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Tattoo Bundles as Archaeological Correlates for Ancient Body Ritual in Eastern North America

Aaron Deter-Wolf and Tanya M. Peres

By AD 1600 Indigenous groups across the North American continent, from the subarctic regions south through Central America, were tattooing their skin with permanent symbols and motifs. These marks were important aspects of Native American culture, and their design, and application, and the eligibility of recipients were strictly regulated according to group identity and social mandates (e.g., Deter-Wolf and Diaz-Granados 2013; Krutak 2013a, 2013b, 2014; Riddington 2000). The specific antiquity of Native American tattooing is unknown, but depictions of marked human and preternatural figures appear throughout the Mississippi Valley as early as the first century AD (Giles 2010a; Steere 2013; Swartz 2001). Despite the geographic scope, historical importance, and likely antiquity of Indigenous tattooing in North America, there remains a notable shortage of archaeologically identified tools related to the practice. Ancient Native American tattooing therefore presents an interpretive dilemma, in which scholars are faced with the presence of a widespread and highly significant cultural practice to which our artifact typologies—and therefore our interpretive framework for understanding ancient body ritual—have been overwhelmingly blind.

The absence of identified tattoo implements and associated material culture from ancient Native American artifact assemblages is partly the result of rapid, wholesale shifts in tool technology following the introduction of European metal needles in the fifteenth and sixteenth centuries AD (Deter-Wolf et al. 2017). Little reliable documentation on precontact tattoo implements survived this transition, and researchers are today confronted with many examples of both formal and expedient lithic, faunal, and botanical implements from the archaeological record that might have been used to tattoo (Deter-Wolf 2013a; Deter-Wolf and Peres 2013). To successfully identify evidence of ancient Native American tattooing, it is therefore nec-

essary to apply multiple lines of inference, including archaeological, ethnographic, and ethnohistoric studies, in addition to direct physical examinations and morphological assessments of material culture.

This study builds on recent research into historic and ancient Native American tattoo traditions (e.g., Deter-Wolf and Diaz-Granados 2013; Deter-Wolf and Peres 2013; Deter-Wolf et al. 2017; Gates St-Pierre 2017; Krutak 2014) to assess the archaeological evidence for ancient tattooing in eastern North America. We first review ethnographic data to demonstrate that the material culture of historic period Native American tattooing extended beyond the tools used to insert ink into skin, to encompass a suite of wrappings, marking tools, and pigments, all of which were associated with sacred bundle traditions. After examining the assortment of historic materials associated with these categories and the cultural process through which tattoo outfits may enter the archaeological record, we apply the proposed associations of material culture to a Mississippian period assemblage from the site of Koger's Island, Alabama. Finally, we employ contextual analysis coupled with new use-wear studies to examine an assemblage of Archaic period materials from the Fernvale site in Tennessee. These overlapping lines of evidence allow us to describe the oldest directly identified tattoo implements in North America to date and to demonstrate that Native American tattooing and bundle-keeping traditions in the Eastern Woodlands extend to at least the Late Archaic period of regional prehistory, ca. 1600–3500 BC.

Tattoo Bundles

Native American tattooing practices in the Eastern Woodlands were for the most part extinguished by the mid- to late-nineteenth century following some 300 years of interaction with European and Euro-American culture (Krutak 2013a; Wallace 2013). Those traditions that persisted through the early twentieth century, including among the Menominee and Ojibwe, were primarily therapeutic in nature (e.g., Densmore 1928; Hilger 1951; Skinner 1921). The surviving material culture associated with Indigenous tattooing in the Eastern Woodlands is extremely scarce, and to date only three surviving historic period tattoo toolkits have been identified from the region (Deter-Wolf et al. 2017). These include two tattoo outfits collected from the Menominee and a third from the Ojibwe, all of which were acquired for museum collections in the early twentieth century. All three kits include tattoo tools consisting of steel needles set on the ends of wooden handles, and surfaces for mixing or holding pigment, and both Menominee kits also include packages of charcoal used as a pigment base.

In the eastern portion of the Great Plains, tattoo traditions of groups in-

cluding the Osage, Omaha, Missouria, Ioway, Cree, and Kansa persevered into the twentieth century and are far better documented than those of the Eastern Woodlands. Formal studies by ethnographers and anthropologists including Mark Harrington (1913), Francis La Flesche (1921a, 1921b, 1930), Alice Fletcher (Fletcher and La Flesche 1911), and Alanson Skinner (1915, 1921, 1926), among others, record the meanings of specific Plains tattoos, the performative aspects and underlying symbolism of tattooing rituals, and the cultural importance of associated objects. In addition, the work of artists such as Karl Bodmer and George Catlin provide a lush visual record of tattooing and other forms of Indigenous body decoration in this region.

Nineteenth- and early twentieth-century ethnographic data from the Great Plains has flaws, as many Indigenous ritual practices were already in decline by the time these studies were conducted. The symbolism underlying some traditions had already been lost to corporate memory with the death of prior generations of tribal elders. In other instances, ethnographers may not have been privy to specific details, or explanations provided by their Native informants may have been deliberately vague or incorrect. Nevertheless, these data present us with an important window through which to explore ancient Native American tattooing.

On the eastern Plains, tattoo tools and associated ritual paraphernalia were stored and deployed as part of a specific class of sacred bundles: tattoo bundles. Oral histories accompanying these portable shrines describe their origins as supernatural relics, created by their first keepers according to the instructions of preternatural or animist forces (Harrington 1913; Krutak 2013b; La Flesche 1930; Light 1972; Skinner 1915, 1926; Whitman 1938). As with other sacred bundles, these tattoo kits held collections of objects used to harness and direct life forces and spiritual energy. Those forces were accumulated during tattooing through associated ritual actions, including the deployment of sacred materials and the performance of chants, songs, and dances, and through the efforts of the tattooist were directed into the body of the recipient at the tips of the needles.

A number of Plains tattoo bundles were acquired alongside other Native American sacred objects by ethnographers and collectors during the late nineteenth and early twentieth centuries (Figure 3.1). Details regarding some of these bundles were documented through informant interviews (e.g., Harrington 1913; La Flesche 1921a; 1930; Light 1972), and others were inventoried for museum acquisition (Foster 1994; Skinner 1926). Still other collected examples were broken up into their constituent parts without proper inventory, or were placed unopened into long-term curation. Today, in accordance with the wishes of tribal governments, there are often restrictions as to how, or if, museum-curated sacred objects, such as tattoo

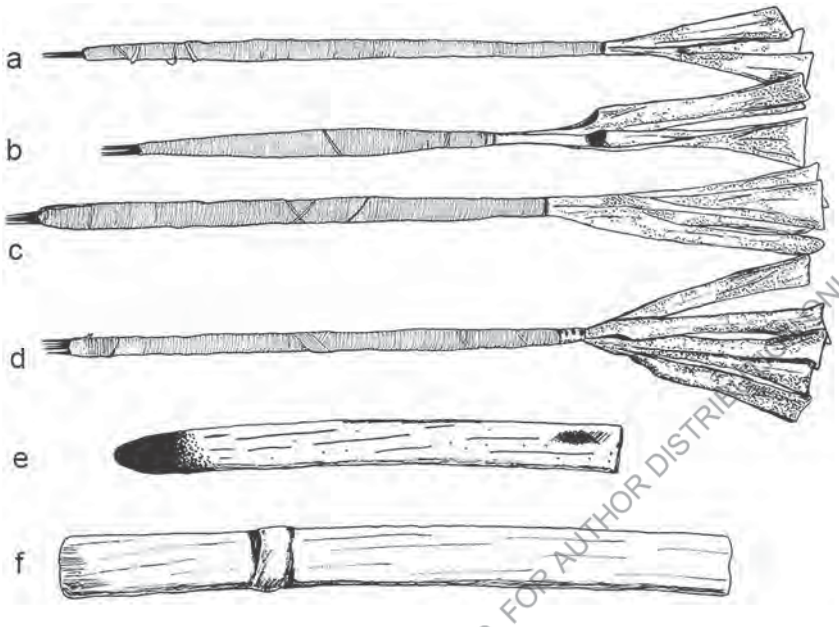

Figure 3.1. Selected materials from a Missouria tattoo bundle collected by Harrington in 1912 (a–d) tattoo tools with steel needles, wood handles, and rattles; (e) partially charred wood for producing black pigment; (f) cane marking tube (redrawn by Aaron Deter-Wolf after Harrington 1913, fig. 91).

