server were able to upload several types of media formats when depositing collections, and could access external records including websites and various publications through provided URLs. Donors also utilized several specific metadata options when describing records including site type including domestic, burial, or production structure; culture including Pre-Clovis, Paleo-Indian, and Historic; material including ceramic, mineral, pollen, and shell; methods of investigation including survey, data recovery/excavation, and synthetic findings; and the geographic coordinates and historical timeframe for artifacts or contexts. Digital Antiquity had many strengths including detailed description for the production of records, but failed to provide conveniences like faceted- classification search queries for patrons looking for specific records.⁵⁸

Created by Eric and Sarah Kansa in 2006, Open Context embraced the Web 2.0 approach to data access and preservation that benefited the creators who contributed excavation data just as much as the patrons who accessed those records. Scholars within archaeology and other related fields desired to access project data in a structured, compartmentalized, and processed database format, but also wanted the flexibility to analyze each dataset and digital object singularly and determine the record's value within the context of the entire excavation. In addition, researchers wanted software that promoted "meta-analysis" by illustrating patterns

⁵⁷ ADS's Collections Policy, <http://archaeologydataservice.ac.uk/advice/collections/Policy> (accessed January 2013). Digital Antiquity, <http://dev.tdar.org/confluence/display/TDAR/User+Documentation> (accessed January 2013).

⁵⁸ The Digital Antiquity (tDAR) database, <http://core.tdar.org/> (accessed July 14, 2012).

found within collected data and permitting the comparison of records from one project to those of another. However, each team of archaeologists implemented unique data structures and metadata schemes that made sharing data almost impossible, and few archaeologists agreed on proper preservation and description standards that would allow universal access to excavation records.⁵⁹

Application Program Interfaces, or APIs, or web services like Zotero, Creative Commons, Atom and Really Simple Syndication feeds promoted the idea of data-sharing by giving data creators tools to store their data on an external server and to monitor user access to their media, while allowing patrons to harvest and create combinations of various pieces of data that fostered better visualization and understanding of a particular excavation site. For example, a patron could develop their own collection of digital records preserved from the Petra excavations that were stored on the Open Context site, and establish a link between the newly-developed list of data and the geographic coordinates for Petra created on the Google Earth application.⁶⁰ APIs provided flexibility concerning the use of excavation data, but Open Context staff created regulations to ensure the data server remained non-corruptible. Open Context required patrons who created digital combinations of material to cite the project where their data originated and to notify the creators of how the data was used. Greater expectations were placed upon the project creators to develop a policy for future access and migration of their records, as well as to adopt additional software required to design and upload media files and metadata to the Open Context database. While Digital Antiquity provided built-in templates for assigning

⁵⁹ Eric C. Kansa and Sarah Witcher Kansa, "Toward a Do-It-Yourself Cyberinfrastructure: Open Data, Incentives, and Reducing Costs and Complexities of Data Sharing," *Archaeology 2.0*, 59.

⁶⁰ *Ibid*, 81.

metadata to a record, Open Context required the use of external web applications including Word Press and XML Tree. Word Press provided open-source software for webpage/blog development with search features and categorized arrangement of text and uploaded media, while XML Tree automatically translated the data a user collected in Open Context or created in Word Press into XML format that could be altered in the future.⁶¹

The Archaeological Data Service, Digital Antiquity, and Open Context servers provided inexpensive means for project archaeologists to preserve and document digital records created in the field, while allowing users to manipulate available data for the purpose of research without corrupting the integrity of the record or infringing on the physical and intellectual rights of the creator. However, while creators had some authority over access to their records, data-integration tools like RSS feeds automatically disseminated uploaded records, ranging from polished three-dimensional models to primitive device-generated data, for the immediate use of the registered patron. Many digital archaeological archives like the Archaeological Data Service addressed the problem of big data, or the daily, massive production of undefined electronic records through digital recording and communication devices, and the means in which servers processed and provided access to an ever-increasing and overwhelming amount of digital data. Staff defined three major types of big data including traditional enterprise data, machine-generated or sensor data, and social data. Enterprise data consisted of the synthetic records archaeologists created to document their finds, as well as administrative materials regarding the development of the project. Archaeologists retained stable control over their enterprise data through a RDBMS infrastructure and metadata standards each institution tailored to fit the specific needs of their excavation. However, machine-generated data or statistical information created by ground-

⁶¹ Open Context, <http://opencontext.org> (accessed January 2013).

penetration radar methods or geographic information systems and social data or information from patron feedback streams and social media platforms including Twitter and others did not adhere to the standard file formats or metadata schemes of any particular archive, were elusive as to whether they contained data of any research value, and were typically too large to be stored on a traditional relational database.⁶²

Studies concerning the preservation and storage of digital archaeological data are overlooked by the majority of the archival profession, but contain important insight regarding file format and metadata standards necessary to ensure the integrity, accessibility, and lifespan of electronic records as repositories adapt to future technologies. In fact, archaeologists pioneered the use of most collection management software commonplace in today's archives and libraries. While most professions learned to master the use of static HTML records in the 1970s and 1980s, archaeologists were developing new applications like GRIPHOS that created detailed classification templates for describing artifacts and contexts as well as relational databases that linked disparate pieces of data to each other and to digital objects captured in the excavation field. In the 1990s and 2000s, organizations like the Archaeological Data Service, Digital Antiquity, and Open Context developed servers with the capacity to process a variety of record formats, and utilized faceted classification and user-generated metadata tags that fueled standard description for archaeological records, more-defined search queries for patrons, and an increased versatility in the research use and interpretation of digital objects and datasets.

As our global society continues to produce electronic records in larger and larger quantities and at faster and faster speeds, both archivists and archaeologists adopt methods of

⁶² "Oracle: Big Data for the Enterprise," *An Oracle White Paper* (Redwood Shores, California: ORACLE Corporation, January 2012), <http://www.oracle.com/us/products/database/big-data-for-enterprise-519135.pdf> (accessed August 12, 2012): 2 – 3.

data sharing to make both complex and simple digital objects more readily accessible to the public. Both professions are also shifting toward the creation of digital projects which encourage audiences to expand their understanding of other ethnicities, classes, and worldviews, while ensuring that the record ultimately speaks for itself without human manipulation. As stated from the beginning, one of the main goals of the archaeologist is to piece together the histories of societies who cannot speak for themselves, by combining the observations and artifacts collected in an excavation with available written materials and/or oral histories of experts and survivors who may verify the existence of a culture or the occurrence of an event. With the use of social media and other Web 2.0 tools, the archaeologist, the archivist, and the site patron establish links between media and text files, create custom metadata structures in digital databases, and provide feedback regarding collection development, which all adds to creating a clear representation of an extinct civilization. Chapter Two will demonstrate how such connections prove more critical now more than ever in helping African Americans to understand a past specifically constructed from their perspective, which not only empowers black communities to build upon the foundations of economic success and social unity but serves as a tool for bridging the racial divide ever-present in contemporary American society.

CHAPTER TWO

In Search of an Identity:

Reconstructing African-American History through Digital Archaeological Records

This chapter will discuss how academic historians, archaeologists, and public historians since the 1990s undertook the mammoth tasks of pooling historical resources, reconstructing physical representations of slave and freedman culture, and ultimately giving a voice to those who cannot speak for themselves. Although prominent African-American cultural scholars like Booker T. Washington, Carter G. Woodson, and W.E.B. DuBois provided powerful accounts regarding the successes black citizens achieved in America and the traditions they carried from their ancestral homelands that reached wide audiences in cities across the nation. At the same time, archaeologists including James Deetz, Leland Ferguson, Paul Mullins, and Theresa Singleton realized that ordinary structures like the slave quarter, tenant house, and abandoned urban buildings in inner-cities and the artifacts found within provided more insight into African-American life than many historical texts, existed in areas where descendants who received traditions from their enslaved ancestors still lived, and served an audience of socially-conscious white and black scholars who wielded the power to sway public opinion. These archaeologists not only investigated sites that contained an African-American heritage, but also assisted museum and archival professionals like George McDaniel of the National Museum of American History, John Michael Vlach of the Library of Congress, and Christy Matthews of Colonial Williamsburg to make the often-neglected history of the slave and freedman come alive through

re-enactments of historical events and re-construction of locations and objects pertinent to understanding African-American history. As our society entered the Information Age of the late 1980s that continues today, individuals including David Eltis, Gwendolyn Midlo Hall, and Andrew Torget took this process a step further in the creation of online databases and social media applications that allowed patrons to utilize raw artifact and statistical data to arrive at their own conclusions of the types of lives slaves and freedmen maintained and to educate all ethnicities about the critical role African Americans played in the creation, expansion, and sustainability of our nation.

Current views of archaeologists regarding African-American heritage differ greatly from the perspectives of the earliest historical archaeologists of the 1930s who initially conducted excavations and historic preservation of sites including Jamestown, Plymouth, and Colonial Williamsburg that favored a positive and heroic view of American history. Interest in the archaeology of African-American communities lacked momentum until the 1960s and 1970s, when academic historians and social scientists adopted a “social history” paradigm that recognized the “subordinate perspective” of society’s downtrodden and ignored “who examined culture and history from the bottom up”. Whereas archaeologists once focused their efforts on the plantation mansion, individuals like Charles Fairbanks, Jerome Handler, and Leland Ferguson shifted attention to isolated slave quarters by conducting burial analysis and seriation of Africanisms or African-based design motifs on ceramics known as Colonoware (utilitarian stoneware common among various ethnic groups and social classes in Colonial America), in

order to determine whether or not slaves retained the culture of their homeland despite forced transition to the New World.⁶³

Excavation of plantation slave quarters not only shed light into the daily activities and social structure of displaced African laborers, but destroyed the historical archaeologist's tendency to associate certain ethnic groups with specific site landscapes. Most anthropologists assumed antebellum African existed solely on the plantation, until the discovery of maroon settlements including Palmares in Brazil and Fort Mose in Florida in the 1980s and 1990s. These sites indicated the ability of "maroons" or runaway slaves to build autonomous and self-reliant communities that protected African captives from their European captors; created diplomacy between Africans, Native Americans, and European allies; and built African-American political and commercial infrastructures. Such advancements in African American archaeology encouraged field scientists to promote "ethnic self-identity" or to adopt the perspective of how a particular race and its' descendants viewed and currently reflect upon a specific location, which provided clues as to how racial factors socially and geographically isolated areas of black habitation.⁶⁴

Theresa Singleton further expounded on Orser's theories by analyzing the material culture of slave populations through various paradigms including how slaves altered their environment to adapt to their new surroundings, the complexity of black and white status on the plantation, the struggle of dominance and resistance between planters and servants, and the sanctification of seemingly ordinary objects in the realm of African folk beliefs and religious

⁶³ Charles E. Orser, Jr., "The Archaeology of the African Diaspora." *Annual Review of Anthropology* 27 (1998): 64 – 69.

⁶⁴ Orser, Jr., "The Archaeology of the African Diaspora," 69 – 74.

practices. Singleton indicates that anthropologists typically approach African American excavations as the “Archaeology of the Other,” in which the site observations and conclusions reflect the view of the investigator rather than the subject of investigation. The white majority of the archaeological profession conducts excavations of black settlements as cultural resource management projects, which attempt to solve specific problems within the historical narrative by limiting research and field efforts to recovering a certain type of artifact or answering a narrow question. Leland Ferguson attempted to break the habit of such blind research methods during his excavations at South Carolina’s Middleburg Plantation in the late 1970s by comparing aesthetic patterns of recovered ceramics to designs on utilitarian objects used by native African societies, as well as associating the use of an object with its’ form and the manmade or natural environment of the artifact’s point of origin within the stratigraphy of the soil.⁶⁵

Other progressive-minded studies including W.M. Kelso and D. Sanford’s analysis of slave quarters on colonial Virginia plantations in the 1980s and early 1990s revealed that African-American servants bestowed a sense of place within their lodging areas with both the creation of subterranean pits for keeping valuables away from the hands of the masters, which may reflect a form of slave rebellion or the traditional practice of creating storage pits in ancient Africa; and the occurrence of numerous hunting artifacts that indicated slaves shot land animals and fished on a regular basis, due to the fact that one could easily harvest undomesticated food like fish without the master’s permission and such sustenance established variety beyond the

⁶⁵ Singleton, Theresa A. “The Archaeology of Slavery in North America.” *Annual Review of Anthropology* 24 (1995): 121 - 122. See Patricia Samford’s “The Archaeology of African American History and Culture” in *The William and Mary Quarterly* 53, no. 1 (January 1996): 87 – 114; and Robert Farris Thompson’s *Flash of the Spirit: African and Afro-American Art and Philosophy* (New York City: Vintage Books – Random House, 1984).

typical stewed meat scraps. Archaeologists like J.S. Otto and D.C. Crader also further concluded that the existence of an object in a particular location indicated the occupant's ability as slave, overseer, or master to access that item, or a desire to own an item as a symbol of wealth or power. Observation of slave quarters at Monticello revealed that the inhabitants of dwellings closer in proximity to the mansion obtained the greatest favor of the master, and consequently used ceramics and consumed animal remains of higher quality than those servants who maintained homes more distant from the landowner. Masters and favored servants also established a mutually symbiotic relationship where better diets improved work capacity among slaves and fostered higher rates of female fertility that ensured a steady work force for the plantation.⁶⁶

As Mullins indicated in his article "Race and the Genteel Consumer: Class and African American Consumption, 1850 – 1930," the archaeologist cannot exactly pinpoint the social status of African Americans based on the types of objects they once possessed, but rather how they felt about their living arrangements and what steps they could take to survive and possibly change their conditions. Mullins agreed with Orser that the key to tracing the development of the black community, both before emancipation and during the Jim Crow era, required understanding the African's value of collective power and realization that they held a critical position as the driving labor force of society that could cause a civilization to either succeed or fail. Terrence Epperson applied a Marxist principle that slaves, as the antebellum American "bourgeoisie", fueled the cotton industry that served as the lifeblood of the plantation and, therefore, proved more valuable to the master than the master did to their own needs. Instead of viewing the spatial isolation of the slave quarters as restriction and punishment of the African-

⁶⁶ Singleton, "The Archaeology of Slavery in North America," 124 – 127.

American servants, Epperson determined that slaves rather found the opportunity for privacy and a certain level of independence. Other anthropologists like Larry W. McKee drew evidence of slave rebellion and subtle manipulation -of the master's authority by conjecturing that slaves would dirty themselves in defiance of the planter's requirement for order and cleanliness. Slaves also planted their own gardens in addition to hunting, in case the cooks of the plantation kitchen refused to prepare food to the slaves' approval or as a means for masters to avoid having to provide sustenance. However, while many slaves certainly maintained a level of self-reliance and determination, the master exercised greater authority in confining his servants' operations to the plantation complex.⁶⁷

The Marxist theory of 'planter dominance versus slave resistance' attempts to avoid placing labels regarding race and social inequality on plantation slaves and post-bellum tenant farmers, but Singleton and the majority of contemporary historical archaeologists realize that one cannot analyze the hierarchical relationship of the dominate white planter to the subservient black worker without the acceptance that prejudice placed African Americans in their inferior position and that blacks lacked the rights to improve their economic and political well-being. In fact, scholars must adopt and apply an empathy for the slave and freedman's perspective when recovering and interpreting material culture from servant housing or other black settlements, by using prior knowledge of African-American spiritual beliefs, world philosophy, and primary sources like slave narratives and interviews to identify the intrinsic value of common objects like

⁶⁷ Singleton, "The Archaeology of Slavery in North America," 128 – 129. Paul Mullins' "Race and the Genteel Consumer: Class and African American Consumption, 1850 – 1930," *Historical Archaeology* 33, no. 1 (1999): 22 – 38. Anthony Kaye, *Joining Places: Slave Neighborhoods in the Old South* (Chapel Hill: University of North Carolina Press, 2007). Stephanie M. H. Camp, *Closer to Freedom: Enslaved Women and Everyday Resistance in the Plantation South* (Chapel Hill: University of North Carolina Press, 2004).

glass beads, earthenware shards, and pierced coins. In their article “The Archaeology of Black Americans in Recent Times”, Mark P. Leone, Cheryl Janifer LaRoche, and Jennifer J. Babiarz supported Singleton’s conclusion that the only way archaeologists and historians can reconstruct and determine the value of African American settlements for future benefit is to identify how Blacks view their past and what lessons they can draw to empower themselves in contemporary society.

Historical archaeologists first welcomed the input of African-American scholars and the participation of local African American communities in the 1968 neighborhood-supported excavation of Weeksville, a couple of acres in Brooklyn, New York, that black longshoreman and suffragist James Weeks purchased in 1838 and populated with several African-American immigrants from the South to create one of the nation’s first free-black communities. Boston’s Museum of African American History practiced the same method in dissecting the city’s 1806 African Meeting House in 1975, followed by James Deetz’s excavation of the New Guinea Settlement - Parting Ways community of Revolutionary War African-American veterans in 1975 and the 1991 discovery of the colonial-era African Burial Ground in New York City.⁶⁸

By incorporating an authoritative perspective from the African American community and gradually shifting geographic focus from slave quarters to the Maroon communities of Palmares and Fort Mose, late-nineteenth-century free-black communities like New Philadelphia, Illinois, and Mound Bayou, Mississippi, and other sites of independence, Leone, Babiarz, and other post-modern archaeologists demonstrate that: no traditional plantation or urban structure exists that indicates what conditions fuel the establishment of self-reliant African-American settlements;

⁶⁸ Singleton, “The Archaeology of Slavery in North America,” 120 – 121, 130 – 134. See also Mark P. Leone, Cheryl Janifer LaRoche, and Jennifer J. Babiarz’s “The Archaeology of Black Americans in Recent Times,” *Annual Review of Anthropology* 34 (2005): 577 – 598.