bundles, may be handled, examined, photographed, or even illustrated in print. As a result, prior inventories are essential in understanding the scope of historic bundle contents. Lars Krutak (2013b) recently conducted an important assessment of eastern Plains tattoo bundles using both published and unpublished ethnographic sources, in which he examines the contents, use, and underlying symbolism of those kits. Rather than duplicating that effort, the current discussion focuses primarily on bundle contents as a distinctive material assemblage with recognizable archaeological correlates.

The specific contents of historic tattoo bundles vary between tribal and clan groups and might include a wide-ranging assortment of wrappings, tools, regalia, pigments, plant medicines, design templates, musical instruments, and still other associated materials (Krutak 2013b). A single Osage tattoo bundle (*waxobe*) collected by La Flesche in 1911 included wrappings made of buffalo hair, bird skins, and woven plant matter, nearly a dozen scalplocks, eight tattoo implements, seven weasel skins, a buffalo heart tobacco sack, braided sweet grass, river cane and metal tubes used as marking guides, wood to be burned for creating charcoal-based pigment, a single valve of a bivalve shell for holding that pigment and bunched pileated wood-

pecker feathers for applying it to the skin, a set of eagle bone whistles, two rabbit feet for brushing irritated skin, and a brass ring worn around the neck of the tattooist (La Flesche 1921a).[1] By comparison, the Plains Cree Four Sky Thunder Bundle collected by Douglas Light for the Glenbow Museum included multiple cloth wrappings, braided sweetgrass, powdered charcoal for making pigment, a bivalve shell for holding the pigment, a willow stick decorated with feathers and used to trace designs onto skin, and a single tattooing tool. Regalia contained within the same bundle included a beaded neck pouch made from weasel skins that held feathers to be worn in the hair of the tattooist, and a leather mask representing the face of Buffalo That Walks Like a Man (Light 1972).

In his taxonomic analysis of Ioway sacred bundles, Lance Foster (1994) notes that certain items are found across bundle types, and other materials cluster into diagnostic groups. For example, bird skins appear in war bundles, Buffalo Doctors' bundles, and tattoo bundles, as well as alongside clan pipes. Plant medicines also might be found in Buffalo Doctors' war, medicine, and tattoo bundles. Tattoo needles, however, are only found within Ioway tattoo bundles (*wiglexe*, after Foster [1994]). As a result of his analysis, Foster concludes that Ioway tattoo bundles minimally comprised an assemblage of four diagnostic items: wrapping, tattoo needles, marking canes, and pigments. Ethnographic data compiled by Krutak (2013b) demonstrate that this diagnostic assemblage is also broadly applicable to tattoo bundles from other eastern Plains groups. Finally, recent assessment of three tattoo toolkits from the Eastern Woodlands (Deter-Wolf et al. 2017) reveals that, while those assemblages are limited and associated with therapeutic traditions, they contain similar assortments of materials.[2] The following discussion considers the material culture of each of Foster's four diagnostic categories.

Wrappings

Tattoo bundles from the eastern Plains contained multiple layers of wrappings fashioned from skins, cloth, and woven hair or plant materials. Bird and animal skin wrappings often included the head and/or feet of the animal, while woven wrappings were sometimes decorated with designs that mirrored tattoo patterns (Foster 1994; Harrington 1913; La Flesche 1930; Skinner 1926). One Ioway tattoo bundle collected by Harrington originally included a fawn skin outer wrapping that had been replaced historically by calico cloth, inside of which were four additional cloth wrappings. At the center of the bundle, the tattoo implements themselves were separately wrapped in whole (possibly fetal) fawn skin, and other associated objects were wrapped in "a tiny child's shirt" (Skinner 1926:265).

Similarly, the Osage bundle described by La Flesche (1921a) and referenced here featured an outer wrapping consisting of woven buffalo hair and contained three additional envelopes. The innermost of these was woven from rushes (La Flesche 1916, 1921a, 1930) and exhibited symbols and patterns of knots symbolizing the dualities of day/night, earth/sky, and the Osage moieties. Inside the rush envelope were additional wrappings made from pelican and cormorant skins, the latter of which contained the actual tattoo tools (La Flesche 1921a).

The outer wrapping of the Plains Cree Four Sky Thunder Bundle consisted of a red stroud cloth measuring 24 × 32 inches. The tattoo tool, marking implement, and pigment-related items were all contained within this main wrapping. A separate, inner wrapping of red stroud held regalia worn by the tattooist (Light 1972).

None of the three historic period toolkits identified from the Eastern Woodlands include surviving wrappings (Deter-Wolf et al. 2017). It is likely that the various pieces of these kits originally resided within some type of overall envelope or container while not in use. However, no such associated items are identified in the collections of the curating institutions.

Tattoo Implements

As with the bundles themselves, tattoo implements were bestowed on their original keepers by ancestral or supernatural forces. Among the Menominee, tattoo tools were "given to mankind by the Thunderbirds, and represent their spears or lightning" (Skinner 1921:135). By the nineteenth century, tattoo tools from both the Plains and Eastern Woodlands consisted of metal needles or points set closely beside one another on the end of a wood or river cane shaft (e.g., Deter-Wolf et al. 2017; Krutak 2013b; La Flesche 1921a; Light 1972; Skinner 1926; Weitzner 1979) (see Figure 3.1). These historic tools replaced precontact technologies, which may have included individual sharpened bones, lithic implements, thorns, or multiple small bone points affixed to the tip of a wooden handle (Deter-Wolf 2013a).

Historic period Plains bundles often contained multiple tattoo tools to allow for tool failure or to aid in the creation of specific patterns or designs. The Osage tattoo bundle described by La Flesche (1921a) included eight separate tools exhibiting both linear and bunched arrangements of needles, and the aforementioned Ioway bundle included two tattoo implements (Skinner 1926). Some bundles also contained materials for repairing the tattoo tools, as in the case of sinew held in an Ioway Wolf Clan bundle (Foster 1994).

The handles of eastern Plains tattoo tools were enhanced by the addition of down, rattles, brass hawk bells, bird feathers, and sometimes pig-

ments. Rattles included rattlesnake tails, pebbles wrapped in grass sleeves, and feather shafts from birds such as pelican, heron, swan, crane, and eagle, which contained sand, beads, or small stones (Fletcher and La Flesche 1911; La Flesche 1921a; Light 1972; Skinner 1926; Weitzner 1979). Among the Omaha, the sound created by these rattles during tattooing, when paired with the performance of songs, invoked the Great Serpent, whose movement made a noise "as does the living wind through the trees" (Fletcher and La Flesche 1911:506).

By comparison, tattoo implements from the three identified Eastern Woodlands toolkits are relatively unadorned (Deter-Wolf et al. 2017). Each includes a single tattoo tool, consisting of four or five metal needles hafted to the tips of linear wooden handles. No rattles, feathers, pigments, or other decorative elements are present on the handles.

Marking Implements

Foster (1994:289) specifies that Ioway tattoo bundles include "marking canes" used to draw patterns on the skin before tattooing. Based on comparative analysis, this tool category may be expanded to encompass various wood, cane, bone, metal, feather, and fur or hide items used to pre-mark tattoo patterns on the skin (see Figure 3.1), guides used during tattooing, design templates, and materials for rubbing additional pigment into freshly pierced skin. Describing the assortment of these materials from a single Ioway bundle, Harrington writes:

> Resembling the pricking instruments in that they are provided with quill rattles, are two spatulas, or flattened sticks used for laying out the patterns and applying the pigment (*wikunte*). One of these, thirteen and three-quarters inches long, bears seven quill rattles; the other, a little over eleven inches, only five. Both are well wound with sinew, over which is loosely wrapped faded green ribbon. The largest is much stained with pigment from long use. By the same name are called two pointed marking sticks without quill rattles, measuring about five and one-quarter inches long, also two cylindrical sticks for marking circular dots, respectively four and one-eighth and five and seven-eighths inches long, with diameters of five-sixteenths and three-eighths inches. For marking small circles a bit of hollow cane was used, called *mantonje*, one and seven-eighths inches long, and printing a circle a little over one quarter inch in diameter. Another, one and five-sixteenths inches long, served as a guide for the needles in tattooing a round spot. These are known as *ikunt'e*. A little stick, five and one eighth inches long, with a bit of buffalo hair tied to one

> end, served as a sort of swab (*iwak!o*), while another swab had a narrow piece of thick dry buffalo hide four and one-quarter inches long as a handle. Several stiff tail feathers of some bird were used for a like purpose, and several matted bunches of buffalo hair, seem to have been used in wiping off the blood. [Harrington, in Skinner 1926:266]

Other Ioway tattoo bundles included paper patterns for marking designs (Foster 1994) and a red-stained rabbit-foot brush attached to a small bag of red pigment (Skinner 1926). Yet another Ioway bundle, as well as a Missouria example, included buffalo horn spatulas or rubbing sticks for pushing pigment into tattooed skin (Harrington 1913; Krutak 2013b). The Plains Cree Four Sky Thunder Bundle contained a flattened piece of willow wood covered with split owl feathers and down, and further augmented with hawk bells at the top of the handle (Light 1972). According to Solomon Bluehorn, Light's Cree informant, this tool "was used to outline the proposed design with the charcoal paste. After the skin was punctured, the flat surface was used to force the coloring agent into the holes made by the needles" (Light 1972:16). A similar flattened stick for marking tattoo patterns was included in one Osage bundle (Fletcher and La Flesche 1911), while another held small feathers for drawing on the skin (La Flesche 1921a).

Although marking implements frequently appear in Plains tattoo bundles, these tools are not necessarily a critical diagnostic element. The three identified toolkits from the Eastern Woodlands do not include any marking implements (Deter-Wolf et al. 2017), and there are accounts of historic period Native American tattoos being administered freehand, without the aid of predrawn patterns (e.g., Weitzner 1979). In addition, it is possible that some marking implements included in Plains tattoo bundles served primarily for the application of plant medicines (for example, numbing agents) or temporary body paint associated with the tattooing ritual, rather than for manipulating or applying actual tattoo pigments.

Pigments

A final portion of Plains tattoo bundles was dedicated to pigment, a category that includes colorants used to decorate the human body and/or material culture associated with tattooing, as well as implements for mixing and holding pigments. Ethnohistorical sources reveal that carbon was the preferred base for Native American tattoo pigment during the early historic period (Deter-Wolf 2013a). Some Plains bundles and both Menominee kits from the Eastern Woodlands include lumps or packets of charcoal (e.g., Skinner 1926; Light 1972; Deter-Wolf et al. 2017), while other Plains bundles held pieces of wood that were burned at the time of tattooing to cre-

ate the pigment base (e.g., La Flesche 1921a; Harrington 1913) (see Figure 3.1). Tree and plant species used for manufacturing carbon-based pigment varied and were likely selected according to specific symbolic relationships that shifted by region and culture (Deter-Wolf 2013a).

At least four ethnohistorical accounts of Native American tattooing from the Eastern Woodlands during the late seventeenth and eighteenth centuries describe the use of red pigments identified as either *vermilion* or *cinnabar* (Dièreville 1933 [1708]; Dumont de Montigny 1753; Long 1791; Raudot 1904 [1709]). Mercury sulfide pigments were not widely used in eastern North America until after their introduction as a high-value European trade good (Lozier 2012). As actors in the colonial exchange network, European and Euro-American chroniclers could certainly differentiate between the vivid hue of mercury sulfide and more muted Indigenous red earth pigments, yet they may have applied the same terminology to both. For example, in his seventeenth-century account of travel through the Appalachian Mountains, German physician John Lederer (1672:16) records that Native Americans near the site of Sara mined "cinnabar" to make face paint. He then differentiates that material from European pigments, noting that it is "of a deeper purple than *vermilion*" (emphasis added).[3] Evidence for similar linguistic substitution is exemplified in early historic use of the word *vermilion* to replace Indigenous terms for red earth in Europeanized place names (Bright 2004; Lozier 2012; McCafferty 2008).

Throughout Native North America, red pigments were "one of the most powerful animating substances in the universe, with divine origins and properties ranging from protective to transformative and from interactive to integrative" (Zedeño 2009:412). As such, red colorants were used to enhance and sanctify material culture, the natural landscape, and human bodies dating back to the Late Pleistocene (e.g., Claassen 2015; Jodry and Owsley 2014; Northam 2013; Roper 1991; Stafford et al. 2003). These practices persisted through the historic period, when European-traded vermilion was adopted as body paint in place of, or in addition to, red earth pigments (e.g., Birket-Smith 1930; Hamell 1992; Hvidt 1980; Mason 1967; Wallace 2013). Based on this enduring significance, it is possible that Native American use of mercury sulfide–based pigment to tattoo during the eighteenth century represents an episode of cultural replacement—as seen with vermilion body paint—rather than the advent of an entirely new behavior.

Conversely, clear historical or ethnographic evidence for red earth tattoo pigment is extremely rare in Native North America, as well as in the global sample of tattooing cultures.[4] Only a single ethnohistorical account from the Eastern Woodlands specifies the use of ochre to tattoo, wherein the intendant of New France Antoine-Denis Raudot (1904 [1709]:64–65) suggests

that Iroquoian speakers in eastern Canada used "red earth" for tattooing in addition to both vermilion and charcoal.[5] All other accounts of tattooing with red earth pigment in Native North America identified to date originate in the Southwest, California, and the Pacific Northwest. In those areas the Mescalero, Lipan, and Chiricahua Apache (Gifford 1940; Opler 1941), Ute, Bannock, Tubaduka band of the Western Shoshone, Deep Creek Goshute (Steward 1943; Stewart 1942), and the Tsilhqot'in and Kootenai (Ray 1941) all tattooed with varieties of red earth pigments.