African American archaeology promotes the unity, solidarity, and sense of ethnic nationalism blacks developed over the course of their evolution in American society; and to understand the culture of the African diaspora, scholars must not only consider the existence of the African-American in the United States, but in Latin America, Africa, and Asia as well. Several anthropologists took roles in developing a multi-faceted perspective of African American heritage including F.L.C. Jackson's efforts to identify African-American ethnicity as biologically-based rather than culturally-based, and to prove that one could trace the lineage of the unidentified remains like those of New York City's African Burial Ground to each individual's tribe of origin through the charting of genetic evolution. While Jackson enforced the theory that all Blacks retained a unique identity not just as a race but as individuals, Anna Agbe-Davies encouraged the development of historical preservation legislation like Native American Graves Protection and Repatriation Act (NAGPRA) that would specifically attract the contributions and support of African American genealogists, historical societies, and political action groups. In addition, Robert Paynter expanded upon Ferguson's initial classification of ceramics and other objects found in the African-American's possession, by indicating that the archaeologist must study how the intersection of identity, power, and survival establishes a sense of agency within black material culture.⁶⁹

The archaeological profession's involvement of the black community and perspective in conducting excavations influenced individuals like Maria Franklin, Theresa Singleton, and Christy S. Matthews to become the first generation of African American archaeologists in the 1980s and 1990s, and to investigate how historical archaeology contributed to the accepted

⁶⁹ Leone, LaRoche, and Babiartz, "The Archaeology of Black Americans in Recent Times," 577 – 578.

narrative regarding the development of African-American society in America. Franklin argued that historians and archaeologists who maintain custody and access to the artifacts, cultural landscapes, and primary documents of the past dictate how ethnic groups and the general public view their heritage, and often manipulate their observations and written records to fit a particular political agenda or to reflect current events. These “interest-constituted”, unreflective archaeologists prefer to promote the status-quo view of society, but audiences may eventually view such scholarship as faulty. Social scientists must, instead, adopt a self-reflective or reflexive perspective where one becomes critical of the types of data he or she collects, and “raises his or her level of awareness regarding the focus and meaning of their research: what is the subject, what are the questions, who is the intended audience, and to whom would the interpretations be most useful.”⁷⁰

However, historical archaeologists and the African American community remain divided over how to approach and reconcile with their heritage. In his 1991 article “What Is the Use of Plantation Archaeology,” Parker B. Potter indicates archaeologists should use their work to bring about social change, but employ great sensitivity to avoid unearthing a “structure of oppression” and rather bestow upon the specific African American community “local empowerment” over their history. Potter and Franklin also acknowledge that, similar to the perspective of post-emancipation African Americans who attempted to climb the social ladder to avoid and escape the reminders of slavery, many black citizens feel shame and horror in discussing slavery while others desire to expose the truth and prevent a “white-washing” of history. Tension among the African-American community regarding the study and memory of their past became evident in

⁷⁰ Maria Franklin, “‘Power to the People’: Sociopolitics and the Archaeology of Black Americans.” *Historical Archaeology* 31, no. 3 (1997): 38.

the 1990s as public historians directed their efforts toward interpreting and reconstructing African-American life in the slave quarters, as well as in the urban and rural environments of the Jim Crow era. One of the first events that “opened the wounds” and displayed the notoriety of racial inequality in America occurred at Colonial Williamsburg in October 1994, when performers took part in the re-enactment of a period slave auction in front of an racially-mixed audience of supporters and protesters including key figures of the National Association for the Advancement of Colored People (NAACP) and the Southern Christian Leadership Conference (SCLC).⁷¹

Museum exhibitions also sparked debate and discomfort, including the December 1995 Library of Congress display *Back of the Big House: The Cultural Landscape of the Plantation*, in which architectural historian and curator John Michael Vlach combined photographs of slaves’ living and work quarters with documentation from the 1930’s Works Progress Administration (WPA) slave narratives to illustrate the intimate “slaves’ perspective” of the plantation complex. Possibly due to recent discrimination lawsuits filed against the Library of Congress, several African-American staff members immediately protested and forced the institution to take down the exhibit. Vlach and Byron Rushing, a Massachusetts legislator who once directed Boston’s African Meeting House site and served as an advisor in Vlach’s undertaking, agreed that closing the exhibit in lieu of racial sensitivity prevented African Americans from resolving their issues with slavery and refused all potential visitors the opportunity to expand their perspective regarding controversial issues like racism. Another exhibit *Field to Factory: Afro-American Migration, 1915 – 1940*, which opened in 1987 and ran through the mid-1990s at the National Museum of American History (NMAH), generated more positive feedback through the display

⁷¹ Ibid, 42 – 46.

of a reconstructed, turn-of-the-century African-American tenant house from Mitchellville, Maryland, that served as the centerpiece of the collection. Historian George McDaniel supervised the museum's preservation and interpretation of the structure in the 1970s by inviting descendant families from Mitchellville to contribute their memories and observations of the house, and discovered through such local perspectives that what they thought was the back of the house actually served as the front of the dwelling for black tenant farmers during the early 1900s.⁷²

The tenant house exhibit illustrates the benefits both museum staff and patrons received from sharing memories and dialogue that further established the historical authenticity of the structure and allowed African-American audiences to reflect on their past. However, other occasions reveal that the local African American community may suffer physical and emotional damage due to improper evidence of their heritage, including a 1992 case in which the U.S. Navy exercised eminent domain to seize and destroy the property of 600 black and 200 white families – but while the white families saved their property by producing detailed estate records, African-American inhabitants lacked access to such information because it did not exist and they therefore lost many of their possessions and heirlooms. Keith Kintigh indicated in the Society of American Archaeologists Code of Ethics that archaeologists in such situations must “make every reasonable effort” to communicate with and hold themselves accountable to the affected parties, which might include exercising Section 106 of the 1966 National Historic Preservation Act that

⁷² John Michael Vlach, *Back of the Big House: the Architecture of Plantation Slavery*. Chapel Hill: University of North Carolina Press, 1993.

prevents acquisition or demolition of a potential historic site without an excavation of the location.⁷³

Christy S. Matthews of Colonial Williamsburg's Department of African American Interpretations and Presentations as well as Theresa Singleton, who served as the director of the NMAH Afro-American Index Project and curator of historical archaeology at the National Museum of Natural History, further emphasize Maria Franklin's position to prevent the loss of the African American's heritage by involving the black community in the excavation of their ancestors' lands and participation in the commemoration of events that shaped African-American society. In 1997, Matthews promoted Williamsburg's new curriculum initiative *Becoming Americans: Our Struggle to Be Both Free and Equal*, which specifically addressed the social and work environments of African slaves and regional Native Americans and their daily interaction with European colonists. Matthews indicated that adopting a multi-cultural perspective of history at Colonial Williamsburg did not start until 1979 when the park introduced its' first African American role players. In addition to the fact that visitors displayed hesitation towards the African-American actors, the curators and executives at Williamsburg took great liberties in constructing a background narrative and dialogue because African-American studies stayed on the periphery of the dominant white culture of the 1970s. The staff decided to consult historians from Hampton University who found a sufficient lack of documentary evidence regarding the description of slave life. This problem stemmed from archaeologists creating very scant or disjointed observations regarding possible African American finds recovered in the 1960s, and

⁷³ "Principles of Archaeological Ethics," Society of American Archaeologists, <http://www.saa.org/AbouttheSociety/PrinciplesofArchaeologicalEthics /tabid/203/Default.aspx> (accessed April 13, 2013).

often allowing poor cataloguing and even destruction of artifacts and records that strayed attention away from European American activities.⁷⁴

By the time of the integration of the African-American actors, staff at Colonial Williamsburg recovered data indicating that almost half of the town's population before and during the Revolutionary War identified as African American. Williamsburg's legacy, therefore, remained incomplete until curators changed their portrayal of topics like slavery, and received support from the local NAACP to improve their efforts. Matthews stated several lessons the staff learned from their experiences over the course of the 1970s into the mid-1990s, including the principle that the archaeologist or any other social scientist cannot apply the same paradigm in studying a site of African-American habitation as he or she would regarding the gentry class of the area. Through the development of the "Becoming Americans" initiative, the re-creation and interpretation of multi-cultural sites like the slave quarters at the Carter's Grove plantation, and outreach programs that reflected the public and private affairs of colonial-era African Americans including *Jumpin' the Broom*, *Trying to Git Some Mother Wit*, and *Don't Wanna Slave No More: African American Choices in the Revolution*, Matthews emphasized that public historians at Colonial Williamsburg needed to move away from promoting nostalgia and rather address all generations and groups with various levels of knowledge. She also encouraged curators and their audiences to shift their focus from preserving nationalist myths to reinforcing the core values of American society, for when a populace understands its' shortcomings it often becomes empowered for the future.⁷⁵

⁷⁴ Christy S. Matthews, "Where Do We Go from Here? Researching and Interpreting the African-American Experience," *Historical Archaeology* 31, no. 3 (1997): 107 – 109.

⁷⁵ Matthews, "Where Do We Go from Here?": 107 – 112.

In her article “Facing the Challenges of a Public African-American Archaeology”, Theresa Singleton expands beyond Matthews’ proposal that cultural institutions must incorporate some sort of emphasis regarding African-American society, and rather focuses on what interpretation museums and archives promote when producing an exhibition or commemoration of African-American life and heritage. Singleton indicates that such projects remain incomplete and questionable in their authenticity, because most repositories and research centers did not desire the acquisition of African American artifacts and documentation until the late 1960s during the aftermath of the Civil Rights Movement and the rise of the ‘social history’ academic movement. With the inevitable loss of valuable historical materials over the course of the last four centuries that relate to the evolution of the black community, the collections that curators and archivists maintain often include a sense of scarcity and unevenness in scope and may reflect a bias of the people who originally created the objects. The author states that one resolution for such inadequacy in the record of the past requires the inclusion of African American social scientists and cultural resource professionals to attract black audiences and to develop African-American history symposiums that increase the knowledge of both the museum staff and patrons. In addition, Singleton indicates that most African-American patrons prefer exhibits related to recent history, instead of reflecting upon the heritage of enslaved ancestors either because such stories remain too painful or lack relevance to apply to the issues of the modern black community.⁷⁶

Singleton also warns public historians and archaeologists to avoid placing labels upon the race and culture of those individuals who once inhabited an “African-American” site. In his

⁷⁶ Theresa A. Singleton, “Facing the Challenges of Public African-American Archaeology,” *Historical Archaeology* 31, no. 3 (1997): 146 – 148.

“Cheers of Protest? The Public, the *Post*, and the Parable of Learning,” anthropologist Drake Patten reflects upon the tension that resulted from attempting to piece together the story of Catherine Foster who owned several acres of land in Charlottesville between 1833 and 1863. Several records from local churches and mutual aid societies indicated Foster as an African American but, when Patten publicly announced his findings, many regional African-American citizens argued that Foster could only exercise such property rights and social status as a mulatto or a person of mixed white and African-American ancestry and not purely African American. Patten emphasizes that archaeologists must look past the appearance or proposed association of a certain ethnic group with a particular site and rather should strive to determine the unique cultural identity of the individual or group that occupied the area. When looking at a supposed African-American site, the social scientist must ask whether such locations saw interaction between black, white, or even bi-racial inhabitants, and if the site provides evidence regarding the occurrence of events that prove essential in the evolution of African-American history. Through Patten’s example, Singleton emphasizes African-American archaeology as a paradigm in which to American culture and heritage. Archaeologists must consult the black community when questioning the meaning of an object recovered from an African-American excavation. However, they must also understand that most Blacks desire a celebratory view of their history, which opposes the will of the majority of social and public historians who focus more on promoting the African-American’s struggle and the process of using the nation’s blemishes to improve racial equality in the future.⁷⁷

⁷⁷ Singleton, “Facing the Challenges of Public African-American Archaeology,” 148 – 150. See also Drake Patten’s “Cheers of Protest? The Public, the *Post*, and the Parable of Learning,” *Historical Archaeology* 31, no. 3 (1997): 132 – 139.

Although younger in profession than the African-American novelist and historian, the African-American archaeologist takes one of the purest, least-biased perspectives when reconstructing the heritage of the African-American people and the relationship of their society to the world around them. Archaeological scholars like Theresa Singleton and Maria Franklin followed in the footsteps of pioneers like John Wesley Gilbert, who most credit as the first African-American archaeologist Born in slavery in July 1864 near Hephizbah, Georgia, Gilbert's parents hoped he would become a preacher. Instead, Gilbert gained recognition as the first graduate of Augusta's all African-American Paine Institute, where he developed an interest in classical archaeology and soon found himself the first African-American student to attend Brown in 1886, where he then received a scholarship to attend the American School of Classics in Athens, Greece. Upon returning the United States in 1891, Gilbert received a teaching position at Paine College and served as an English and Greek instructor and eventually president of the college until his death in 1923. Gilbert's achievements inspired several individuals including W.E.B. DuBois, whose 1897 *The Negro* uses similar techniques to what factors make up the physical and cultural substance of African society. DuBois provides a particularly experimental study of the physical anthropology of African ancestors by indicating that all Africans came from the Semites and that, as they settled in the various climates of the African continent, their skin color and hair structure evolved to adapt to environmental conditions.⁷⁸

The philosophies of these prestigious men and the forces of the Black Power Movement in the 1960s and 1970s led to the establishment of the Association of Black Anthropologists or ABA in 1970. The ABA encourages its' members to follow such tenets as to "highlight

⁷⁸ W.E.B. DuBois, *The Negro* (New York City: Henry Holt and Company, 1915), 15 – 16.

situations of exploitation, oppression, and discrimination of which the groups studied by anthropologists are victims, and explain the socioeconomic and political causes which engender them,” and to “make known the fact that the people studied by anthropologists are not only the objects of study, but active makers of and/or participants in their own history.”⁷⁹ The ABA gave African-American cultural scholars their own professional organization to exchange their research and theories about their past. In 1994, archaeologists Theresa Singleton and Elizabeth Scott took the idea of the black intellectual forum a step further with the development of the Society of Historical Archaeology’s Gender and Minority Affairs Committee, which promoted analysis of sites like the Freedman’s Cemetery in Dallas, Texas, and the African Burial Ground in New York City. Such interests led several students including Justin Dunnivant and Ayana Flewellen of the University of Florida to establish the Society of Black Archaeologists, which fosters the growth of more African-American archaeological professionals in a community that consisted of fewer than seventy in 2012 and to follow the ABA’s footsteps in addressing African Americans not merely as “objects of study or informants” but rather as “active makers and/or participants in the unearthing and interpretation of their history.”⁸⁰

⁷⁹ Candace Lowe, “Association of BlackArchaeologists,” May 1999, <http://www.indiana.edu/~wanthro/candice1.htm> (accessed July 7, 2014).

⁸⁰ Justin Dunnivant and Ayana Flewellen, “Society of BlackArchaeologists,” *The African Diaspora Archaeology Network Newsletter* (Spring 2012), <http://www.diaspora.illinois.edu/news0312/news0312.html#2>. (accessed August 12, 2014). See also “Establishing the Society of BlackArchaeologists,” *Society for Historical Archaeology Blog* (April 23, 2012), <http://www.sha.org/blog/index.php/tag/society-of-black-archaeologists/> (accessed August 12, 2014).

Despite the massive strides of African-American archaeologists to understand their own heritage and to generate similar interest among other African Americans, the realm of using archaeological records to tell the story of African-American life in America successfully and to disseminate the evidence of African-American success and self-empowerment to those audiences who need to hear it the most, still remains a far distance from an ideal situation. Such projects must utilize the first-hand perspectives of those who went through stress and tribulation but who found strength within their communities to whether the storms of racism and white supremacy, and who offer criticism and suggestions for future discipline and moral uprightness. Such works range from the slave narratives of William Wells Brown, Olaudah Equiano, and Frederick Douglass; to cultural studies like DuBois' 1899 *The Philadelphia African-American* and Charles Spurgeon Johnson's 1930s Macon County study, *Shadow on the Plantation*; and even contemporary memoirs such as Dorothy Spurill Redford's *Somerset Homecoming: Recovering a Lost Heritage* and Deborah E. McDowell's *Leaving Pipe Shop: Memories of Kin*.⁸¹

Archaeological artifacts and datasets contain the same potential to shine a light on the lives of those events and individuals they pertain to, but only if one places them in the context of physical or digital interpretive projects. The rest of this chapter focuses specifically on digital projects that allow the exchange of such information with other scholars around the world through the use of GIS and relational databases. David Eltis' *Voyages: Trans-Atlantic Slave*

⁸¹ William Wells Brown, *Narrative of William W. Brown, A Fugitive Slave* (New York City: Johnson Reprint Corporation, 1970). Olaudah Equiano, *The life of Olaudah Equiano: The Interesting Narrative of the Life of Olaudah Equiano, or Gustavus Vassa, the African* (Chicago: Lakeside Press, 2004). Frederick Douglass, *Narrative of the Life of Frederick Douglass* (New York City: Oxford University Press, 1999). W.E.B. DuBois, Elijah Anderson, and Isabel Eaton, *The Philadelphia African-American: A Social Study* (Philadelphia : University of Pennsylvania Press, 1996). Charles Spurgeon Johnson, *Shadow of the Plantation* (Chicago: University of Chicago Press, 1934). Dorothy Spurill Redford and Michael D'Orso, *Somerset Homecoming: Recovering a Lost Heritage* (New York City: Doubleday, 1988). Deborah E. McDowell, *Leaving Pipe Shop: Memories of Kin* (New York City: W.W. Norton and Company, 1998).

Trade Database, Gwendolyn Midlo Hall's *Afro-Louisiana History and Genealogy, 1718 – 1820*, Andrew Torget's *Texas Slavery Project*, and the University of Richmond's *Visualizing Emancipation* database serve as excellent examples of virtually reconstructing African-American communities and illustrating the patterns of tradition that exist from arrival of slaves in the New World to present-day structures in urban and rural areas.

While prevailing theories that the customs of African-American communities including agricultural cooperatives and kinship-based housing originated in the ancient kingdoms of West Africa, the only written proof that exists of such interactions comes from the observations of European explorers who usually held African culture in a negative, inferior light. However, as argued earlier, sources of evidence beyond the written record demonstrate the prestige and autonomy many kingdoms maintained on a global stage while Europe remained cut-off from the outside world during the Middle Ages extending through the fifteenth century A.D. One may look to language analysis, archaeological excavations of the Middle Passage, and the comparison of modern African customs to those of African-Americans to fill in the blanks of the traditional narratives. Such works like Paul Bohannon and Philip Curtin's simply-titled *Africa and Africans*, Charles Orser's articles "Archaeology of the African Diaspora" and "The Archaeology of African-American Slave Religion in the Antebellum South", and Winifred Kellersberger Vass' *The Bantu-Speaking Heritage of the United States* provide excellent perspectives into these subjects.⁸²

⁸² Paul Bohannon and Philip Curtin, *Africa and Africans*, 4th ed. (Prospect Heights, Illinois: Waveland Press, Inc., 1995). Charles Orser, Jr., "Archaeology of the African Diaspora," *Annual Review of Anthropology* 27 (1998): 63 – 82. Orser, "The Archaeology of African-American Slave Religion in the Antebellum South," *Cambridge Archaeological Journal* 4, no. 1 (1994): 33 – 45. Winifred Kellersberger Vass, *The Bantu-Speaking Heritage of the United States* (Los Angeles: Center for Afro-American Studies, University of California, 1979).

While evidence of the social structures and customs of African kingdoms provide a necessary foundation regarding the origins of African American community and philosophy, historians glean most of their knowledge and theories from European explorers who wrote the few primary accounts regarding the history of tribal natives. In a similar fashion, a limited number of archival and educational organizations attempt the task of preserving, arranging, describing, digitizing, and publishing these records either because they see little informational value or they lack the skills and funding to extract and make use of such data. The only digital projects that establish any ties between the first generations of black Americans and their African heritage are Emory University's *Voyages, the Trans-Atlantic Slave Trade Database* and *African Origins* database, developed under the direction of David Eltis, David Richardson, Herbert S. Klein, Manolo Florentino, and Stephen Behrendt.

The *Voyages* database remains unique among most digital history projects because of an overwhelming degree of supportive documentation due to the fact that in-depth study regarding the slave trade did not begin until the 1960s; that most, if not all, scholars of the slave trade contributed much of their information to the database and served as advisors to the Emory staff regarding the best methods of maintaining the integrity of the data and making it accessible to the public; and that the database served as an important research tool for contemporary investigation into how the Middle Passage not only reflected the unique personalities of the European traders, captains, and company stockholders, but demonstrated that African slaves and merchants understood their value as allies and manual labor, and used diplomacy and even revolt to shape the trade towards their favor. While historians may not know who discovered or published the first data regarding counts and descriptions of human cargo written in European voyage logs, Herbert S. Klein used such archival records to paint one of the earliest pictures of

European settlement in the New World and specifically Latin America, and to illuminate the construction of social structures by African slaves. Klein not only found resources that indicated the Portuguese held the earliest and second-largest slave empire in the world between 1500 and 1860, but broke new ground by turning focus from the well-known narrative of plantation slavery to an understanding of the factors that initially placed Africans in servitude. Klein also attempted the initial conversion of archived slave ledgers into a machine-readable format in *Slave Trade to Havana, Cuba, 1790-1820*, at Columbia University during the 1970s.⁸³

Although Klein discovered and pioneered the use of archival records to foster insight into life during the trans-Atlantic slave trade, French historians Jean Mettas and Serge Daget brought international attention to the subject through the 1978 *Directory of French Eighteenth-Century Slave Trade Expeditions*, the 1984 *Portuguese Guinea in the Twentieth Century*, and the symposium *Milking the Black Atlantic: New Approaches*, presented at the Sixth International Congress of Economic History in Copenhagen, Denmark, in August 1974. Mettas and Daget compared data found at Nantes to that of other old French slave ports, as well as the mention of British encounters with French ships as documented in England's eighteenth-century nautical journal *Lloyd's List*, in order to verify approximately when slave ships embarked from Europe, where the crew intended to conduct business along the African coast, and where they sold their chattel into labor in the Americas. Social scientists like Klein, Mettas, and Daget indicated the specific cultural traits of each European region including the French norm of family-based trading voyages and the Spanish tradition of identifying possessions in both secular and religious terminology, but also revealed the physical and behavioral characteristics of the tribes where

⁸³ "History of the Project," *Voyages, the Trans-Atlantic Slave Trade Database*, <http://www.slavevoyages.org/tast/about/history.faces> (accessed January 2013).

their slaves came from and the lasting impact of European influence on the development of African coastal societies.⁸⁴

While most scholars of Middle Passage made major strides in uncovering and tracing the never-before-known fate and lineage of African tribesmen who came to the New World, they also debated and disputed each other's work regarding the accuracy of collecting bits of data and determining patterns of trade transactions and distribution through the use of hypotheses and mathematic equations. This format revealed the vast problem of attempting to establish grand totals regarding the number of exported slaves or the mortality rate of human cargo over the course of the four centuries of the trade.⁸⁵

Joseph E. Inikori, who spent his childhood and young adult life in the Delta state of Nigeria and obtained his doctorate from the London School of Economics in 1973, objected to Curtin's theory that 'it is extremely unlikely that the ultimate total [of slaves] will turn out to be less than 8,000,000 or more than 10,000,000'. Inikori declared this statement gave too wide a margin of error for providing any solid answers regarding the African trade, indicated that historical sources proved the volume of human trafficking to be much higher, and provided a compound interest formula to support his rebuttal - $(1 + r)^t = N_t/N_0$ - where r is the annual average rate of growth of slave population, t is the length in years of the given period, N_0 is the size of the slave population at the beginning of the period, and N_t is the size of the slave

⁸⁴ Stephen D. Behrendt, David Eltis, and David Richardson's "The Costs of Coercion: African Agency in the Pre-Modern Atlantic World," *The Economic History Review* 54, no. 3 (August 2001): 455 – 456. See also David Eltis, "The Volume and Structure of the Transatlantic Slave Trade: a Reassessment," *The William and Mary Quarterly* 58, no. 1 (January 2001): 18 – 22.

⁸⁵ Phillip Curtin, "The Archives of Tropical Africa: a Reconnaissance," *The Journal of African History* 1, no. 1 (1960): 129 – 147. See also "Field Techniques for Collecting and Processing Oral Data," *The Journal of African History* 9, no. 3 (1968): 367 – 385.

population at the end of the period. Inikori also stated that many colonies neglected to document slaves who died from sickness or incited rebellion, but that customs houses like those in Britain and France utilized log books that specifically documented “the number of slaves received from the ship's arrival on the coast until her departure, the number re-landed, the number trans-shipped, the number who died during the middle passage, and the number on board on arrival in the Americas”. Inikori sparked other historians like Paul E. Lovejoy to challenge Curtin’s findings with the expanded use of archival records, and ultimately promoted the idea that one must use raw statistical data instead of historical perspectives to gain an accurate picture of business activity and participating cultures in the Middle Passage.⁸⁶

In the late 1980s, British historian David Eltis and fellow associates at Harvard University including Herbert Klein and David Richardson, who already contributed significant insights to the literature regarding the slave trade, attempted to pool all data collected over the last two decades into a single relational database, and applied the techniques scholars like Inikori and Mettas developed in comparing various archival accounts to check the accuracy of voyage data and establishing controlled variables in order to ensure a non-biased account regarding the costs and profits for each excursion. However, Eltis’ team discovered that despite the progress social scientists made in creating a united and open-ended narrative responsive to future shifts in the data regarding the fate of the African diaspora, most assembled collections contained a mixture of hard copy and machine-readable data with a lack of metadata and preservation standards among most repositories. When Eltis overlapped datasets from different archives, he found quite a bit of duplicate information, as expected, but also noted inconsistencies among multiple descriptions of the same event and the inclusion of voyage datasets that did not deal

⁸⁶ Joseph Inikori, “Measuring the Atlantic Slave Trade: An Assessment of Curtin and Anstey,” *The Journal of African History* 17, no. 2 (1976): 197 – 223.

with Atlantic commerce or even carry slaves. With funding from the Andrew Mellon Foundation and the Cambridge University Press, Eltis, Klein, and Richardson encoded 27,233 voyages or two-thirds of known expeditions from both previously-constructed listings and the review of newly-recovered archival material to produce a 1999 CD-ROM database with reference maps and a research guide, that would disseminate information in a format both historians and the general public could comprehend.⁸⁷

Eltis indicated in a 2001 article that the database did not contain all possible information regarding the slave trade and probably never would due to constant discovery of new information and re-interpretation of data, but instead used “voyage-by-voyage” data comparison that meant assumptions and estimates would become more refined as the database staff added more ledgers to the software. The staff also summarized the slave trade by dividing assessment of its success or failure into 25-year increments or quarters, and recognized an occasional ten to fifteen year gap may suggest a loss of archived records or intentional lack of documentation due to smuggling. Eltis stated one must apply a prior knowledge of slaving history to resolve such grey areas by matching European favor of certain cash crops, areas where that crop might grow, and the production activity of a particular area to determine probable locations of slave trading posts. Most slave trading also occurred at a specific port at a specific time, depending on the ship captain’s abilities to trade goods that a particular tribe desired and to gain the trust of the African trader and his cargo. Other facts the patron should realize include: that the British and Portuguese shipped 75 percent of the total number of slaves, and that minor traders like the French and Dutch either participated early in the trade and backed out quickly or participated toward the

⁸⁷ *Grant Proposal for the Expanded, On-line Trans-Atlantic Slave Trade Database* (Atlanta: Emory University, 2008), http://www.metascholar.org/TASTD-Voyages/nehvoyages_full_narrative.pdf (accessed June 21, 2013), 12.

end; that most ports witnessed initial dramatic sales in slaves and then hit a plateau; that popularity of slave ports shifted from West Central African states like Angola in the 1520s and 1530s to the coast north of Benin which contained the most extensive waterways in Africa by the 1750s, and moved back towards Angola around the 1860s; that most ships sold the majority of their slaves to “middlemen” ports or *entrepots* before reaching their final destination; and, perhaps most importantly, that most datasets identified the vessel, not the slave, as the “basic unit of business transaction”.⁸⁸

Eltis and his associates warned scholars that datasets from various periods of time and travel logs of different nations might appear to show identical data and give the impression that all ships faced the same conditions, but that the outcomes of the voyages remained ultimately unpredictable – especially due to the constant threat of slave mutiny. Datasets on the CD-ROM included at least 483 attacks and revolts on 467 ships including 92 by non-enslaved Africans, 388 by African slaves, three slave suicides, 22 “planned” revolts, and eight “cut-offs” or shore based attacks, and that the logs of most successful voyages did not mention revolts, inferring that many more may have gone unrecorded. Scholars and contributors to the database divided the vessel journey into four phases depending on the frequency of revolts at particular times in the voyage, including the embarkation phase that composed 55% of revolts, the pre-Middle Passage or the last slave purchase before the Atlantic voyage that composed 12% of revolts, the Middle Passage that composed 30% of revolts, and the vessels that landed in the New World that composed 3% of revolts. The database also revealed that ships, which took longer to load and traveled longer routes, carried fewer slaves per ton, managed larger crews from the outset and fewer slaves per crew member, and held fewer males and more children, showed a tendency to

⁸⁸ Eltis, “The Volume and Structure of the Transatlantic Slave Trade,” 18 – 37.

produce more revolts. The most incredible revelations from the available data regarding the conditions of revolts included their correlation to crew sickness, which indicated the sailor's increased vulnerability to attack; situations of high crew death that revealed slaves felt they had less to live for and, therefore, caused as much destruction as possible; and the implications of gender including the fact that Europeans desired a male majority in their cargo for non-domestic work and gang labor, and that they often found women and children less threatening, left them unchained and able to interact in various parts of the ship, and consequently allowed for easy transport of weapons above deck to the male captives below.⁸⁹

Despite the enormous breakthrough that Eltis' *Trans-Atlantic Slave Trade Database* CD-ROM provided regarding research of African ancestry and the influence of tribes and slaves upon the fate of the Middle Passage, the software program remained limited in its' educational outreach due to the fact that university libraries and other historical archives, rather than individual patrons, chose to invest in the \$235.00 product and indirectly restricted potential access to such information. In addition, the software produced data in a static format, which prevented the user from either manipulating available information to suit his or her specific research needs or uploading datasets from new archival sources and, although intended for use by a wide variety of scholars, the CD-ROM required patrons to exercise a substantial amount of previous knowledge in their queries. The rigidity of the program's interface and the incapability to migrate datasets into more evolved technologies resulted in the failure of Eltis and Cambridge publishers to recover the initial cost of developing the database, and fueled their research into the development of Web 2.0 applications in the mid-2000s. The database staff settled upon the MetaScholar project at Emory University in 2008, a program that originated in 2001 as one of

⁸⁹ Behrendt, Eltis, and Richardson, "The Costs of Coercion," 456 – 462.

the initial frontrunners for sharing and mining electronic records among multiple institutions, which served as the inspiration for websites like the Archaeological Data Service and Digital Antiquity.⁹⁰

Eltis defined two types of variables the database should utilize to protect the integrity of the information gleaned from historical sources and to provide the user enough flexibility to research and produce their own conclusions not offered in the digital repository, including 162 *data variables* or information taken directly from archival and published sources and 64 *imputed variables* or statistics researchers synthesized with prior knowledge and use of mathematic equations in the spreadsheet. As indicated earlier, each nation and ship used their own terminology to define specific characteristics of their voyage including vessel characteristics, the itinerary of the voyage, the captain and crew of the vessel, the characteristics of the captives and their experience of mortality, and the sources of such records - and increased data variables helped to narrow the terms of such description to allow easier comparison of datasets. For example, in the case of describing the slave's age and gender, most ledgers identified the subject as a mix of the two attributes including adult males as "men", adult females as "women", male children as "boys", and female children as "girls"; by age and not gender, including adults, children, and infants or "infants at the breast", or simply as "male" or "female". However, most Africans did not attach importance to recognizing someone's age, so Europeans would judge age based on the appearance of sexual maturity – stating someone was ten years or above if they met the average height and weight requirements of an adult, no matter how many years that person had actually lived. Data variables also determined: departure, delay, and arrival dates; the type of vessel including produce ships that did not carry slaves, a "tender" or middleman ship that

⁹⁰ *Grant Proposal for the Expanded, On-line Trans-Atlantic Slave Trade Database*, 2 – 3.

supplied larger ships with extra slaves, or a “slaver”, which did not become a proper term until modern scholarship; the voyage outcome grouped into “outcome of the voyage for slaves, or the terminal location for the slave”, “outcome of ship, if captured”, and “outcome of voyage for owner, or profit versus investment”; and the types of tonnage or cargo including “dead-weight tonnage” or inanimate cargo, “tons burden” or loose-packed cargo including slaves, and “freight tons” or manufactured merchandise.⁹¹

While archived naval logs provided a multitude of raw attribute and numerical data, such information remained useless in comparing the characteristics of a particular voyage to those of the overall slave trade, failed to determine the actual number of slaves and their demographic percentages upon each ship, and, with an absence of standardization or even non-existence of international trade laws or tonnage-to-currency conversion, which usually suited the tastes of a particular bureaucratic government, lacked the ability to provide straightforward answers regarding the price or ethnicities of slaves that scholars desired to understand in the new millennium. In order to fill in such gaps in the historical record, data contributors and database personnel used Statistical Package for the Social Sciences or SPSS software to choose a number of data variables or known types of data that served as key factors in computing assumptions or estimates for a particular imputed variable or unknown types of data. William G. Miller defined the purpose of SPSS and statistics, in general, as the practice of applying the knowledge of characteristics about a sample of a population to understanding the rest of the population that remained unknown. For example, many voyage log entries or datasets provided the “number of

⁹¹ David Eltis, *Construction of the Trans-Atlantic Slave Trade Database: Sources and Methods* (Atlanta: Emory University, 2010), <http://www.slavevoyages.org/tast/database/methodology-01.faces> (accessed March 2013).

slaves embarked” from a particular port that the database team then converted into a data variable known as SLAXIMP, in order to define the number of slaves on a ship. However, not all datasets provided a set answer for the SLAXIMP, which forced researchers to determine the imputed variable TSLAVESD or “total slaves embarked”, or the sum of data variables NCAR13, NCAR15, and NCAR17 that indicated the “slaves carried from the first, second, and third ports of purchase, respectively”. Going even further, if no factors for TSLAVESD existed, patrons then looked to the data variable SLAARRIV or “number of slaves arriving at first place of landing”, or its’ imputed version TSLAVESP or “total slaves purchased” that constituted the sum of data variables SLAS32, SLAS36, and SLAS 39 or “number of slaves disembarked at first, second, and third places of landing, respectively”. Eltis and his colleagues used both data and imputed variables within SPSS to also determine how slaves sold at market by calculating the type of slave, the voyage distance, the value of the currency, and the occurrence of resistance to establish a price, or reversed the calculation to determine the value of the four supporting factors.⁹²

SPSS software provided great flexibility regarding search queries and new data configurations in the *Voyages* application, but Eltis’ team required a strong digital infrastructure including a MySQL relational database to store and retrieve old and new artifact and spatial information. The staff also implemented a GIS Toolkit program that not only provided proper storage for images, vector models, and base maps, but an administrative function as well that produced a conceptual model and physical model determining the workflow for the anticipated project, needs assessments or user surveys, requirements analysis or system specifications for

⁹² Eltis, *Construction of the Trans-Atlantic Slave Trade Database: Sources and Methods. The Trans-Atlantic Slave Trade Database SPSS Cookbook* (2010) provides all possible variables and known sample data to determine estimates regarding the database, <http://slavevoyages.org/downloads/Codebook2010.pdf> (accessed July 23, 2013).

publishing and presenting data, risk analysis regarding investment in technology, staff, and time, and Gantt charts and other time management software. In addition to the GIS Toolkit, data managers also employed the University of Minnesota's MapServer program that used Flash animation, multi-lingual display, and "path graphics" to make more sense and bring more dimension to flat, binary geospatial data. Emory specifically utilized a GIS consultant who collaborated with post-doctoral research assistants in choosing shape files for a particular region and time period. Staff also installed a tracking system for data management that provided a display of the application interface and stored content as it appeared on a certain date, as well as a summary of when, why, and how the database changed - one of the most important features of the *Slave Voyages* database and a technology that remains experimental in the digital archive profession.⁹³

The *Trans-Atlantic Slave Trade Database* followed in the footsteps of data sharing/mining sites like the Archaeological Data Service and Digital Antiquity by allowing patrons to contribute new datasets or an interpretation of existing ones, but also developed a vetting or accuracy verification process where donors submitted entries with anonymous creator data that project executives tested through double-blind peer reviews to ensure the data and variables used matched the findings in the existing electronic repository. Uploaded data and the information transferred from the 1999 CD-ROM became public domain information with the creation of the web application by 2006, but the project team found it necessary to conduct beta tests to determine the program's long-term durability. Small focus groups within the university determined the usability of the product through ten tasks including simple/complex searches, mapping exercises, and exploration of a two-tier learning structure that provided lesson plans

⁹³ *Grant Proposal for the Expanded, On-line Trans-Atlantic Slave Trade Database*, 6 - 7.

catering specifically to grade school students or graduate scholars. Various museum and archival directors received a second upgraded prototype to implement user logs that determined the rate of usage and effectiveness of the software in general cultural institutions.