Red pigments appear in several Plains tattoo bundles and are thereby directly connected with tattooing and/or associated ritual paraphernalia. The Ioway Black Bear Clan bundle aforementioned contained a small leather bag that originally held red pigment, along with an attached rabbit, paw which was stained red from use as a brush (Foster 1994; Skinner 1926). This same bundle also contained a bark-cordage bag that held plant medicines and pigment sources, including charred wood, "real fine dark soil," and a small leather bag of "red paint" (Foster 1994:216–217). The composition of these pigments is not recorded, nor is it known how they were incorporated into the tattooing process or associated rituals. Harrington (in Skinner 1926) notes that feather shaft rattles on the handles of tattoo implements from another Ioway bundle exhibited remnants of red paint or dye; however, these traces may be the result of decorating the tool itself or of the tattooist handling implements with ochre-stained hands, rather than representing actual tattoo pigment. Such is certainly the case for the red-painted bone handle of the tool used around AD 1840 to tattoo the Hidatsa man Poor Wolf (Weitzner 1979).

Regardless of their composition, raw colorants associated with tattoo bundles were ground fine and mixed with water and other diluents to create finished pigments. Both Osage and Plains Cree tattoo bundles included single valves of bivalve shells for mixing and holding these pigments (La Flesche 1921a; Light 1972). From the Eastern Woodlands, the Ojibwe example and one Menominee kit include bark or bent-wood containers for this same purpose, and the second Menominee kit includes a pigment-stained ceramic sherd used as a palette (Deter-Wolf et al. 2017).

Archaeological Considerations

Many aspects of ethnographically documented Native American bundles are biodegradable and will not survive in the archaeological record. In the case of tattoo bundles, depending on local environmental conditions, only the tattoo tools (or some parts thereof), carbon or earth pigment residues,

and mixing surfaces, containers, or regalia fashioned from bone, shell, stone, or ceramic are likely to persist over a long duration. Other elements, including fiber or hide wrappings, thorns, quills, very small bone needles, wood or cane tool handles and marking implements, hair or fur applicators, plant medicines, rattles, feathers, and uncarbonized wood or plants, are unlikely to survive or to be recovered by archaeologists. It was therefore previously suggested that the archaeological identification of tattoo toolkits minimally requires association of possible tattoo implements and pigment remains (Deter-Wolf 2013a, 2013b). Such identifications can—and wherever possible should—be strengthened through associations with other items belonging to the diagnostic categories discussed, including wrappings, marking tools, and pigments or implements for pigment processing.

There were two primary paths through which tattoo bundles or their constituent parts might enter the archaeological record. Foremost among these was tool repair, during which broken or replaced elements were discarded. In many instances this depositional process would sever direct association between the discarded materials and other bundle elements, thereby generally prohibiting contextual identification of individual tattooing-related artifacts. However, there are circumstances in which larger patterns of deposition and association between individually discarded components of tattoo bundles may allow for identification.

Historic tattoo bundles were stored, handled, and deployed following strict ritual protocols (Krutak 2013b). Similar prohibitions, while not specifically documented in the ethnographic record, undoubtedly regulated repair and replacement of bundle components. As individual materials were replaced due to breakage or other cultural factors, older tools were discarded. Due to the powerful nature of these artifacts, they are unlikely to have been cast aside in everyday midden assemblages. Rather, they might be ritually "killed" by drilling or deliberate breakage, and discarded or interred within or adjacent to consecrated spaces such as mound summits. Over time the accumulation of discarded bundle components in these locations would develop into a recognizable assemblage, as demonstrated by a recent reconsideration of potential tattooing-related materials from Mound Q at Moundville, Alabama (Deter-Wolf 2013a).

The second mechanism by which tattoo bundles could enter the archaeological record was through deliberate interment. During the historic period, personal bundles were sometimes buried alongside their owner following the death of that individual (e.g., Caitlin 1891), or might be deliberately interred as a cache or other type of ritual deposit (Zedeño 2008). Corporate bundles, those associated with broader group identity and ritual ac-

tivity, were not generally decommissioned or interred as an assemblage. These objects were instead passed on to a new keeper when the need arose by means of a transfer ceremony (Pauketat 2013a). La Flesche (1921a) records that Osage Great Bundle Keepers delivered their charges to a new caretaker once they themselves had become too old or their eyesight too poor to continue tattooing.

There has been no definitive study of sacred bundle deposition patterns to date, and our understanding of the terminal stages of the use-life of bundles is incomplete. Nevertheless, over the past half century, a growing body of data has emerged suggesting that throughout the expanse of North American prehistory both whole and partial corporate bundles were at times interred rather than being transferred, and that the remains of those bundles can be identified archaeologically (e.g., Deter-Wolf 2013a; Jodry and Owsley 2014; O'Brien 1986; Reyman 2004; Ubelaker and Wedel 1975; Wallis and Blessing 2015; R. Watson 2005; Webb 1950; Webb and Baby 1974). James A. Brown's (2010a) analysis of the Great Mortuary at Spiro Mounds demonstrates that, in some circumstances, multiple corporate bundles might be collected and buried together as part of a single ritual episode. With these mechanisms in mind, the associations of material culture outlined here allow for contextual examination of the archaeological record to assess possible assemblages of tattoo-related artifacts from Alabama and Tennessee.

Tattooing among Mississippian Societies: A Contextual Approach

The iconographic record of the Mississippian period in the Eastern Woodlands is replete with depictions of human or humanlike figures exhibiting distinctively—and often extensively—marked faces and bodies. In many instances it is difficult to conclusively determine whether these incised lines, dots, and painted symbols are intended to represent tattooing or paint, or whether they held altogether unrelated symbolic functions. In other cases there is compelling correspondence between placement and design of motifs incised on ancient figural art and those documented for historic tattoo traditions (Dye 2013; Krutak 2013a) (Figure 3.2). These similarities, along with other demonstrated aspects of ritual and cultural continuity between late Mississippian and historic period tribal societies of the region, have led to widespread understanding that tattooing was part of Native American culture by at least the twelfth century AD (e.g., Cherry 2009; Deter-Wolf 2013a; Diaz-Granados 2004; Duncan 2011, 2013; Emerson and Boles 2010; Reilly 2013; Reilly and Garber 2011; Steponaitis et al. 2011; Walker 2004).

Tools potentially related to Mississippian tattooing have been identified

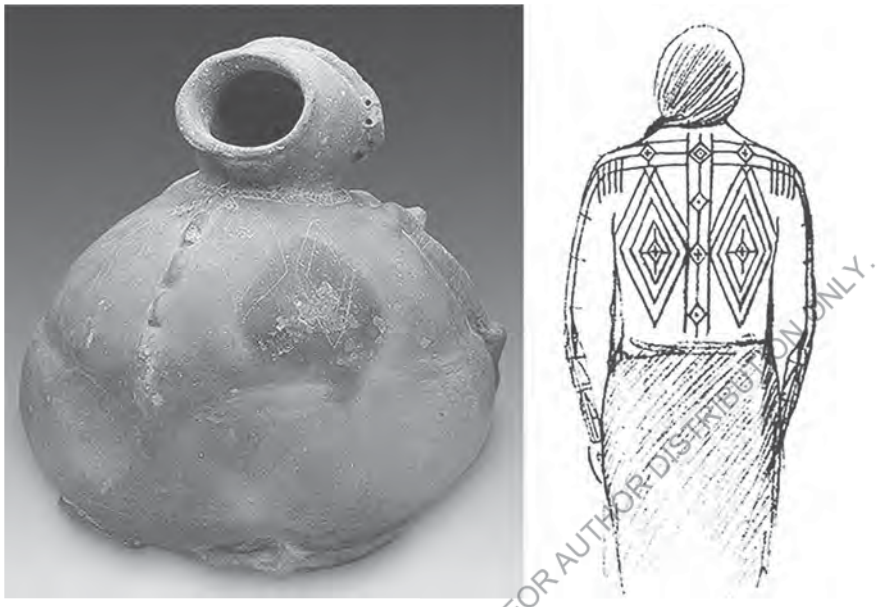

Figure 3.2. Shared motifs incised on the back and arms of a late prehistoric female hooded bottle from Eastern Arkansas (left) and on a tattooed Osage woman (right) at Arkansas State University Museum, Jonesboro. (Photo courtesy of David H. Dye; drawing after La Flesche 1921b: fig. 119, comparison after Dye 2013, Aaron Deter-Wolf, and Tanya M. Peres)