The 2008 public release of the *Slave Voyages* website continued Eltis and other slave trade scholars' mission of educating society about the importance of the Middle Passage on the shaping of African-American heritage and the fate of the modern world, but harnessing such data isolated 91,491 African names that lacked little power in assisting Blacks to understand the origin of their ancestors. In conjunction with Harvard University's W.E.B. DuBois Institute, Emory produced the *African Origins: Portal to Africans Liberated from the Transatlantic Slave Trade* database in 2009 that organized all original datasets by the slave's name and determined his or her tribal identity based on the language that used a similar spelling of that name in their lexicon. Eltis and other scholars continue to add data to both the *Trans-Atlantic Slave Trade Database* and the *African Origins* application, as well as publish and share information regarding the future of the Trans-Atlantic slavery research through mediums including the *Liberated Africans and Digital Humanities: African Diaspora Reconsidered* conference hosted at the University of California at Irvine in October 2013.⁹⁴

While David Eltis' *Voyages: Trans-Atlantic Slave Trade Database* provides wonderful insight regarding the tribal origin of many West Africans who arrived in the Americas from the fifteenth into the nineteenth centuries, most knowledge of their lives and the conditions they lived under in the United States remains undocumented. John K. Thornton and Linda M.

⁹⁴ *Grant Proposal for the Expanded, On-line Trans-Atlantic Slave Trade Database*, 15 – 18.

Heywood's *Central Africans, Atlantic Creoles, and the Foundation of the Americas, 1585 – 1660* (2007) and Juliet E. K. Walker's *History of Black Business in America: Capitalism, Race, Entrepreneurship* (2009) indicate that each new arrival of African slaves to the New World brought with it a social stratification/division among themselves inherited from their West African roots.⁹⁵ Slaves not only incorporated the rule of kinship-based structure and the ideals of cooperative agriculture in their daily tasks on the plantation, but built the majority of the plantation's structures and applied techniques they fostered in their homeland regarding rice, sugarcane, and cotton production. Although slaves ultimately bowed to their masters' wills, works including Eugene Genovese's *Jordan, Roll: The World the Slaves Made* (1976), John W. Blassingame's *The Slave Community: Plantation Life in the Antebellum South, 2nd ed.* (1979), Anthony Kaye's *Joining Places: Slave Neighborhoods in the Old South* (2007); and Stephanie M. Camp's *Closer to Freedom: Enslaved Women and Everyday Resistance in the Plantation South* (2004), argue that slaves recognized the master's dependence on them and developed a sense of power that the plantation existed and prospered only as long as the slaves fulfilled their assigned duties.⁹⁶

Ancestry sites including the University of South Florida's *Africana Heritage Project*, *AfriGeneas: African Ancestored Genealogy from Africa to the Americas*, FamilySearch's *African*

⁹⁵ John K. Thornton and Linda M. Heywood, *Central Africans, Atlantic Creoles, and the Foundation of the Americas, 1585 – 1660* (New York City: Cambridge University Press, 2007). Juliet E. K. Walker, *History of Black Business in America: Capitalism, Race, Entrepreneurship* (Chapel Hill: University of North Carolina Press, 2009).

⁹⁶ Eugene Genovese, *Roll, Jordan, Roll: The World the Slaves Made* (New York City: Pantheon Books, 1974). John W. Blassingame, *The Slave Community: Plantation Life in the Antebellum South, 2nd ed.* (New York City: Oxford University Press, 1979). Anthony Kaye, *Joining Places: Slave Neighborhoods in the Old South* (Chapel Hill: University of North Carolina Press, 2007). Stephanie M. H. Camp, *Closer to Freedom: Enslaved Women and Everyday Resistance in the Plantation South* (Chapel Hill: University of North Carolina Press, 2004).

American Genealogical Records, and state and local websites like Alabama Genealogy's *Alabama African-American Genealogy Research* only provide information regarding how many slaves a master may have owned and, on rare occasions, their names. However, several university-based digital collection projects attempt to push the boundaries of information known about slaves far beyond these popular genealogical sites by not only providing names of individual servants, but also using geographic coordinates, relational databases, and records ranging from the candid accounts of both planters and well-established free African-American to unexpected sources such as transcripts of court trials over the possession of a slave, that gave a voice to the unknown servant. Five of these innovative sites are the *Afro-Louisiana History and Genealogy, 1718 – 1820* database; *The Geography of Slavery in Virginia* database; the *Texas Slavery Project*; and the *Visualizing Emancipation* database. Each of these projects proves unique not only in the information it provides, but also because most of these databases originated from a student or professor's research and beta-testing of a handcrafted application and rely on open-source software programs including the University of North Carolina's *Ibiblio* software, the University of Richmond's *Digital Scholarship Lab*, and other combinations of spatial and attribute database technologies.

Dr. Gwendolyn Midlo Hall modeled her *Afro-Louisiana History and Genealogy, 1718 – 1820* application after many of the same processes David Eltis took to develop his *Trans-Atlantic Slave Trade* database. Hall's database also attempts to trace the ethnic background of slaves who endured the Middle Passage, but specifically approaches her research from the records planters created upon purchase of the slave in the Americas. Hall, a history professor at Rutgers University, first ran across such documentation in 1984 in the midst of other notarial records in the courthouse at New Roads in Pointe Coupee parish, which took account of the slave's gender

male or female, without recognition of the slave's age, as well as racial designation bestowed by the planter, including multiple identifications such as: black; grif, indicating mixture of black and Indian; metis, indicating mixture of white and Indian; a mixture of black and white ranging from quadroon to mulatto to octoroon; Indian; and miscellaneous ethnicities including chinos, or Chinese immigrants initially enslaved by Mexicans. Such records also indicated the location of the master's plantation which ranged from parishes along the Red River to regions as far away as Illinois, as well as the slave's origin that documented his or her particular tribe, the ethnicity bestowed upon him or her in America, the location of purchase, and the state of last residence if the master bought the slave through interstate commerce.⁹⁷

Hall received the majority of her initial support from Robert A. Rosenberg who directed the creation of the 1970s *Edison Papers* database at Rutgers University, one of the first electronic collections of historical documents, as well as the development of the 2007 *Documents Compass* project that provided website development, funding and publishing guidance, controlled vocabularies, and overall content management for archival collections and online versions of physical anthologies.⁹⁸ Along with encouragement from Rosenberg, Hall received funding from the National Endowment for the Humanities in 1991 to expand her work beyond the records she found at New Roads, which dealt mainly with Spanish era of Louisiana colonization from 1770 to 1803, and looked to other repositories who held material relating slave in Louisiana including the Cultural Affairs Office of France, the Program for Cultural Cooperation between the Spanish Ministry of Culture and United States Universities, the John

⁹⁷ Gwendolyn Midlo Hall's "Using the Full Databases – The Louisiana Slave Database and the Louisiana Free Database, 1719 – 1820," *Afro-Louisiana History and Genealogy, 1718 – 1820*, http://www.ibiblio.org/laslave/cd_introduction.php (accessed December 26, 2013).

⁹⁸ Ibid.

Simon Guggenheim Foundation, and the University of New Orleans. As in Eltis' work, Hall's efforts to look through the collections of repositories around the world led to the construction of datasets that not only included the French and Early American periods of habitation, but also linked recorded slave trades in Mississippi, Alabama, and Florida to activity in Louisiana. With the technical expertise of her "co-principal investigator" Patrick Manning, Hall adopted dBase V for DOS relational database software that allowed for greater expansion of the datasets Hall initially developed in 1984, allowed patrons of the database to turn stored data into a portable version that one could add into an existing spreadsheet on another computer, and upload into an SPSS software package to recode or combine individual pieces of data into complex calculations and graphs.⁹⁹

Hall eventually turned the original calculations from her first book *Africans in Colonial Louisiana: The Development of Afro-Creole Culture in the Eighteenth Century* (Baton Rouge: Louisiana State Press, 1992) into an expanded manual for her updated website entitled *Databases for the Study of Afro-Louisiana History and Genealogy, 1699 – 1860: Computerized Information from Original Manuscript Sources* (Baton Rouge: Louisiana State University Press, 2000). Over the course of the database's evolution during the 1990s, multiple scholars assisted Hall in gathering further information beyond Pointe Coupee including: Paul Lovejoy who worked as one of the chief architects in Eltis' *Slave Voyages* database; Ulysses S. Ricard, Jr., who worked as the chief archivist of the Amistad Research Center at Tulane University, the nation's oldest and largest independent archive regarding the history of African Americans and other ethnic minorities; and Liliane Chauleau, Director of the Archives of Martinique, who worked with the records of the Louisiana Supreme Council to decipher the language of French

⁹⁹ Ibid.

documents readily used in Louisiana in the eighteenth and early nineteenth century. Hall collected over 100,000 recorded instances of regional slavery each with 114 fields or “bits of comparable information” by 1996, including many fields that referred to the emancipation of a particular slave. With so much data, Hall created both a “slave” and “free” database. The slave database’s main fields included: AFREGION or the coastal region of Africa where slave originated; NAMETYPE that identified slave’s name as either native African, a question of whether African or European, or Islamic; NAMEEXPLAIN that provided meaning of a particular name; VIA, indicating where the slave seller originated; WENT, or where the slave ultimately went to work; FREE and/or ESTATEFREE, which indicated whether anyone of African descent participated in the trade as the buyer, seller, or a deceased individual; and the imputed variables INVVALP and SALEVALP used to calculate the price of a slave by mixing known data with currency conversion. The free database consisted of 4,068 slaves with 62 fields including: MEANS or means of manumission; FREEREL or the slave’s relationship to a third party, if so required to free the slave; REASONS for manumission and CONDITIONS included in granting one’s freedom; SALEVALP or the price paid for freeing slave; FREER indicating a third party involved in manumission and FREED or the likelihood that a slave actually received freedom; GRATUITOUS indicating no payment offered in freeing a slave; and WHITEDAD or if a white father of the slave freed that slave. Both databases also included SOUNDSLIKE fields to translate data from one language to another and a COMMENTS field that provided background for a particular location mentioned or further information beyond the capacity of the standard fields.¹⁰⁰

¹⁰⁰ Hall, “Using the Full Databases.”

In March 2011, Hall acquired a teaching position in the African Studies Department at Michigan State University and discovered a means of expanding her research of American slavery far beyond Louisiana. Hall served as the lead coordinator for *Slave Biographies: The Atlantic Slave Network*, a database project similar to Eltis' work that combines data retrieved from records of the Middle Passage and contracts established when traders sold West African migrants to planters in the Americas. Along with the efforts of Walter Hawthorne, Chair of the History Department at Michigan State, the *Slave Biographies* database combines the power of six pilot databases including: Hall's *Afro-Louisiana History and Genealogy, 1718 – 1820* database; Hawthorne's *Maranhao Inventories Slave Database* regarding the lifestyles and fates of 8,500 Brazilian slaves from 1767 to 1832; Douglas B. Chambers' *Jamaican Runaways: A Compilation of Fugitive Slaves, 1718 – 1817*; Virginia Meacham Gould's datasets of African-American records from civil, criminal, and Catholic Church documents in New Orleans, Louisiana, Mobile, Alabama, and Pensacola, Florida; as well as Paul F. LaChance's *Index to New Orleans Indentures, 1809 – 1843*.¹⁰¹

Using SPSS to cross-reference these datasets, Hall and her colleagues attempted to answer the questions not of what happened to slaves during the diaspora but how slaves survived the rigors of plantation life. Numerous questions arose regarding what skills the people of a particular African ethnicity specialized in, the gender ratio of slaves on a given plantation, the types of injuries each slave occupation suffered, what percentage of slaves married within a particular ethnicity, the places a particular slave worked and the names of his or her offspring, which documents provide record of a particular slave, and the value ascribed to a slave within a

¹⁰¹ *Grant Proposal for "Biographies: The Atlantic Slaves Data Network"*, Michigan State University, www.slavebiographies.org/project/wp.../Slave-narrativeWH-CR-Final.docx (accessed December 26, 2013).

certain ethnicity and time period. The nine fields within the current dataset comprising Hall and Hawthorne's data include the dataset ID number, year of record, name of slave, age, gender, race, skills, health, and parish. Typing the phrases "iron", "rice", or "cotton" in the "skills" query box retrieves results of female slaves who served as cooks and/or ironers, male slaves who served as native language interpreters or coach drivers, but only two males who harvested cotton, respectively. These datasets give one of the clearest pictures of how slavery operated on the plantation.¹⁰²

In the thirty-year evolution of Hall's database, she adopted two ground-breaking pieces of open-source software – the University of North Carolina's *Ibiblio* database and Michigan State's *Matrix/KORA* software. Hall's data remained confined to the boundaries of a CD-ROM until 2000, when *Ibiblio* arose out of a collaboration between Duke University's Center for the Study of the Public Domain and UNC-Chapel Hill's digital organization MetaLab, also known in the 1990s as SunSITE which later became Sun Microsystems, the creator of MySQL and JavaScript technologies often found in GIS and digital archaeological websites. With technical support from UNC's School of Journalism and Mass Communication and School of Information and Library Science, *Ibiblio* carries on the intentions of SunSITE as the Internet's "collection of collections" that hosts over 2,500 web projects including Project Gutenberg, "the famous free book site". As an entity that "averages 12,000,000 to 16,000,000 information requests per day", one may easily see why Hall's *Afro-Louisiana History and Genealogy* database powered by

¹⁰² Ibid.