from sites throughout the Eastern Woodlands based on general morphological traits or apparent similarities with tools described in ethnohistorical accounts (e.g., Boudreaux 2005; Dye 2000; Kimball et al. 2010; Knight 2010; Strezewski 2003; Tubbs 2013). A reexamination of the perceived intersection between tattooing and scratching/bloodletting[6] technologies (Deter-Wolf et al. 2017) suggests that sole reliance on these lines of evidence may result in misinterpretations of potential tattoo tools. Application of a contextual approach drawing on the categories of material culture outlined here helps reduce ambiguity when assessing possible tattoo-related artifacts.

Koger's Island, Alabama

Investigations at the Koger's Island site (1LU92) in the Pickwick Basin of Alabama during the winter of 1937–1938 resulted in excavation of more than 100 Mississippian period burials (Bridges 1996; Bridges et al. 2000), the artifacts from which were initially described by Webb and DeJarnette (1942). In an assessment of mortuary data from the site, David Dye (2000) identified four burials (6, 11, 20, and 23) as including one or more bundles of regalia and ritual material, and further suggested that sharpened bone

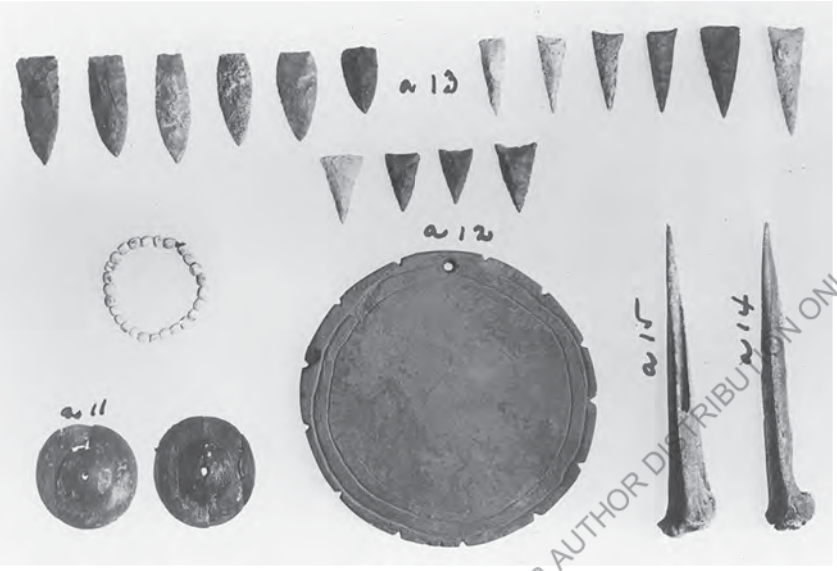

Figure 3.3. Selected artifacts from Koger's Island Burial 6. (Courtesy the University of Alabama Museums and Tennessee Valley Authority)

tools from these graves may have been used for tattooing or scratching/bloodletting (Figure 3.3). One of these graves, Burial 11, included three sharpened turkey tarsometatarsii and a split-bone pin, alongside a ceramic jar and hawk sterna (Marcoux 2010). As this assemblage lacks critical aspects of tattoo bundles outlined in this chapter, it is not further considered here. However, a contextual reassessment of Burials 6, 20, and 23 reveals sufficient commonalities with one another and the categories discussed above to revisit the identification of possible tattoo-related materials (Table 3.1).

* Burial 20 at Koger's Island was the partially flexed interment of a 30–39-year-old male (Marcoux 2010), and it contained artifacts distributed throughout the grave (Figure 3.4) (see Table 3.1). These artifacts included perforated animal teeth situated about the individual's neck, a drilled stone palette, two sharpened turkey tarsometatarsii, and several mammal-bone awls. Three flint points, a possibly retouched or utilized flake, and multiple hawk sterna "worked into gorgetlike pendants" (Webb and DeJarnette 1942:218) were arranged at the feet of the individual.

Burial 23 at Koger's Island was the extended burial of a male, aged 30–39 years (Marcoux 2010), and it contained a wide assortment of material culture remains (see Table 3.1). Artifacts included drilled or killed whelk shell cups, bone pins, both copper and wood ear ornaments, a beaver incisor, greenstone celts, a large flint knife, more than 1,000 marine shell beads,

* see p. 52

Table 3.1. Possible Bundle Components from Burials 6, 20, and 23 at Koger's Island (1LU92), Alabama

Burial	Location	Artifact*
6	Around skull	2 copper-coated wood ear spools; 8 marine columella beads; shell-tempered ceramic vessel; Crow Creek Noded ceramic vessel; Mississippi Plain ceramic vessel(s); Moundville Engraved var. Hemphill ceramic bottle; additional vessel†
	Left shoulder	Drilled micaceous sandstone palette with notched rim
	Left arm	3 turkey tarsometatarsal awls
	Left hand	Yellow pigment residue
	Right knee	17 triangular arrow points
20	Neck	Perforated animal teeth
	Right shoulder	Copper-stained, polished mammal bone pin
	Right hip	Drilled and incised micaceous sandstone palette
	Around feet	2 polished turkey tarsometatarsal awls; needle bone awl; deer ulna awl or pin; three chert points; one chert flake; drilled bird sterna
23	Above skull	Drilled lightning whelk
	Left and right of skull	Bone pins; copper-coated wood ear ornaments (one incorporating five freshwater pearls)
	Neck	> 1,000 marine shell beads; copper ear spool
	Left humerus	Greenstone celt; Great Serpent/Underwater Panther ceramic effigy pipe°; drilled greenstone spatulate celt
	Right humerus	Greenstone celt; flint knife or Duck River Sword
	Left hand	Drilled bird sterna; 8 marine columella beads; galena beads
	Right hand	Drilled bird sterna; marine columella beads; 9 antler tine points
	Across abdomen	Beaver incisor; ~75 marine columella beads; 2 wooden ear spools
	Pelvis	Galena cube
	Left femur	Copper badges with circular eye surround or key-sided mace; small copper pin, 3 perforated bear teeth (one copper stained); three additional perforated animal canines.

Continued on the next page

Table 3.1. *Continued*

Burial	Location	Artifact*
	Adjacent to right femur	Notched sandstone palette; drilled lightning whelk holding two fish spines and two split bone awls
	Left foot	Bird sterna; 8 or 9 split bone awls; catfish spine
	Right foot	Drilled bird sterna and weathered hematite

* An exhaustive accounting of the materials from Burials 6, 20, and 23 remains to be done to reconcile identifications and tallies of artifacts listed on original burial and catalog forms with those reported by Webb and DeJarnette (1942) and Marcoux (2010), and on 2015 analysis cards from the University of Alabama Museums.

† Burial form describes a plain shell-tempered vessel containing two smaller vessels; 2015 analysis cards list just two vessels for this location.

° Originally identified as a dog effigy by Webb and DeJarnette (1942).