Ibiblio received acknowledgement by *Family Tree Magazine* as one of the *101 Best Websites of 2010* for genealogical research.¹⁰³

However, the *Ibiblio* engine lacked the depth to include all data fields when patrons conducted searches of the database, and Hall looked to other avenues to expound upon her data and connect it to other scholars' projects. In 2011, Hall saw the strength she needed in MATRIX, the Center for Digital Humanities and Social Sciences at Michigan State University, which proved innovative in combining the input of scholars and professors with the expertise of IT personnel. MATRIX developed an "open-source, database-driven, online digital repository application" called KORA in 2010, that allowed storage of digital files in the form of a relational database. Hall, Hawthorne, and other associates worked with MATRIX technicians in 2011 to develop a hub of databases regarding American slavery, which relied on SPSS and SQL to provide patrons with conclusions harvested and calculated from the six participating pilot projects. This hub known as *Slave Biographies* emphasized user interaction with the data with various tools including "threads" or informal units of raw user-generated imputed data that add on to the data entered by the original researcher, "research notes" or an outline of the process the user took to draw conclusions and add information to the database, "research discussions" that allow later users to tag or add metadata/commentary to an earlier user's conclusions, and "knowledge collections" or accounts that any user of a site must create if they wish to contribute the aforementioned materials to the original database. One must exercise caution that the user's interpretation of the data does not destroy the validity of the original scholar's data, but the *Slave Biographies* database illustrates well how to share data regarding plantation life of the slaves and use such information to reach a variety of conclusions. Hall and her colleagues recognize that

¹⁰³ "About," *Ibiblio*, The Public's Library and Digital Archive, <http://www.ibiblio.org/about/> (accessed December 26, 2013).

they still face many steps in placing and cross-referencing original data in the application, as well as monitoring the user content placed in the database, in order to ensure the integrity of the project in the future.¹⁰⁴

Several databases utilize GIS along with SQL query searches, specifically such projects that concern the trafficking of slaves or runaway slaves. Two organizations that mastered this concept include the University of Virginia's Virginia Center for Digital History or VCDH and the University of Richmond's Digital Scholarship Lab. The VCDH originated in 1998 under the direction of Edward L. Ayers and William G. Thomas, III, to develop new technologies of teaching history and sharing scholarship with other researchers at a time that professors and students no longer avoided the presence of the digital revolution. Dr. Thomas Costa, current Chair of the Department of History at the University of Virginia Wise, immediately tested the boundaries of the VCDH in 1999 with the *Virginia Runaways* database that converted data from Virginia's runaway ads between 1736 and 1790 into SQL datasets – an offshoot of the *Virtual Jamestown* project Dr. Crandall A. Shifflett developed in 1997 in preparation of the 400th anniversary of the Jamestown Settlement, which used GIS to indicate patterns of European, Native American, and slave settlement and interaction, as well as three-dimensional morphs of historical illustrations to give the patron a virtual experience of Jamestown.¹⁰⁵

In his January 2001 article “What Can We Learn from a Digital Database of Runaway Slave Advertisements?”, Dr. Costa reveals that masters not only described the physical dimensions, clothing, and possessions of the runaway slave, but the skills and labor a particular

¹⁰⁴ *Grant Proposal for “Biographies: The Atlantic Slaves Data Network.”*

¹⁰⁵ “About VCDH,” Virginia Center for Digital History, www.vcdh.virginia.edu/index.php?page=About (accessed December 31, 2013).

slave might look for elsewhere, theories for why the slave ran away, and the names of travelling companions or close friends who might know his or her location. Costa indicates that such details gave one of the most descriptive accounts of the slave's living conditions and social behaviors, which largely remains a mystery to contemporary historians.¹⁰⁶ In 2005, Costa upgraded and expanded his simple database of runaway slave advertisement transcripts in a more interactive application entitled *The Geography of Slavery in Virginia* that allowed the user to place data from primary sources into chronological and spatial frames of reference. Costa included four means of researching the ads: "Detailed Search," which allowed search for specific details of the ad including name/sex/age/skills of the slave, the subscriber/year/city of publication, ad type for a run, capture, or transfer, intent for running away and possible destination; "Browse the Ads," which allowed view of descriptions by decade ranging from the 1730s to the 1800s, the type of location such as home, origin, or destination, and state/country of ad publication; "Full Text Search," including particular phrases such as "with child" and the possible location of the phrase in the description; and "Maps and Timelines," which allows the user to track the movement of a slave based on the data pulled from the database, or view when escapes occurred within a certain county through use of a timeline.¹⁰⁷

The "Maps and Timelines" feature proved revolutionary in its use of Scalable Vector Graphics or SVGs and Historical Event Markup and Linking or HEML. SVGs allow the creator of a mapping database to place a particular phrase, feature, or symbol at a particular location on a webpage. While an SVG creation software does not understand commands such as "place this

¹⁰⁶ Thomas Costa, "What Can We Learn from a Digital Database of Runaway Slave Advertisements?" *International Social Science Review* 76, no. 1 and 2 (January 2001): 36 – 43.

¹⁰⁷ *The Geography of Slavery in Virginia* database, <http://www2.vcdh.virginia.edu/gos/explore.html> (accessed January 2, 2014).

symbol at the year 1776 on the timeline” or “place marker at 60°N, 30°E”, one may use HTML or Hypertext Markup Language to command the computer to place a shape such as a circle a certain number of pixel spaces from the left or right screen margins, determine the width or height of the object, and determine the color and spacing of lines within a web-generated image. In his application, Costa pinpoints the location or locations of a slave’s escape in relation to a well-known landmark of the time period such as “Charles City County, Charles City, VA” against a map of the region. In addition, Costa uses HEML to code a particular map coordinate with a statement such as “AD 1775 July 11: AARON Runs from Slavery”. One then clicks on the statement, which then breaks down the statement into associated phrases regarding a date of escape like “AD 1775 July 11”, location of escape such as “Charles City County, Charles City, VA”, participants “AARON, enslaved person”, and links to transcriptions of advertisements in the database regarding the particular event such as “July 20, 1775, Virginia Gazette, Pinkney”.¹⁰⁸

Dr. Andrew J. Torget’s *Texas Slavery Project* serves as another VCDH application that illuminates both the cultural and legal aspects of Southern slavery. Torget’s project arose out of the research he gathered for his dissertation while completing his doctorate at the University of Virginia in 2007. While Costa focused specifically on the actions and characteristics of individual slaves as seen through runaway advertisements, Torget shifted his perspective more to the actions of planters who brought their slaves into the Republic of Texas beginning with the republic’s inception after the overthrow of Mexican rule in 1836 and ending with annexation of the republic into the United States in 1845. Torget specifically looked at the republic’s annual tax records gleaned from both microfilm and original documents stored at the Texas State Library and Archives that required planters to account for the number of acres and slaves they possessed,

¹⁰⁸ Ibid.

and converted such information into data variables including: the number of slaves within a county ranging from no slaves, 1 – 299 slaves, 300 – 599 slaves, 600 – 999 slaves, or 1,000+ slaves; the number of planters within a county ranging from no slaveholders, 1 – 19 slaveholders, 20 – 49 slaveholders, 50 – 99 slaveholders, 100+ slaveholders; the average number of slaves held by planters in a particular county; the holdings of the largest slaveholder in the county; and the population of slaves and planters in the overall state. By crunching these numbers in various equations, the user of the database may determine the rate of growth/decline in slave accumulation among planters both in the state as a whole as well as in each county, the proportion of slaves in a county compared to the state, and whether trends of growth or decline occurred because of certain geographic and/or chronological factors.¹⁰⁹

Torget established three major aspects for his web application including an “Explore the Maps” feature, direct query of the database itself, and primary sources used to compile data for the project. The “Explore the Maps” feature promotes the visualization of the effects of slavery on Texas through the use of the Historical Unit Browser or HUB. The HUB operates as an open-source, XML-based structure that transforms collections of spatial and attribute data into a mapped display of historical events, which a user may manipulate with a legend that highlights certain features of an event and a scrolling timeline that illustrates how an event or a geographic region evolved over a period of time. In simpler terms, HUB developer Bill Ferster states that his software works as a “generative browser” that not only allows users to view a preset collection of events, but to construct their own view of the events based on information in an associated database. HUB often includes three representations or “constructors” of queried data, including:

¹⁰⁹ Andrew J. Torget, “Mapping the Borders of Slavery: The Texas Slavery Project.” www.cdrh/unl.edu/opportunities/neb_digital.../2007/...slavery/abstract.doc (accessed June 2013): 1 – 4. *Texas Slavery Project*, www.texasslaveryproject.org (accessed January 3, 2014).

the “lens”, which transforms entered phrases including date and title of the event, links to primary source documents, geographic coordinates, and keywords describing the event into the visual representation of the event; a base map that allows the overlay of raster data or scans of historical maps and vector data or lines and symbols indicating a particular location that allow comparison of various layers of data; and a graphing table that allows one to compare multiple datasets in a line graph.¹¹⁰

In Torget’s use of HUB technology, he included two “control panels” that allowed the user to choose what types of vector data appeared on the given map: “Map Features,” which allows one to highlight the statistics of a particular county, identify regional rivers, and/or identify surrounding states that existed in the 1830s and 1840s; and “Populations,” which allows the user to view the status of slavery based on the number of slaves and/or slaveholders in a particular location (the darker the shade of the county indicated a greater concentration of slavery). In addition, Torget also provided a graphing table that compared enslaved populations from various counties. Apart from the HUB application, the patron may search the database of tax records by county and year or by counties that fit specific population criteria. Torget also established links to several primary sources including the papers of James F. Perry who managed a plantation in Brazoria county and recorded his observations of slave behavior and early cotton markets in Texas, articles from Houston’s *Telegraph and Texas Register* that discussed issues of slavery and American annexation in the 1830s and 1840s, and articles from the *Civilian and*

¹¹⁰ Bill Ferster, *Historical Unit Browser Overview – Virginia Center for Digital History*, www.vcdh.virginia.edu/courses/fall07/hius404-1/hubspec.doc (accessed June 2013).

Galveston Gazette including runaway advertisements, essays on sugar and cotton production, and the passage of laws restricting the movement of African Americans.¹¹¹

The *Texas Slavery Project* served as a revolutionary built-from-scratch application that allowed the patron to utilize primary sources and raw database information to fostered a better visual understanding of slavery but, as with many digital projects, lacked the capacity to generate conclusions when a user searched multiple forms of data at once and eventually fell by the wayside as Torget moved on to other projects. In 2008, Torget expanded on his work with VCDH and by joining forces with University of Richmond president and historian Edward L. Ayers, Nineteenth-Century America professor Dr. Robert K. Nelson, James Madison University Geographic Science professor Dr. James W. Wilson, and University of Virginia doctoral candidate Scott Nesbit to create the University of Richmond Digital Scholarship Lab or DSL with the understanding that “every historical newspaper, census record, manuscript, battlefield report, audio recording, and photograph came from a particular place, and often documented multiple other locations” and questioned “how we can advance the work of people seeking to use digital tools to visualize complex historical processes.”¹¹² *History Engine: Tools for Collaborative Education and Research* served as the flagship project of the DSL, which allowed students and professors from various universities ranging from Vanderbilt to the University of Alabama in Birmingham to contribute cited articles regarding specific historical events, to link them together through metadata tags, and to pinpoint the location of each event in a GIS application. The staff of the DSL continued the trend of allowing patrons to serve as both the

¹¹¹ *Texas Slavery Project*, www.texasslaveryproject.org (accessed January 3, 2014).

¹¹² Andrew J. Torget and James W. Wilson, “Visualizing the Past: Tools and Techniques for Understanding Historical Processes – A White Paper for the National Endowment for the Humanities.” December 2009. http://dsl.richmond.edu/workshop/White_Paper.pdf (accessed December 21, 2013).

chief builders of digital scholarship and as an audience that shared the information they found with other researchers through the spring 2012 development of the *Visualizing Emancipation* database.¹¹³

Visualizing Emancipation served as the first digital project to attempt to map the phenomenon of emancipating slaves during and after the Civil War, which occurred sporadically in a chronological and geographic sense as well as for a variety of different reasons. The database centered around a map that displayed “Emancipation Events” or points marking the specific location where emancipation occurred, the “Emancipation Heat Map” that denoted the frequency of such events in a particular region, “Union Army Locations” that project director Scott Nesbit indicated correlated frequently with locations of emancipation, and the “Legality of Slavery Overlay” that used 1860 county boundary files to indicate whether a region supported the legality of slavery, impaired it, outlawed it, or lacked documentation regarding its’ stance. The user may also narrow his or her search of emancipation events to one of the following: “Abuse of African Americans”; “African Americans helping the Union”; “Capture, enslavement, or re-enslavement of African Americans by Confederates”; “Capture of African Americans by Union troops”; “Conscription and recruitment, Union (army or labor)”; “Conscription, Confederate (army or labor)”; “Fugitive slaves, or runaways”; “Irregular fighting (insurrection or raid)”; “Orders or regulations”; and “Protecting slave property from Union troops.” Some events remained uncategorized while other occasions met several criteria, and student researchers at the University of Richmond harvested of each of the original 3,400 datasets utilized in the application from books, newspapers, “official records”, or personal

¹¹³ “What is the *History Engine*?” *History Engine*. http://historyengine.richmond.edu/pages/about/what_is_the_history_engine (accessed January 3, 2014).

papers. *Visualizing Emancipation* also allowed the patron to use a timeline to isolate the records of a particular time period, and view them either in the perspective of the map or of their location in the SQL database. As with *History Engine*, Nesbit and other DSL staff allowed teachers and students in colleges and high schools around the country to create their own log-in accounts in order to add an emancipation event backed by primary source evidence, as well as download the current database for the application.¹¹⁴

In close relation to the *Visualizing Emancipation* database, Nesbit also developed a GIS program entitled *Migration and Marriage in Post-emancipation Virginia* that utilized records of the state's general assembly that tracked the paths of slaves once freed by their masters. By clicking on each county in the application, patrons viewed the paths the freed slaves took of out of their county of enslavement, whether the records used to obtain such information referred to their birthplace or marriage, the sex of the slave, as well as his or her occupation. Both *Visualizing Emancipation* and *Migration and Marriage in Post-emancipation Virginia* provided an interesting picture not only regarding the amounts of liberty emancipated slaves and their families exercised, but the process by which they obtained such freedoms.¹¹⁵

Such websites create a great insight into the foundations and spread of slavery throughout the United States, as well as the conditions that allowed for emancipation. Applications like

¹¹⁴ *Visualizing Emancipation* database, <http://dsl.richmond.edu/emancipation/> (accessed January 2, 2014). See "About – Methods," <http://dsl.richmond.edu/emancipation/methods/> (accessed January 4, 2014).

¹¹⁵ Scott Nesbit's "Scales Intimate and Sprawling: Slavery, Emancipation, and the Geography of Marriage in Virginia," *Southern Spaces* (July 2011), <http://www.southernspaces.org/2011/scales-intimate-and-sprawling-slavery-emancipation-and-geography-marriage-virginia#sthash.Wfsgfh1f.dpuf> (accessed January 4, 2014).

Visualizing Emancipation utilize spatial data to also construct post-emancipation theories including the statement that the presence of Union troops in a particular region fueled many slaves to show hostile displays against their masters and to flee the plantation, either to join the Yankee forces or to find other means of escaping to the North. While historical accounts validate such theories, the complex history of African-American emancipation and the formation of black communities during post-Civil War Reconstruction require a depth of consideration that most digital history projects either ignore or fail to grasp.

David Eltis' *Voyages: Trans-Atlantic Slave Trade* database, Gwendolyn Midlo Hall's *Afro-Louisiana History and Genealogy* database, and Scott Nesbitt's *Visualizing Emancipation* database remain a small sample of the numerous projects that not only brought the struggles and achievements of slaves and freedmen to public light, but attempt to bring simplicity to complicated social issues and historical events by breaking large amounts of spatial and attribute data into elemental pieces. Doing so allows the patron of the application to experiment in combining these bytes of data and building them upon each other to understand what each type of data represents, to reach scientific conclusions that back up claims in historical text, or to combine sets of data in ways not attempted before in order to reach new conclusions about controversial subjects in history. However, while these projects make history relevant and interactive for both academic scholars and the general public, they also paint a picture that makes digital history appear attractive and user-friendly – that complex constructions of data, missing pieces of centuries-old puzzles, and key conclusions about historical events appear like magic if you enter the right set of commands.

When beginning a digital history project, those individuals in charge must first decide the subject of their project including not only the particular event or group of people, but the specific

characteristics of that event or group, what types of data they will utilize, and, from there, determine the type of software that best suits the data. The *Voyages* database and Midlo's *Afro-Louisiana History and Genealogy* database rely largely on Statistical Packages for Social Science, a software that crunches various statistics including geographic coordinates, geometric measurements, and the amounts of artifacts or specimens mentioned in a text or found at an excavation into charts and graphs. While such a product proves robust for specific calculations, many archaeologists and historians who utilize SPSS warn that it fails to analyze text and remains non-ideal for simple queries about a society's heritage. Historical Event Markup Language or HEML, originally developed by Dr. Bruce Robertson for the study of classical antiquity at Mount Allison University in Canada and utilized by Thomas Costa in the *Geography of Slavery in Virginia* database, proves ingenious in linking textual phrases with geographic coordinates and then breaking down each statement into databases related to time, place, person, event, and primary document. However, HEML only extends so far in its' documentation by avoiding technical specifics and preventing outsiders from accessing institutional projects. The Historical Unit Browser or HUB, implemented in Torget's *Texas Slavery Project*, also serves as a flexible tool that allows one to interchange display of data between map, graph, and database, but anyone who desires to adopt such technology for their own separate projects to exercise proficiency in HTML that creates static text and images and Javascript that allows such objects to move and interact with the user. Several of the mentioned projects like *Visualizing Emancipation* proved successful and expanded over time because organizations including the University of North Carolina's *Ibiblio* and the University of Richmond's *Virginia Center for Digital History* provided server storage for generated datasets as well as staff with combined historical knowledge and technical skills. Both organizations provide guidance and hosting for

those who desire to build collections, but require those individuals or groups to comply with the research interests of the associated university.

With the prevalence of such advanced technology and the correlation that most of these projects require massive amounts of time, energy, and money, how might one go about structuring a project such as the one the author of this thesis proposes regarding the spatial and artifact documentation of African-American heritage in Alabama? In attempting to emulate such detailed and powerful projects previously discussed, one must realize that social media and other free Web 2.0 applications exist that allow individuals to share digital materials in a manner that does not require massive funding or technical skills. While questions abound regarding the depth of analysis that products like Wordpress and Google Sites provide and how much trust one should place in companies like Google to store master digital objects and datasets, the fact remains that these tools in addition to applications like Tripline, which meshes geographic coordinates with a real-time timeline, and Thinglink, which allows one to embed digitized images with pinpointed links to associated websites and YouTube videos provide user-friendly platforms for manipulating and sharing historical data. Several organizations also exist that provide guidance to individuals who desire to build their own heritage projects including the Center for Digital Research in the Humanities at the University of Nebraska – Lincoln, which invites academic repositories from across the country to share their collections in the History Harvest and to browse exhibits of harvested materials produced by staff and students, offers Digital Humanities Certificates specializing in GIS and the Text Encoding Initiative or TEI which teaches students how to construct data trees that form the foundation for faceted searches, and requires all students to develop their own digital projects from scratch.

Such collaborative endeavors prove excellent in spawning robust long-term digital history initiatives, but the secret to the success of these organizations resides in the fact that they remain collaborative in group efforts not only to develop technology, but to determine the overall goals of a project and what types of data a project will harness. The trend to collaborate remains somewhat in its infancy in Alabama. AlabamaMosaic, established by the Network of Alabama Academic Libraries in 2001, and the Alabama Digital Preservation Network established in 2006 allow repositories across the state to pool, illustrate connections between, and disseminate digitized photographs and textual materials regarding African-American life among other subjects and to share the duties of storing each other's born-digital material, respectively. While vastly successful in their own right, few other state and local projects claim the same record of endurance and growth. Nevertheless, the Alabama Bicentennial Commission established in 2013 to promote the cultural, natural, economic, and historical aspects of the state in preparation of the state's 200th birthday in 2019 serves as a catalyst for generating recognition of little-known societies in the state including small rural and urban African-American communities.

This environment serves as the perfect conditions for introducing the author's *African Heritage in Alabama* GIS application, which intends to illustrate the evolution of slave and freedmen settlements as well as the effects of the civil rights struggle upon their present conditions. The project intends to draw on the efforts of the Alabama Bicentennial Commission, as well as other projects and institutions like Alabama State University's Civil Rights GIS project, the University of West Alabama's Black Belt Slave Housing Survey, and the archaeological reports stored in repositories like the Alabama Historical Commission and State Site File Archive in the University of Alabama's Department of Archaeology located at Moundville Archaeological Park. Although it remains in its' infancy, the *African Heritage in*

Alabama project will serve as both a portal to materials not typically acknowledged by researchers due to the fact that they either remain scattered in dark corners of archives across the state or have yet to be officially recorded or published. Chapter Three will discuss these materials in greater depth, as well as how the author intends to utilize technology like Harvard University's Worldmap GIS application and Google FusionTables to make these materials searchable and linkable to other websites and digital objects, what the project will do in shining a light on the neglected perspectives of slaves and freedmen on their private worlds and interactions within the sphere of white supremacy, and how such a project may bridge racial divides in helping whites and African-Americans to better understand, appreciate, and learn from each other's perspectives on the present, recollections of the past, and visions for the future.

CHAPTER THREE

Reconstructing an African Heritage in Alabama

The motivation for the projects discussed in the second chapter stemmed from the fact that most history written regarding the lives of slaves and freedmen came from outside observers, and that the oral traditions of passing down family stories within the African-American community often lost many of their details or faded over time in their retelling to countless younger generations. Most of the information that experts like David Eltis, Gwendolyn Midlo Hall, and Andrew Torget compiled came from estate and census records, the scholarship of earlier historians, archaeological investigations, and responses from surviving descendants who remained in the locations where their ancestors settled. Similar conditions exist when looking for the presence of slave and freedmen influence in Alabama. These traditions survived well in the Deep South via the remnants of slave quarters and tenant houses in rural areas of the state, and it is clear African Americans adapted their ancient mixture of kinship and entrepreneurialism to the businesses, schools, houses, churches, and social clubs that became the foundations of their lives in the urban areas of the state. Nevertheless, very few written records exist that document their lives and activities, and those records that do survive remain scattered across repositories around the state. Some materials even remain undocumented, often placed in a random vertical file or stored in a dark corner of an attic or undisclosed box within the residence of an individual who may lack knowledge of the valuable documentation they

possess. As indicated in the introduction of this thesis, several organizations on both state and county levels attempted at one time or another to organize catalogs of local material. However, most of these projects either fell out of physical circulation, or resulted in archaic digital objects including non-updated webpages, deleted projects with active web addresses, or once-public projects now restricted to institutional access. For one reason or another, most projects that set out to document African-American history within the state tend to lose interest and energy and fall by the wayside. The *African Heritage in Alabama* application intends to become a sustainable database of materials critical to the documentation of African-American life throughout the state, including records pertaining to oral histories, government documents, audio-visual materials, and published and non-published manuscripts that document the development of black communities throughout the state. The application will also contain a GIS feature that meshes spatial data with attribute data ranging from demographics to artifacts of excavated sites.

This chapter will discuss what projects African-American communities in Alabama currently undertake to preserve their cultural heritage and what such projects must improve upon to share their heritage with the world. The narrative will also examine the technologies and standards that influence the modeling of the *African Heritage in Alabama* project, the types of information it utilizes and disseminates, and future strategy for the project. One of the best places to begin a search for information regarding the daily life of slaves and free blacks is within the historiography produced about the state over the last century. Social historians provide some of the best known works regarding the evolution of African-American society in Alabama including Horace Mann Bond's *The Education of the African-American in Alabama: A Study in Cotton and Steel* (1939), James Benson Sells's *Slavery in Alabama* (1950), and Robert G. Sherer's

Subordination or Liberation? The Development and Conflicting Theories of Black Education in Nineteenth-Century Alabama (1977), and Anthony Gene Carey's *Sold Down the River: Slavery in the Lower Chattahoochee Valley of Alabama and Georgia* (2011), which defeated the white supremacist's belief that African Americans held too little a sense of capability and autonomy to develop their own communities.¹¹⁶

However, long before these publications of the mid-twentieth century, works like Booker T. Washington's *The Story of the African-American: The Rise of the Race from Slavery* (1909), Clement Richardson's *The National Cyclopedia of the Colored Race* (1919), O.O. Sarver's *Leaders of the Colored Race in Alabama* (1928), and the numerous periodicals host in various counties demonstrated the importance of the idea that African Americans produce news and other related materials specifically for those brethren and sisters in local African-American communities, and also foster Biblically-sound principles in the realms of business, religion, and education.¹¹⁷ More contemporary works like Deborah E. McDowell's *Leaving Pipe Shop: Memories of Kin* (1998) which discusses the author's experiences of industrial Birmingham during the Civil Rights Movement, and Sheryll Cashin's *The Agitator's Daughter* (2008) and Sonnie Hereford III and Jack Ellis' *Beside the Troubled Waters* (2011) which emphasizes similar

¹¹⁶ Horace Mann Bond, *The Education of the African-American in Alabama: A Study in Cotton and Steel* (Tuscaloosa: University of Alabama Press, 1939). James Benson Seller, *Slavery in Alabama* (Tuscaloosa: University of Alabama Press, 1950). Robert G. Sherer, *Subordination or Liberation? The Development and Conflicting Theories of Black Education in Nineteenth-Century Alabama* (Tuscaloosa: University of Alabama Press, 1977). Anthony Gene Carey, *Sold Down the River: Slavery in the Lower Chattahoochee Valley of Alabama and Georgia* (Tuscaloosa: University of Alabama Press, 2011).

¹¹⁷ Booker T. Washington, *The Story of the African-American: The Rise of the Race from Slavery* (New York City: Doubleday, Page, and Company, 1909). Clement Richardson (ed.), *The National Cyclopedia of the Colored Race* (Montgomery, Alabama: National Publishing Company, 1919). O.O. Sarver (ed.), *Leaders of the Colored Race in Alabama* (Mobile, Alabama: News Publishing Company, 1928).

strife in Huntsville, reveal the personal relationships that occurred within black communities in urban and rural Alabama and provide inspiration for continuing fight for civil rights in present society.¹¹⁸

In addition to the perspectives these memoirs and historical analyses provide, several African-American communities throughout the state built museums, libraries, and archives to commemorate their famous residents and the origins the communities. The George Washington Carver Museum arose as the first African-American centered museum to open in Alabama in 1941, with guidance from the trustees of Tuskegee and Carver himself along with substantial support from admirer and industrialist Henry Ford. Built in Milbank Hall where Carver completed many of his experiments, he intended the displays of his collected specimens, products he produced from peanuts, sweet potatoes, and clays, and his paintings and publications to encourage visiting children to exercise a limitless ambition in life.¹¹⁹

The Birmingham Civil Rights Institute originated in 1992 with a similar spark of hope to encourage younger generations to refuse to allow the terror of 1963 bombings and discrimination to paint a dark shadow on their world, but rather to follow their dreams like individuals such as city mayor Richard Arrington and to urge all ethnicities to learn from past violence to improve society in the future. Solely relying on patron donations as a non-profit, the BCRI became a

¹¹⁸ Deborah E. McDowell, *Leaving Pipe Shop: Memories of Kin* (New York City: W.W. Norton and Company, 1998). Sheryll Cashin, *The Agitator's Daughter: A Memoir of Four Generations of One Extraordinary African-American Family* (New York City: Public Affairs, 2008). Sonnie Hereford III and Jack Ellis, *Beside the Troubled Waters: A Black Doctor Remembers Life, Medicine, and Civil Rights in an Alabama Town* (Tuscaloosa: University of Alabama Press, 2011).

¹¹⁹ "American Visionaries: George Washington Carver," National Park Service, April 7, 2000, <http://www.nps.gov/museum/exhibits/tuskegee/gwcmuseum.htm> (accessed October 7, 2014).

monument to prosperity in the heart of the city's black business district surrounded by the former A.G. Gaston Office Building, the Gaston Motel, and the Sixteenth Street Baptist Church.¹²⁰ The National Voting Rights Museum and Institute in Selma serves as another institution to turn the tragedy of an event like the persecution of participants in the Selma-to-Montgomery march of March 1965 into a discussion of improving life for future generations. The NVRMI expanded in 2014 with the installment of the Slavery and Civil War Museum, which actually shifts its' sight away from the discussion of such events as they impacted America and rather uses its' exhibitions of art foster a sense of black nationalism known as Kemetology, a belief that world civilizations began in Africa and that Greco-Roman and Christian cultures copied these earlier societies.¹²¹ Other sites like the Alabama State Black Archives and Research Center and Museum in Huntsville and the National African-American Archives and Museum in Mobile began as archival centers for Alabama A&M University and the Davis Avenue Branch of the Mobile Public Library, respectively, to specifically address the education needs for university students and neighborhood citizens. The State Black Archives, given its' identity when the Alabama Legislature passed a bill for the name in 1987, and the National African-American Archives and Museum, founded and named by Delores S. Dees in 1992, acquired collections associated with regional and city history but fell dramatically short of the mission designated by their institutions' namesakes.¹²²

¹²⁰ "Birmingham Civil Rights Institute," Smithsonian Affiliations, 2014, <http://affiliations.si.edu/AffiliateDetail.Asp?AffiliateID=204> (accessed October 7, 2014).

¹²¹ "Mission," National Voting Rights Museum and Institute, 2012, http://nvrmi.com/?page_id=45 (accessed October 7, 2014).

¹²² "State Black Archives Research Center and Museum," Alabama A&M University. <http://www.aamu.edu/administrativeoffices/library/pages/state-black-archives-and-research-museum.aspx> (accessed October 7, 2014). "National African-American Archives and Museum –

While these repositories do wonders by saving older historical buildings and begin with the best of intentions for educating younger generations within their neighborhoods as well as the general public about the history of the local African-American populations, institutions like the Black History Museum of Wetumpka often remain ignored by passers-by who have no idea such a structure exists or welcomes visitors. This is due, in part, to the fact that such locations lack basic necessities like regularly-staffed volunteers, a telephone with an answering machine, or an interactive website. The digital presence of the State Black Archive and the National African-American Archives and Museum consist of little more than a static HTML page with little indication of what materials each repository contains. Such locations may also appear in Google searches with links that often lead to dead ends.

In a similar fashion as the statewide efforts of AlabamaMosaic and ADPNet, *African Heritage in Alabama* desires to give these repositories a digital presence that online and physical patrons may use to learn more about a particular area and share their discoveries with others. ADAH's *From Reconstruction to the Civil Rights Era: Records about the African-American Experience in the State of Alabama*, developed by Tanya L. Zanish in 2003, served as an early model for applications like *African Heritage in Alabama* that strive to pool available resources within their repository as well as related materials from other repositories. Although the current ADAH website no longer contains a link to the page, a search engine query quickly pulls the site which contains monographs, a few select photographs, private collections of individuals associated with the Civil Rights Movement, and local records including poll tax records and marriage, death, and estate records from Lowndes, Macon, Montgomery, Wilcox, and Winston

Mobile Cultural Sites,” Soul of America: BlackTravel Made Easy, 1997, <http://www.soulofamerica.com/index.php?id=6673,1740,0,0,1,0> (accessed October 7, 2014).

Counties.¹²³ Like ADAH, other state archives in Florida, Missouri, and Maryland incorporate XML databases and commercial software including CONTENTdm, but not only for use within the repository's collections but to establish connections with other African-American institutions throughout each state.

The *African Heritage in Alabama* project follows the philosophy of other projects like ADAH's *Records about the African-American Experience in the State of Alabama*, but will go a step further in the level of manipulation one may exercise over the available data. Going beyond the boundaries of the static HTML page, *African Heritage in Alabama* will act as a portal that connects datasets harvested from various historical documents related to development of the African-American community, which various repositories hold throughout the state. Although the project is in the planning stages in the fall of 2014, invaluable materials such as slave censuses generated from estate records in certain counties and African-American sections of city directories often contain the breadth of data that would allow users to compare one set of such records in a particular county or town to those of another. In addition to existent records in the archive, the *African Heritage in Alabama* application also takes inspiration from ongoing projects including Shari Williams' The Ridge Archaeological Interpretive Center in lower Macon County, the work of the Alabama Historical Commission and its' contracted archaeologists at sites like Pond Spring Plantation in North Alabama, Dr. Jack Bergstresser's excavations at industrial slave sites in Tannehill and Red Mountain State Parks near

¹²³ "From Reconstruction to the Civil Rights Era: Records about the African-American Experience in the State of Alabama," Alabama Department of Archives and History, July 15, 2003, <http://www.archives.state.al.us/afro/afro.html> (accessed October 7, 2014).

Birmingham, the University of West Alabama's Black Belt Slave Housing Survey, Alabama State University's Civil Rights GIS Project, and the Alabama Bicentennial Commission and Your Town Alabama's collaboration to address the cultural and economic needs of African-American communities among others.

There are several basic parameters of the *African Heritage in Alabama* project which merit discussion. The project, at this point, remains on a publically-accessible platform called WorldMap, born out of the Office of Geographic Analysis at Harvard University, that focuses on the relationship between spatial data and attribute data assigned to particular locations, from document and artifact analysis. WorldMap allows map developers to "Show and Add Notes" or place markers at locations of significance on the map, and to add a title and description of the site. They may also "Create Features" or highlight various structures and locations that share a particular organization, date, or other attribute – one may then search for architectural, personal, botanical, or historical phrases that appear within the description of these locations. Also, one may add map layers over features or noted locations to provide greater historical context. The application also maintains links to data regarding such information as houses targeted during the "Bombingham" era of the late 1940s and early 1950s, and African-American slave owners from 1860, that become searchable through the faceted classification technology of Google Fusion Tables.¹²⁴

Beyond the flashy interactive tools of the WorldMap platform, the major issues regarding the sustainability and growth of the application require a deeper theoretical discussion of what makes up the composition of data and what types of tasks each piece of data performs. The two major concepts - shared data and linked open data - remain in their infancy among

¹²⁴ For a more technical description of WorldMap, see pgs. 42 – 44.

archaeologists, historians, and archivists, and bring up questions of what types of storage such a large amount of data would require as well as what types of search tools allow the user to harvest particular combinations of such data. The idea of shared records and data involves not altering or corrupting the available records, but rather establishing possible connections the researcher might make between records and collections held in a broad geographic spread of repositories. Originating in theoretical form in 1947, the National Union Catalog of Manuscript Collections or NUCMC served as one of the first attempts at developing a shared data program through the publication of a guide to archival collections throughout the country identified by their location, author, record format, and subject matter. The first printed volume of NUCMC in 1962 listed 7,300 collections from 309 repositories and, with the advent of automated cataloging of NUCMC through the Research Libraries Information Network or RLIN at Stanford University in 1988 and RLIN's merge in 2007 with the Online Computer Library Center or OCLC, NUCMC became an automated, online-accessible catalog of over 114,000 collections from 1,800 repositories by 2008.¹²⁵

NUCMC provided much needed publicity for the collections of small repositories, and sparked not only the movement for using digital technology to indicate the presence of once unknown materials but also the trend toward assembling collections in budding archives and cultural organizations. *Roots Cuisine* started by Rachel Finn, former high school teacher and present archival intern at Columbia University's Rare Books and Manuscripts Library, originated as a project in Finn's courses on Collection Development and Theories of Information at New York City's Pratt Institute School of Information and Library Science in 2012. Finn ultimately intended to develop the Minnie Lee Hall Memorial Afro-Foodways Library in honor of her

¹²⁵ "NUCMC History Timeline," Library of Congress – Cataloging and Acquisitions, August 22, 2013. www.loc.gov/coll/nucmc/timeline.html (accessed October 7, 2014).

grandmother who inspired her with a fascination regarding the foods and cooking techniques developed within African-American culture. The library would serve as a repository for documents related to the evolution of foodways in the “global African Diaspora”, one in which various ethnicities including Indigenous or American, European, Middle Eastern, and Asian helped shape “the food, culture, and identity of Afro-descendants around the world.” The collections currently include materials emphasizing history, anthropology and botany, with the following highlights: Colonial Cookery and Foodways, an African Cookbook Collection, Church and Community Cookbooks, and Botanical Drawings.¹²⁶

While Finn’s vision remains rough in terms of how she will fund this library and share her materials online, it serves as important evidence that many archival professionals and small institutions are investing their energy in identifying resources of topics such as African-American foodways. A more polished endeavor regarding the use of digital technology came from Jon Voss, who led the development of the *Civil War Data 150* project in April 2011 to “share and connect Civil War-related data across local, state and federal institutions” in honor of the sesquicentennial anniversary of the war. *Civil War Data 150* utilized a concept of Linked Open Data that merged the concepts of “open data”, or data and metadata made freely available to the public with the express permission to reuse freely for any purpose though publishers may require attribution, and “linked data”, or data or metadata made available on the web in a format

¹²⁶ Rachel Finn, *Collection Development Policy: Minnie Lee Hall Memorial African Diaspora Foodways Library* (New York City: Pratt Institute, 2012), <http://www.rachelfinn.net/wp-content/uploads/Collection-Development-Policy-.pdf> (accessed October 7, 2014).

that utilizes generally accepted markup and World Wide Web protocol, much the way web pages utilize a code that allows them to be read by web browser.¹²⁷

Voss defined Linked Open Data as data or metadata made freely available on the Internet with a standard mark-up format, and illustrated how such a concept worked in harvesting information about the Civil War. Voss identified “named identities” or keywords such as regiments, officers, battles, battlefields, flags, and linked such metadata to existing digital records like a photo of the Twenty-third New York Infantry stored in the Library of Congress. Using these same keywords, Voss connected the URL for the photograph to hyperlinked sources like the regimental histories available online through the National Park Service. Jon Voss and his associates then utilized a self-produced open source product called Conflict History to reference the URLs of the photograph and regimental history in coordinate points on Google Maps.¹²⁸ While the *Civil War Data 150* group officially shut down the site in 2012, Voss took his ideology and applied it to a new technology called HistoryPin, a GIS-based website born out of a “not-for-profit behavior change company” known as We Are what We Do, which focuses on fostering communication between older and younger generations by meshing photographs, oral histories, and written documentation to make history multi-dimensional.¹²⁹

¹²⁷ Jon Voss, “Radically Open Cultural Heritage Data on the Web,” Museums and the Web Conference, April 11 – 14, 2012, http://www.museumsandtheweb.com/mw2012/papers/radically_open_cultural_heritage_data_on_the_w (accessed October 11, 2014).