Burial 6, the extended grave of a 20–29 year-old male (Marcoux 2010), included ceramic bottles and jars, a notched and engraved stone palette, three sharpened turkey tarsometatarsii, copper-coated ear ornaments, marine shell beads, and 16 triangular stone points (see Figure 3.3). These materials were distributed throughout the grave, including around the skull, along the left arm, and at the right knee. A fragmentary deposit of yellow pigment material was recovered at the left hand.

NOTE: Highighted text belongs at marked location on p. 50.

multiple drilled bird sterna (Figure 3.5), and a ceramic effigy pipe (Webb and DeJarnette 1942:219). Also present were galena beads, a galena cube, antler tine projectile points, multiple split-bone awls (see Figure 3.5), and "weathered hematite" (Webb and DeJarnette 1942:219). Along the outside of the right femur were a notched stone palette and a drilled whelk shell, which held in its cup two fish spines and two split-bone awls. Finally, Burial 23 also included multiple copper badges featuring circular eye surround motifs and key-sided maces, a small copper pin, and perforated animal teeth.

All three burials from Koger's Island include artifact groupings suggestive of one or more biodegradable wrappings. For Burial 6, the arrangement of triangular flint points adjacent to the right knee suggests they were contained within a small bag. The materials situated around the feet of Burial 20 are oriented in a manner suggestive of having been interred in at least two separately wrapped clusters. Burial 23 exhibits a far more complex arrangement of artifacts, perhaps indicative of a large multifunction corporate bundle having been distributed throughout the grave. Field drawings of this burial illustrate clusters of artifacts that appear to have been wrapped together positioned at the left foot, at the left femur, and above each arm.

Burials 6, 20, and 23 from Koger's Island also contain sharpened bone tools that may plausibly have been used for tattooing (Deter-Wolf and Peres

Figure 3.4. Selected artifacts from Koger's Island Burial 20. (Courtesy the University of Alabama Museums and Tennessee Valley Authority)

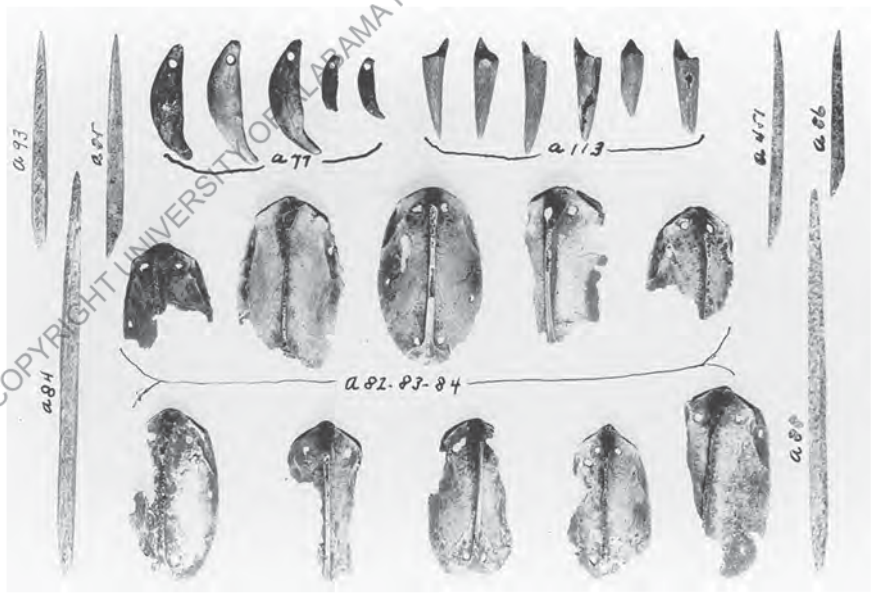

Figure 3.5. Selected artifacts from Koger's Island Burial 23. (Courtesy the University of Alabama Museums and Tennessee Valley Authority)

2013), including examples fashioned from deer and turkey (see Figures 3.3, 3.4, and 3.5). In addition, the fish spines from Burial 23 strongly recall similar materials in the assemblage from Mound Q at Moundville (Deter-Wolf 2013a; Knight 2010). Unfortunately, a number of the sharpened bone implements from these graves are missing their tips, and to date none have been examined for direct physical evidence that might bolster a hypothesized tattooing function.

Of the more than 100 individuals in the cemetery at Koger's Island, only these three were associated with sandstone palettes, which are suggestive of pigment processing and application (Marcoux 2010). Burials 6 and 23 also contain mineral pigment remains or raw pigment materials in the form of degraded yellow pigment (Burial 6), and a galena cube and "weathered hematite" (Burial 23). None of the three burials include evidence of pigment applicators.

The materials contained within Burials 6, 20, and 23 at Koger's Island appear to represent three examples of bundles interred as part of mortuary rituals. The varying degree of complexity and organization of these collections may be indicative of differences between bundle categories, with the remains from Burial 6 and possibly Burial 20 representing personal or (to follow the classification proposed by Zedeño [2008]) somewhat more complex medicine bundles, and the materials from Burial 23 indicative of a large corporate or ceremonial bundle. Although all three graves include possible bone tattoo implements and stone palettes, Burial 20 does not contain evidence of pigments. Ultimately, while the contents of these graves from Koger's Island are indeed suggestive of bundles associated with tattooing activity, such identification should nevertheless remain speculative pending further evidence and direct artifact examinations.

Extending the Tradition: Archaic Period Tattooing at Fernvale, Tennessee

Although tattooing, bundling, and other complex ritual activities are widely understood to be important aspects of Mississippian culture in the Eastern Woodlands, the full temporal extent of these traditions remains unclear. New research and shifting interpretations over recent decades have significantly broadened archaeological perceptions of pre-agricultural societies in the region, thereby exposing the antiquity of complex Indigenous social, ritual, medicinal, and spiritual systems (e.g., Claassen 2010, 2011, 2015; Carmody and Hollenbach 2013; Homsey-Messer 2015; Sassaman 2010; and contributors to this volume). Application of the tattoo bundle model out-

lined in this chapter, coupled with new direct physical evidence in the form of use-wear studies, provides evidence that tattooing and bundling practices extend at least to the Archaic period of regional prehistory.

The Fernvale site (40WM51) is a multicomponent habitation along the South Harpeth River near Nashville, Tennessee. It was excavated by the Tennessee Division of Archaeology in 1985 (Deter-Wolf 2013c). One Late Archaic (ca. 1600–3500 BC) flexed burial from the site, Burial 24, was that of a probable adult male interred on his right side in a circular pit (Hodge and Davis 2013). A discrete collection of artifacts was situated adjacent to the buried individual's back within an area measuring approximately 23 ×25 cm (Figure 3.6) (Table 3.2). Excavators initially identified this assemblage as a "tool bag," but subsequent analysis concluded that the materials instead constitute the remnants of a bundle (Deter-Wolf 2013c). Further consideration of this assemblage reveals that it includes materials adhering to the diagnostic categories for tattoo bundles outlined, including evidence of wrappings, possible tattoo tools, marking implements, and pigment remains.

Based on the arrangement of individual artifacts within the Fernvale bundle, it is possible to identify the presence of at least four distinct artifact clusters, each of which was likely contained within a separate, interior wrapping (see Figure 3.6), as well as a basic order for their inclusion in the bundle. The outer wrapping of the bundle consisted of a wolf, dog, or coyote (cf. *Canis* spp.) skin with attached feet. This wrapping is evidenced by the presence of 17 canid phalanges situated along the southern edge of the bundle and representing three partially articulated feet/paws (Peres et al. 2013) (see Figure 3.6).