¹²⁸ “About,” Civil War Data 150, 2012, <http://www.civilwardata150.net/> (accessed October 11, 2014).

¹²⁹ “HistoryPin,” We Are what We Do - Portfolio, 2011, <http://wearewhatwedo.org/portfolio/historypin/> (accessed October 11, 2014).

With the technical specifics of *African Heritage in Alabama* covered, we should now move on to the current projects that provide excellent guidance and resources that not only educate us about a particular scholar's subject of interest but the genealogical, archaeological, archival, and academic historical methods they utilize to bring the past to life. Shari Williams' mission at The Ridge Archaeological Interpretive Center, the work of the Alabama Historical Commission and its' partners at Atlanta's New South Associates regarding projects like Pond Spring Plantation, and Dr. Jack Bergstresser's investigations of slaves in mining camps provide a variety of data ranging from constructing family trees, to the analysis of economic wealth and living conditions of inhabitants in a certain area, to the recovery of artifacts and analysis of structures in an area. All of this information remains elusive to students who conduct cursory searches of sources regarding African-American history, but show up in unexpected abundance for those who know the right people and ask the right questions.

Williams' interest in establishing The Ridge Archaeological Interpretive Center originated more than a decade-and-a-half ago when a study of her family history brought her back from a career in Ohio to her ancestral home in the "gateway" communities of Boromville, Creekstand, and Warriorstand along Macon County Road 10. Such sites originated as settlements where pioneers from the Mid-Atlantic seaboard encountered local Muscogee Creek Indian tribes on the Old Federal Road and established plantations that required massive amounts of slaves to harvest the area's cotton crops. However, the land eventually grew infertile because of over cultivation, which led to many of the white settlers abandoning the area and leaving their land tracts to newly-emancipated freedmen. The African-American residents miraculously turned the arid plots into fertile soil, and established community structures including schools, churches, and businesses documented in works including George Wylie Henderson's novels *Ollie Miss* (1935)

and *Jule* (1946), whereby Henderson created his characters based on those he interacted with in his birthplace at Warriorstand and established the main objectives in life for these Alabama sharecroppers as ones to “find a farm of her (or his) own”, as well as Charles Spurgeon Johnson’s *Shadow of the Plantation*, a 1934 sociological survey conducted by Fisk University of the customs, strife, and successes in the surround communities.¹³⁰

Williams joined efforts with Tuskegee University archivist Dana Chandler and Macon County archivist Glenn Drummond in 2012 to establish an institution that would tell the story of the area from the time of inception in the 1820s and 1830s to modern-day activity. Like Dorothy Spruill Redford’s related story of rediscovery of enslaved ancestry in *Somerset Homecoming: Recovering a Lost Heritage*, Williams found positive uses for the unsavory conditions her family witnessed and helped to educate multiple local generations about the significance of such areas in Alabama’s Black Belt. While Shari Williams’ archaeological interpretive center remains in its’ infancy at little over two years into the facility’s operation, her efforts prove successful in a wealth of artifacts and documentation donated to her museum/excavation site by surrounding residents. In fact, the Ridge received the honor of becoming one of the National Endowment for the Humanities’ “Places of Distinction” in 2013.

Williams’ narrative of her past comes from a mix of information pulled from genealogical data, secondary historical analysis, and archaeological investigation. These three resources also play major roles in the AHC’s study of Pond Spring plantation and Dr. Jack Bergstresser’s survey of African-American mining camps in Birmingham. In actuality, Atlanta’s

¹³⁰ Author’s interview with Shari Williams, Summer 2002, and Williams’ unpublished manuscripts. David G Nichols, “Forgotten Manuscripts: The Short Fiction of George Wylie Henderson.” *African American Review* Vol. 39, No. 4 (Winter 2005): 491 – 499.

archaeological firm New South Associates Dr. J.W. Joseph, David E. Port, Melissa Umberger, Matthew Taliaferro, and AHC architectural consultant Jack Pyburn conducted the investigation in December 2001 of the plantation, originally donated to the AHC by General Joseph Wheeler's descendants in 1993. They began with "reconnaissance" or a background study of the area to determine the probability that the site contains historical value and that disturbing the land does not violate the rights of groups invested in preservation of the land. They learned that through the Sherrod Era between 1827 and 1866, the General Wheeler Era between 1866 and the early 1900s, and Annie Wheeler Era between the mid-1920s and 1955, while the land remained within the possession of family descendants throughout these combined periods, structures shifted in position and number over time from dependencies for cooking and agricultural harvest and a set of quarters that composed a slave village, to slave village built closer to the harvest field that evolved into a tenant-farming community by the early twentieth century.¹³¹ Numerous artifacts recovered and observations taken from these structures indicated the slave's innovative use of objects he found on the plantation including: the lack of foundation stones under an east-end chimney stack added after 1817 which indicated the existence of "borrowing pit activities" or a hidey-hole; four shards of possible North Alabama red colonoware, and an iron juice or Jew's harp, a musical instrument with a flexible metal or bamboo reed attached to a frame which the performer plucks while holding the instrument in his or her mouth; and several pieces of

¹³¹ J.W. Joseph, Ph.D., David E. Port, Melissa Umberger, and Matthew Taliaferro, *An African-American Presence: Archaeological Investigations at the 1818 Hickman Log Cabin and the Cook's House at Pond Spring Plantation (1LA663), Lawrence County, Alabama*. (Stone Mountain, Georgia: New South Associates, September 2002), 5.

bottle glass, whiteware, and cut and wire nails often used for the consumption needs of both the master and the slave.¹³²

Bergstresser, an Industrial Archaeologist known for documenting the numerous Confederate and Reconstruction-era ironworks in the Birmingham region, found that the slave's use of everyday objects in unique ways often echoed into the freedman's daily activities. Bergstresser regularly encountered the evidence of slave labor in the mining industry, including an expedition at Tannehill to uncover the remains of fifteen structures located near the site's three large furnaces, which most scholars believe served as cabins for enslaved workers during Civil War production of ammunition. The cabins, which typically measured fourteen-by-sixteen feet or the size of a modern bedroom, probably held sixty or more slaves altogether and expanded to over 100 slaves to keep the ironworks in production.¹³³

In 2007, Bergstresser conducted surveys with similar results on a portion of Red Mountain that the city intended to quickly condemn and flood. Bergstresser indicates in his analysis that each saddlebag operated as a two-room or "double pen" structure with two front-entry doors and a central dividing wall with a double fireplace. The author refers to Eugene Wilson's 1975 study of folk housing in Alabama, in which Wilson declared that saddlebags gained their original cultural identity as the typical housing for slaves on Alabama plantations built in the 1840s and 1850s. Theoretically, "cash-strapped Southern entrepreneurs" who built the initial mining camps on Red Mountain preferred to use saddlebag construction not only for

¹³² *Ibid.*, 6 – 12.

¹³³ Richard LeComte, "UA's Museum Expedition Continues Archaeological Dig at Tannehill Ironworks," *University of Alabama*. June 3, 2008. <http://uanews.ua.edu/2008/06/uas-museum-expedition-continues-archaeological-dig-at-tannehill-ironworks/> (accessed April 2014).

the inexpensive investment, but because the saddlebag retained “the ‘feel’ of the old South, an attribute that the neo-industrialists of the New South would desire...they certainly didn’t want to abandon the manners and conventions that many believed had tied the social bonds between master and slave”. Scholarship including Herman Gutman’s *The Black Family in Slavery and Freedom, 1750-1925* and Morris Knowles’ analysis of African-American life in Birmingham in *The Survey* indicates that while the type of labor in Birmingham changed for black citizens, the idea of forced labor remained and inhabitants including an old gentleman identified as “Old Uncle Peter” saw themselves in the same position in the World War I-era coke oven as in the Civil War-era cotton field.¹³⁴ Despite the harsh conditions the African-American miners faced, the team recovered several objects that either assisted in or documented the survival of the African-American mine workers including “a token or ‘clacker’ used as currency at the company store, an enamel lapel pin awarded for mine safety,” and several spent shell casings from pistols used to either hunt food or to combat the dangers of the woods. The broken shards of a medicine bottle of *Dr. King’s New Discovery for Consumption*, a concoction of chloroform and morphine that eased the symptoms of incurable and deadly pneumonia strains, indicated that most mine workers suffered from poor air quality and insufficient sanitation and nutrition.¹³⁵

Bergstresser discovered that even in the worst conditions, African-Americans made the best of a bad situation and cultivated a psychologically- and geographically-ordered settlement. He theorizes that, in addition to their own ancient customs, freedmen adopted some

¹³⁴ Jack R. Bergstresser, Sr., Ph.D., Victoria Hartley, Cheryl Dawley, and Sarah Clark. *A Phase III Cultural Resource Assessment of a Portion of Smythe Ore Mining Camp (circa 1885 – 1925) at Red Mountain Park Scheduled for Inundation*. Unpublished field report compiled May 10, 2011, 19.

¹³⁵ Bergstresser, Hartley, Dawley, and Clark, *A Phase III Cultural Resource Assessment of a Portion of Smythe Ore Mining Camp*, 22 – 25.

characteristics of their masters. Since moving his research to the Old Cahawba State Archaeological Park south of Selma at the site of the first state capital of Alabama, Bergstresser notes a correlation between ornamental plants/hedges and an African-American presence. He found the prevalence of the tri-foliolate orange or *Citrus trifoliolate*, an ornamental plant with a black inedible flesh and surrounded by thorns, in both the ruins of slave quarters at Cahawba and among the chimney stacks at Red Mountain.¹³⁶

Williams, the AHC, and Bergstresser's projects prove innovative in their use of archival and archaeological records to reconstruct African-American history in specific locations, but several statewide projects utilize the same techniques on an even larger scale – especially as time marches on rapidly towards Alabama's bicentennial celebration in 2019. Several projects of interest include the Black Belt Slave Housing Survey or BBSHS at the University of West Alabama, the Black Belt Civil Rights GIS project at Alabama State University, and the recent establishment of the Alabama Bicentennial Commission to promote cultural, economic, and ecological endeavors that improve urban and rural areas throughout the state. At a time when these burgeoning endeavors rely on cutting edge techniques including genetic testing for enslaved ancestors, establishing measurements and descriptive metadata for archaic structures related to slave and freedmen life, and the use of spatial data to determine fluctuations in population, the rearrangement of structures within a community, and the probable journeys of numerous African-American farmers, city-dwellers, and overall protesters because of the

¹³⁶ Author's conversation with Dr. Jack Bergstresser at Old Cahawba State Archaeological Park, July 2013.

struggle for civil rights, the author of this thesis may not find a better time to encourage the collaboration through a project like the *African Heritage in Alabama* project.

UWA Anthropology professor Dr. Ashley Dumas proposed the idea for the BBSHS in her study of the Roseland Plantation, where the surrounding area of high illiteracy rates, a correlation with little documentation recorded of the site, and well-intact structures spanning from the era of the Civil War into the early twentieth century. Material remains including artifacts, “altered landscapes”, and “standing structures provide a literal framework for our daily lives.” Dumas indicates urgency to preserve these objects not only because many fall into disrepair or permanent loss in contemporary times, but because “Slave housing may vary in design and construction technique depending on the task of those who lived in it, its proximity to an owner’s or overseer’s house, economic factors, and features of the natural landscape...we cannot forget the ability of housing to expose the living conditions of slaves, the amount of control they had over their own lives, and the structure of Black Belt economies.”¹³⁷

Dumas revealed the first challenge of the BBSHS in actually locating structures that once served as slave housing. Once she and/or a participant, either a staff member of West Alabama’s Black Belt Museum or one of Dumas’ students, identifies a location or receives a request for a survey from the property owner, they begin the process of recording information about the site including taking photographs of the structure and the surrounding landscape from various distances and directions, and focusing on particular features of the interior and exterior including “techniques and materials of manufacture, activity areas, and any remaining evidence of the former inhabitants’ activities (wear marks on floors, newspapers used as insulation, etc.).”

¹³⁷ Ashley Dumas, Ph.D., “Archeology at Roseland,” *Roseland Historic Farm*, <http://roselandhistoricfarm.com/academic-research/archeology-at-roseland> (accessed April 2014)>

The field worker also completes a detailed description of all measurements of features of the structure. Each person involved creates records of their data in different ways, ranging from creating Excel spreadsheets with set field schemas to dealing with raw description of features. Dumas and her staff exercise caution with the idea that putting data into specific categories might alter the proper value and interpretation of the data. The BBSHS organization currently holds information on plantations throughout Hale, Greene, Monroe, and Montgomery counties, and gives each set of housing data a catalog number for processing and hopeful eventual publication of a database through the Black Belt Museum.¹³⁸

The Civil Rights GIS project at ASU developed in 2014 as a product of the Infusion Committee, which originated in the early 2000s to implement more black history classes into the public schools in the black belt region of Alabama. “Committee members observed that in order to teach the students the history of the black belt, the teachers, parents, and community leaders had to be taught themselves.”¹³⁹ Upon conducting a survey of public schools throughout the rural, severely impoverished Black Belt of Alabama, the committee found that while African-Americans composed the majority of most school populations in the counties, teachers incorporated little if any material regarding the African-American experience in their curriculum. In a strategy that mirrored the Freedom Schools of the 1964 Freedom Summer Project, the committee developed an empowering syllabus of material that “began the discussion of black people not in the Black Belt of Alabama but in the First Black Belt called Africa (Kemet). We did not begin the discussion in 1965 A.D. but in 5,565 BCE.” The suggestions for adjustment to the curriculum in these schools saw improvement in graduation levels, and proved successful

¹³⁸ Author’s e-mail with Dr. Ashley Dumas, February 26, 2013.

¹³⁹ Robert White, “Let Us Pass to the Other Side: Winning the War in the Classroom – the Key to Our Liberation,” *Infusion* (Montgomery: Alabama State University, 2014): 2.

enough to garner the support of Senator Hank Sanders in the Alabama legislature in 2009 to pass a joint-house resolution to establish the Amistad Committee, which works to provide textbooks, awareness programs, and other educational materials regarding the “slave trade, slavery and its’ vestiges in America, and the contributions of Africans to our society”.¹⁴⁰

A major component of the Amistad project includes the development of a GIS application by Infusion committee members Robert White and Ram Alagan for the purpose of “Understanding the Economic, Social, and Educational Struggles of the Black Belt”. White, a law professor who teaches humanities, and Alagan, a geography professor, gather a majority of their data from citizens’ concerns about the political and economic future of their local communities. With a group of students from Alabama State, White and Alagan gathered oral histories from African Americans who played key roles in the Selma-to-Montgomery march including Albert Turner who served as one of the leaders of the march and a close adviser of Dr. King; the “Courageous 8” or the Dallas County Voters including Ernest L. Doyle, Reverend John Davidson Hunter, and Frederick Douglas Reese; John Lewis, James Orange, and Bob Mants of the Student Non-violent Coordinating Committee; and C.T. Vivian and Hosea Williams of the Southern Christian Leadership Conference. White and Alagan intend to incorporate this data into their GIS database, not only to provide an important record of African-American heritage in Alabama’s Black Belt region but to educate students at Alabama State as well as high schools throughout the region to take the knowledge they acquire out of the academy in order to improve their communities.¹⁴¹

¹⁴⁰ Ibid, 3 – 4.

¹⁴¹ Ibid., 5.