Into the outer canid-skin wrapping was first placed a stacked, wrapped cluster of disarticulated single valves of freshwater mussel and mucket shells, along what would become the northern edge of the bundle. Two whole and one partial sharpened turkey tarsometatarsii were then wrapped together and placed in the northwest corner of the bundle. This was followed by a third interior wrapping containing an ovate stone knife and white-tailed deer antler tine exhibiting a polished tip. Another interior wrapping containing two stone points and a rough biface was then placed above the three tarsometatarsii. Finally, a partial fourth sharpened turkey tarsometatarsus, a wing-tipped drill, and two obliquely cut right turkey radii were added to the assemblage. These later elements may have been part of additional wrappings that contained otherwise biodegradable materials. To complete the assembly, the canid skin was folded around the interior materials and likely fastened with biodegradable ties. This arrangement caused the canid paws to cluster along what would become the southern bundle edge, de-

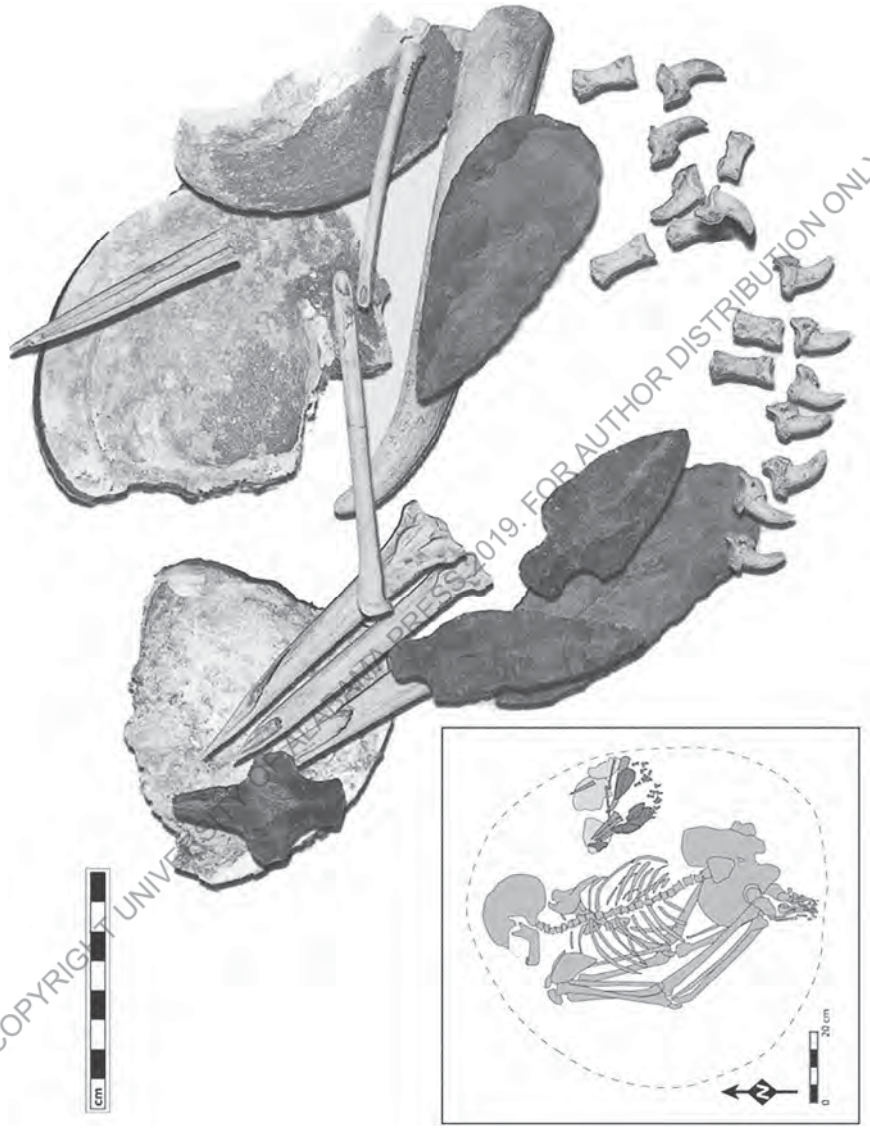

Figure 3.6. Digital reconstruction of the bundle from Burial 24 at the Fernvale site. (Aaron Deter-Wolf, courtesy the Tennessee Division of Archaeology)

Table 3.2. Bundle Components from Burial 24 at Fernvale (40WM51), Tennessee

Artifact	Count	Description
White-tailed deer antler tine	1	Scored and snapped distally, tip shows polish on distal 17 mm.
Turkey radii	2	Right radii; both cut at distal end with polish on cut surface and extending down shaft. Red pigment material near tip of larger tool; minute red and black pigment near tip of smaller tool.
Sharpened turkey tarsometatarsi	4	All right tarsometatarsi; two include proximal and shafts and are sharpened at distal end; one with partial proximal epiphysis; one shaft only. Red and black pigment material present on distal tips of both complete tools.
Lithic biface	5	Two stemmed spear points/knives, ovate knife, secondary biface, and wing-tipped drill. All manufactured from Fort Payne chert. All exhibit grey-black residue on bottom (in situ) faces.
Freshwater bivalves	14	4 bivalvia; 3 cf. *Actinonaias* sp. (1 right/1 left valve); 3 Unionidae; 4 fragments. All shells stacked along northern edge of bundle.
cf. *Canis* spp. phalanges	17	4 phalange #1; 2 phalange #2; 11 phalange #3 (4 right, 7 left). Oriented along southern edge of bundle.

grading over time into the arrangement of articulated phalanges situated stratigraphically above the remainder of the artifacts.

Pigment remains were present throughout the Fernvale bundle. Original excavation notes record that degraded red pigment (visually identified as ochre) was present within the interior concavities of several shells (Deter-Wolf 2013c). This suggests the shells from Burial 24 were used to mix or hold red earth pigment in a manner consistent with bivalve shells included in Plains tattoo bundles (e.g., La Flesche 1921a; Light 1972).

Red granular pigment is macroscopically present on the distal 31.1 mm of the larger turkey radius as surface deposits and worked into linear stria-