The Alabama Bicentennial Commission, directed by Jay Lamar who served former director of the Center for Arts and Humanities at Auburn University, intends to serve as another opportunity to educate the public regarding the traditions and history of African-American communities throughout the state. One project the Alabama Bicentennial Commission utilizes to reach its' goal is the *Your Town Alabama* program, designed through the Small Town Design Initiative in 2014 "to enhance the quality of life in Alabama's small towns and neighborhoods by assisting citizens in identifying options for economic development which retain and support the values of the community." The STDI follows six major steps: "community education," or rather gathering of input from a community's leaders regarding their plans for the future and STDI's discussion of the importance of design initiatives to assist them in forming a strategy; "documentation and assessment," or the gathering of data regarding the conditions in a community through field surveys and photography to turn into descriptive and analytical maps; "visioning," or hosting community meetings that engage residents in determining the priorities for renovation based on collected data; "design program," or the focus upon issues that stem from the visioning process including "Neighborhood Preservation and Revitalization", "Housing and New Housing Opportunities", and "Recreation and Open Space"; "documentation and presentation," or the results of the strategy placed in action, then placed in booklet form and then distributed to each household; and "follow up," in which STDI staff assist the community in "identifying resources for implementation, facilitating connections between the community and these resources, to providing follow up design work on specific projects where appropriate." *Your Town Alabama* certainly shows promise not only to revitalize the impoverished rural and urban African-American communities in Alabama, but to educate current and future generations

about the past of their neighborhoods and to encourage future practices of unity and self-improvement.¹⁴²

Along with the Small Town Design Initiative, Jay Lamar also looks to cutting-edge digital technology and radical sources of information to provide documentation of heritage not only for African Americans but for all ethnicities in Alabama. One such unique trend includes the use of genetic markers to determine where someone's ancestors came from by understanding the type of environment a particular person might find most adaptable. DNA analysis serves a popular industry in contemporary society, specifically when individuals desire to know whether or not they carry a gene or mutation for a particular disorder or disease. Theories developed that stated general society may assign each individual to an original ancestor if they carried a "haplotype", or a set of genes that remain intact throughout a family ancestry - even when combined with the DNA of a marital partner, of a common relative. By using Y-chromosomes that only exist in males and Mt-DNA or mitochondrial genes transferred from the mother, Bryan Sykes of Oxford University pioneered use of the technology by identifying all of the male descendants that originated with the lineage started by Thomas Jefferson and Sally Hemmings, leading to more in-depth research regarding the fate of "Jefferson's Children" in contemporary times.¹⁴³

B.J. Smothers, secretary treasurer of the Black Belt African-American Genealogy and History Society, established a similar project for Alabama in September 2006 with the *Black Belt of Alabama DNA Project*. Powered through Family Tree DNA, Smothers created a database of

¹⁴² "Small Town Design Initiative," *Your Town Alabama – Designing Its' Future*, 2014, <http://www.yourtownalabama.com/small-town-design-initiative/> (accessed May 21, 2014).

¹⁴³ Bryan Sykes and Catherine Irvin, "Surnames and the Y Chromosome," *The American Journal of Human Genetics* 66, no. 4 (2000), 1417.

European planter surnames prevalent throughout Dallas, Marengo, Perry, and Wilcox counties to assist African Americans who hit the proverbial 1870 Brick Wall in their genealogical research, either in the fact that they fail to locate any pure African ancestors before emancipation or they constitute the 30% of slave descendants who retain a Y-chromosome from a European lineage but lack the resources to trace it. Such genetic genealogy relies upon nurtured traits including linguistics and other communication customs as well as natural adaptations to identify African ancestors on the plantation.¹⁴⁴

We may gather from the numerous examples above that, while a large dearth of information exists regarding the perspectives of slaves and freedmen that would answer so many burning questions about the past and the future of African-American communities in Alabama, solutions to these quandaries may be within closer reach than any other time in the past. The collaboration of experts from diverse fields in organizations like the Alabama Bicentennial Commission to preserve and promote African-American heritage as well as the state's history as whole, and the willingness by scholars like Dr. Ashley Dumas, Dr. Jack Bergstresser, and Drs. Robert White and Ram Alagan to share their information with young historians and archivists like the author of this thesis shows a lot of promise for our state to gain a stronger comprehension of the composition of black communities and how African Americans and whites may work together to build strong economic, political, and social ties to exchange ideas. The *African Heritage of Alabama* project intends to form connections with these projects along with others in order to pave the way for better cross-cultural understanding and appreciation.

¹⁴⁴ B.J. Smothers, "Black Belt of Alabama DNA Project," *Family Tree DNA*, <http://www.familytreedna.com/public/blackbeltdna> (accessed June 3, 2014).

Nevertheless, as stated in the introduction of chapter one, while documentation of most African-American life in Alabama either exists or once existed in some kind of record format, identifying the location of these records, transforming them into a digital state, finding a physical host to store these materials, and making these records accessible and sharable with fellow scholars sounds like an ideal goal, executing such a project requires massive amounts of time, money, and human power that happens not overnight but through several weeks, months, and years on some occasions. Efforts to conduct such work resulted in beta projects like ADAH's *Records about the African-American Experience in the State of Alabama* or the Alabama Council for Higher Education's *Catalogue of the Records of Black Organizations in Alabama* that started with great intentions, but ultimately either reached a point where they either could not locate any further archival records or failed to generate enough interest to further maintain an active website. Such projects – the first in the form of a static HTML site and the second in the form a pamphlet printed in limited quantities – not only lost their accessibility and their publicity, but their creators failed to recognize that information comes in other packages besides monographs and federal and state-generated documentation and also subsequently neglected the development of a strategy for how future technology and possible accessions to repositories might foster the expansion of further documentation on African-American life in decades to come.

The *African Heritage in Alabama* project intends to learn from these shortcomings by forming a strategy for collecting information, structuring each individual dataset and their connections to other bytes of data, and identifying targeted users and configuring a web interface intuitive to their needs. It is important to define that *African Heritage in Alabama* does not and will not operate as a repository that claims ownership over the physical and/or digital records it references, but rather will act as a portal that contains links to such information contained in

archives and museums around the state. The first step towards this process is to establish a collaborative with institutions across the state that contain African-American related materials including archives and historical societies at both the municipal and county level, Historically Black Colleges and Universities, as well as canvassing the African-American communities themselves to find local historians and average citizens willing to share their stories. Interest already exists in fostering awareness of African-American records due to the publicity of presentations including Dana Chandler, Rebekah Davis, Veronica Henderson, and Susanna Leberman's "Integrating History: A Search-and-Recovery Effort in Alabama Archives," a presentation delivered at the 2014 Society of American Archivists conference, which emphasized the critical need for collaborative efforts in preserving and cataloging such documentation.¹⁴⁵

However, as these professionals realize, the organization that contains such material must know that they maintain all legal rights over the records or obtain permission from others who do in order to use such materials to educate others about the history of a region or event. Such a rule proves even more critical for the manager of the *African Heritage in Alabama* project, who must decide whether sharing such materials with scholars borders on commercial or educational use and then use such information to acquire permission from targeted repositories. Another challenge resides in the fact that the archaeological data repositories of the state including the Alabama Historical Commission, the Alabama State Site File held within the University of Alabama's Department of Archaeology, and the University of South Alabama's Center for Archaeological Studies often follow separate guidelines in the preservation and storage of their materials, including the respect of confidentiality regarding recorded observations and retrieved artifacts/specimens from archaeological sites on private property. Many communities operate

¹⁴⁵ Schedule for 2014 Society of American Archivists Conference, http://www2.archivists.org/2014/schedule#.VFu0ePnF_Ls (accessed November 6, 2014).

their own museums and archives of locally donated and gathered material and these may lack professional documentation including deeds of gift, communication between repository and donor, and a specific mission statement for their institution. It will be important to develop a policy which will address all of these situations in order to make the data accessible.

After identifying the locations of records related to African-American history in Alabama and acquiring access to them, a decision must be made as to how to best place them in digital format and extract their data. Most archival professionals understand that a major facet of any archive requires digitization of a sampling of the materials within the collections, whether this comes through scanning photographs and manuscripts into TIFF, JPEG, and PDF files or converting oral histories from audio cassettes into mp3 files. Of course, much of the information one may find in an African-American community remains locked within the oral traditions transferred among residents, and one must often utilize tools such as digital recorders to capture such information in some kind of form that becomes tangible or palpable to the curator or user. One finds an additional concern in the fact that the objects from an excavation often requires the use of three-dimensional scanners, which are currently increasing in popularity in areas like architecture and engineering.

Another important consideration is the types of metadata to assign to items in digital collections. Many libraries, archives, and museums, or LAMs, rely on Dublin Core to describe items. This format includes description fields such as title of work, author or creator of the work, date of the work, what type of record the object serves as and its type of file storage, rights for the institution that holds custody to the item, and terms defined by the Library of Congress that associate that work with others of similar subject matter. However, most artifacts and archaeological records are defined by other types of metadata such as the Cataloging Cultural

Objects or CCO schema that describes artifacts and structures including class or type of piece, creator and definition of his/her role or specialty, style, measurements, and material used for the piece, and the University of Chicago's Online Cultural and Historical Research Environment or OCHRE schema designed specifically for defining the characteristics of archaeological finds including registered object number, weight and post-conservation weight, elevation of find. Also, documents like the National Register of Historical Places' or NRHP site nomination forms, which serve as the most common record utilized in the *African Heritage in Alabama* project contain metadata fields regarding the type of structure, geographic coordinates, level of ownership and occupation, the nature of its' present use, and association with historical topics.¹⁴⁶ The obstacle remains as to how to establish standards that create links among these multiple types of metadata, which must not only link spatial information to attribute data but connections that span text, numerical data, and digital files as well.

As stated earlier in the chapter, the *African Heritage in Alabama* project utilizes the WorldMap GIS application hosted at Harvard University's Office of Geographic Analysis and utilizes Google Fusion Tables that allow storage of Excel spreadsheet data but provide faceted search queries of information based on the name of the field and the type of calculations a field uses to analyze data – whether based on time, amount range, or geographic location. Despite the benefits of these tools, *African Heritage in Alabama* remains in a beta test phase. In addition to WorldMap, the author of the project experiments with various other technologies such as Omeka plug-in Neatline or CONTENTdm collection management software which display each digital object and its' associated metadata as separate items and serve as almost a digital file cabinet

¹⁴⁶ *Cataloguing Cultural Objects*, http://cco.vrafoundation.org/index.php/toolkit/index_of_examples/category_examples_1_architecture/example_140_architectural_sculpture (accessed November 6, 2014). OCHRE, <http://ochre.uchicago.edu/> (accessed November 6, 2014).

with little or no interpretation to show how items relate to each other. Another application, Google Cultural Institute, goes beyond these collection management programs to create online exhibits of added material. However, the problem with such software is that it tells a story with uploaded objects, but does not allow the user to explore each object individually. One idea that may allow more flexibility may be the use of blogs like Wordpress or free website builders like Wix or Google Sites, which could serve as a hub describing the project as a whole with individual links to other applications such as a GIS application and a collection management system. Yet another concept to consider when looking at configuring connections between the GIS and database applications within the future evolutions of *African Heritage in Alabama* is the incorporation of mobile technology. AppMakr serves as a possible solution to this problem, in providing a free platform to incorporate a variety of applications like YouTube and Google Maps to create a fully immersive picture of slave and freedmen life in Alabama while keeping videos, mapping of sites, and reference to individual records separate.

Another dilemma comes with organizing content not only by item type but by subject. One might organize subject matter by particular aspects of African-American history including locations where events took place pertaining to political history like sites of conflict during the Civil Rights Movement or organization of freedmen militias during Reconstruction, places of economic history including African-American business districts and the numerous plantations throughout the state, or places of education like Tuskegee Institute and Alabama A&M University. One might also divide the state in terms of climate and how such environmental conditions affected the lots of African-Americans in the northern, central, and southern portions of the state. Structuring the data in terms of African-American life before Reconstruction, life under segregation until the Voting Rights Act of 1965, and conditions for people of black

descent from the end of the Civil Rights Movement until contemporary times currently serves as the most efficient model for organizing data. The WorldMap application currently serves a sandbox for identifying areas with an African-American presence. The author gleams this data from a variety of sources including Richardson's *The National Cyclopedia of the Colored Race* and Sarver's *Leaders of the Colored Race in Alabama*, the *African-American Year Book* produced at Tuskegee Institute's Department of Records and Research under founder and sociologist Monroe N. Work from 1913 to his death in 1945, sites mentioned in oral histories conducted with slaves during Works Progress Administration's Federal Writers Project of the 1930s, and even documentaries and other footage related to particular sites as found on YouTube and blogs such as Dr. Tara White's *Historical Alabama African-American Women*.¹⁴⁷

However, the major challenge one often encounters with sources like YouTube videos and historical blogs is that much of the information may come from legend, which often proves difficult to prove unless compared other sources of documentation. A recent find that came about through such investigation is Rabbit Yard, the African-American majority neighborhood in Uniontown west of Selma, which lacks notation on most traditional maps. One runs across the mention of such an obscure location in Larry Lewis' *Slave Narratives: Interviews with Former Slaves, Alabama Narratives* (2013), where Susie R. O'Brien's interview with former slave Miss Tildy Collins takes place in "'Rabbit Yard' (named by the African-Americanes themselves)" with "Collins, a typical 'black mammy' of orthodox type. She is a talkative old soul, running over with slavery tales and greatly beloved by a wide range or acquaintances among both races." The Green Building Information Gateway indicates that "Rabbit Yard" exists bound roughly by

¹⁴⁷ Alabama Historical African-American Women, <http://alabamablackwomen.blogspot.com/> (accessed November 6, 2014).

U.S. Highway 80 going west and State Highway 61 heading north and ultimately served as “a boundary increase of Westwood Plantation north of town.”¹⁴⁸

A look at the area in question in Google Maps indicates that several names of roads include Rabbit Avenue, Bunny Street, and Hare Street, and a “Street View” perspective of these areas indicates a mostly African-American population. In addition, several YouTube videos depict a local ‘Footwashing’ ceremony, an African-American tradition in Uniontown and nearby Faunsdale, extending back to the 1880s in this particular neighborhood. With the gathering of such data, one could certainly theorize that this area southwest of the Westwood Plantation, which exists north of U.S. Highway 80 and west of the downtown thoroughfare known as Water Street, may serve as the center for local African-American life and possibly the home of descendants of former slaves. A final consideration regarding future development of the *African Heritage in Alabama* project is the issue of funding. The aspirations of the project prove praiseworthy, but such a large undertaking proves useless unless one plans a financial strategy and knows what he or she wants to do with their project. The National Endowment for the Humanities, the National Science Foundation, and the Institute of Museum and Library Services receive numerous requests for support in heritage projects, but one of the best sources of funding for GIS projects is the Environmental Systems Research Institute or ESRI. ESRI emphasizes that GIS projects that desire grants should engage public participation from the community in question and must desire to improve and serve the community or affected area in addressing the affliction of poverty on ethnic groups, the influence of pollution on a community, or any other

¹⁴⁸ “Interview with Tildy Collins,” in Larry Lewis’ *Slave Narratives: Interviews with Former Slaves, Alabama Narratives* (Phnom Penh, Cambodia: Keith W. Brooks Publishing, 2013), 81. “Building Bounded Roughly by Highway 80,” Green Building Initiative Gateway, <http://www.gbig.org/buildings/673650> (accessed October 24, 2014).

issue of similar magnitude. Applicants must also identify established methodology they will use to track their results, establish short-term and long-term objectives of the project, and seek cooperation with other affected organizations. Other institutions specifically invested in archaeological work including Archaeological Institute of America require similar rubric from its applicants, and specifically seeks out those individuals with doctorates.¹⁴⁹

The collection of such data and its' primitive presentation found in the *African Heritage in Alabama* application certainly lacks the high level of information complexity and flexibility viewed in projects like David Eltis' *Voyages: The Trans-Atlantic Slave Trade Database* and Scott Nesbitt's *Visualizing Emancipation* application. Nevertheless, the level of technology available through Harvard's WorldMap platform, Google Fusion Tables, and other related technologies ensure the potential for vast growth in the future. Of course, one must also know what data he or she desires to collect, what standards will work best to provide accurate description of materials and create a visual picture of their connections - whether it be archaeological records, archival records, or data from historical analysis, and how far he or she desires to go with their projects and what investments of money, time, staff a project requires to arrive at its conclusion. The study of African-American history from the perspective of slaves, freedmen, and their descendants remains an arduous journey, with a recognition that critical information may come from the most unexpected sources. As the *African Heritage in Alabama* application continues to evolve with strategies to compile African-American related documentation and datasets stored in various repositories in the state and to canvass individuals who serve as the heritage preservationists and keepers of their community's memory, the web

¹⁴⁹ ESRI Grants, http://www.esri.com/grants/find-resources/getting_started (accessed November 6, 2014).

project will continue striving to become a chief medium for sharing the little known experiences of slaves and freedmen with the rest of the world.

CONCLUSION

As we have seen over the last three chapters, a project like that proposed for the *African Heritage in Alabama* application is desperately needed to preserve the history of an ethnic group that provided the energy that moved the state into its position today as a major goods manufacturer for global commerce and a powerful political entity in the southeastern United States, as well as the nation as a whole. However, two of the chief obstacles in bringing such a project to fruition include the fact that long-departed as well as current generations of African Americans lack a great deal of documentation written from their perspective on the trials and triumphs they have experienced over the last two centuries, as well as the realization that archaeological and archival institutions that carry the responsibility for managing our heritage tend to lack a full understanding of what African-American records they contain and how they might collaborate and fill in the missing pieces of African-American history, whether the space requires artifact or document. Despite these issues, we must also recognize that the wide array of digital applications available today means that we can manipulate data while protecting its integrity, in a variety of formats including GIS and relational databases that combine spatial and attribute data into a multi-dimensional view of historical events and change over time.

It is the intention of this thesis to illustrate the capability of these various technologies including WorldMap and Google Fusion Tables, as well as more sophisticated programming like HUB, SPSS, and HEML, and to demonstrate that individuals like David Eltis, Gwendolyn Midlo Hall, and Andrew Torget transformed our understanding of African-American enslavement,

captivity, and emancipation through these tools. The author hopes to follow in their footsteps in assisting in the pooling of African-American resources across Alabama and telling the long-forgotten stories of African-American survival and success. It remains a long road until the current beta project becomes a fully-functional application, but identifying the resources available for study, defining possible ways of structuring information and establishing links between the artifact, the archival record, and historical analysis, and recognizing that other organizations desire the same dream of collaboration and progress makes the future of the application very bright.

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