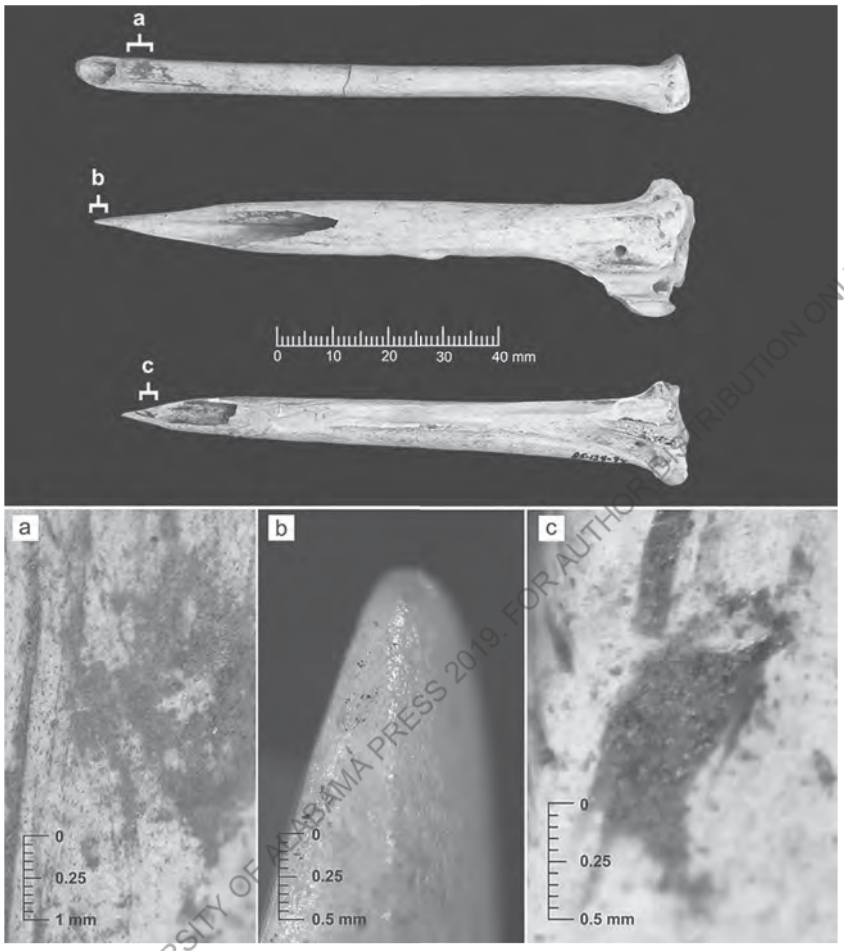

Figure 3.7. Artifacts from Burial 24 at the Fernvale site showing details of pigment staining: (a) cut and polished turkey radius; (b and c) sharpened turkey tarsometatarsii. (Aaron Deter-Wolf, courtesy the Tennessee Division of Archaeology)

tions (Figure 3.7a). Under microscopic examination, both red and black residues are present on the distal 16 mm of the smaller turkey radius. Both radii exhibit polish extending 16–19 mm down their shafts, and with their cut and smoothed tips they may represent implements used to mix pigment in the bivalves and transfer it onto skin.

All three of the clustered turkey tarsometatarsii from the Fernvale bundle exhibit trace amounts of pigment residue. On the longer complete tarsometatarsus, minute red and black residues lacking visible structure are pres-

ent within the distal 2 mm of the tool tip (Figure 3.7b). On the shorter complete tarsometatarsus, granular red residues are macroscopically present between 2.1 and 2.9 mm from the tip, where they are embedded in surface depressions (Figure 3.7c). Additional red residues with no discernible structure are present alongside the granular material and also in surface pitting elsewhere on the tool tips. Finally, red staining is visible within light polish on the proximal 19 mm of the incomplete turkey tarsometatarsus.

In addition to this contextual evidence, use-wear studies of bone tools from the Fernvale bundle provide additional data strengthening the proposed tattooing association. Using a Dino-Lite Edge 3.0 digital microscope housed at the Tennessee Division of Archaeology, and a Leica DM750P polarizing microscope with Leica ICC 50 Camera Module housed at the Florida State University Department of Anthropology, we conducted microwear examinations of the two complete turkey tarsometatarsii at magnifications of 30X–140X (see Figure 3.7b). Both tools exhibit manufacturing marks along their shafts, consisting of light to medium longitudinal striations created by grinding on abrasive surfaces. These striations are underlain in some locations by sporadic short, transverse, and longitudinal gouges, which likely resulted from lithic scraping during initial processing or shaping.

Microscopic examination revealed that both complete turkey tarsometatarsii exhibit trace wear on the terminal 3 mm of their distal tips. This wear is characterized by flattening of bone fibers and development of polish that obscures manufacturing marks, and is consistent with piercing fresh or wet hide to a very shallow depth. Neither artifact exhibits striations, spalls, or cracking on the tips. Overall, the documented wear patterns on these two artifacts are consistent with the results of recent experimental testing of bone tattoo implements by Christian Gates St-Pierre (2017) and stand in contrast to the type and extent of microwear created when bone tools are used to work dry hides or leather (e.g., Buc 2011; d'Errico and Backwell 2009; Gates St-Pierre 2007).

Discussion

Ethnographic analysis demonstrates that Native American tattooing during the historic period was associated with four diagnostic categories of material culture, consisting of tattoo tools, wrappings, materials for processing and applying pigment, and the pigments themselves. All of these elements held both functional importance and ritual significance and were curated as part of sacred bundle traditions. Applying this contextual framework to the archaeological record of the Eastern Woodlands reduces the ambiguity

of individual artifact morphologies and allows for a nuanced assessment of the evidence for ancient Native American tattooing.

Potential Mississippian period tattoo implements from Burials 6, 20, and 23 at Koger's Island, Alabama, are associated with implied wrappings, palettes for pigment processing, and varied elements of regalia. While these materials are generally suggestive of tattooing, they lack clear association with pigment applicators and, in one instance, with likely tattoo pigments. Even taking into account the likely degradation of perishable materials, these data therefore cannot be regarded as conclusive proof that tattooing was among the ritual activities associated with the Koger's Island bundles.

An Archaic period bundle from Burial 24 at the Fernvale site in Tennessee exhibits all of four of the essential components of historic tattoo bundles, including tattoo implements, bundle wrappings, pigment applicators and holders, and pigment remains. In this instance, ample contextual evidence is augmented by physical data from two sharpened turkey tarsometatarsii. Microscopic analysis shows these tools were used to pierce skin or wet hide to a depth of less than 3 mm, resulting in distinctive microwear patterns consistent with tattooing. Moreover, both red and black pigment residues are present on the tips of these tools and on other associated artifacts. Overlapping contextual and direct physical evidence therefore reveals that Native American tattooing extends to at least the Late Archaic period at the Fernvale site, ca. 1600–3500 BC, at which time it was already connected with bundle traditions and incorporated both carbon and red-earth pigments.

The notion that bundles—and by association elaborate ritual activity—might predate Woodland and Mississippian period societies in the Eastern Woodlands appears in some early interpretations of Archaic period sites from the Green River in Kentucky (Webb 1950; Webb and Baby 1974; Webb and Haag 1947). However, it has not been until relatively recently that these concepts have been regularly applied to discussions of Archaic period societies (e.g., Claassen 2015; Horton 2007; Moore 2013; Powell 1996; Zedeño 2009). The evidence from Burial 24 at the Fernvale site stands alongside an emerging body of data that demonstrates bundle traditions were present in ancient Native American culture by the Archaic period. Indeed, recent reinterpretation of a double burial from the late Paleoindian period occupation at Horn Shelter No 2 in Texas (Jodry and Owsley 2014) provides a compelling contextual argument that bundle traditions, and perhaps associated body ritual such as bloodletting or tattooing, date back to the onset of the Holocene.

While ethnohistorical and cross-cultural analysis underscores the importance of tattoo traditions for Indigenous societies across the globe, we are still learning about the roles these traditions played for those in the

deep past. By the historic period, Native American tattooing and the associated ritual activity and paraphernalia were integrally tied to both individual and group identity. Becoming tattooed was a rite of passage and supplication that ushered recipients through liminality and vested them with full membership in their society. The multivalent tattoo marks might demonstrate political, ancestral, or spiritual affiliations, signal military prowess, project and reinforce social status, and enable the capture and redirection of life forces and spiritual energy. In other instances tattooing was performed as a medicinal or therapeutic treatment. It would be premature, however, to assume any one-to-one correlation between ethnographic data and ancient ritual activity, particularly in regard to Archaic period practices. Although some symbolism and functions may have overlapped, it is—at best—difficult to pierce the three millennia of social and environmental change that separate Archaic period traditions and historical accounts. The precise significance of tattooing for inhabitants of the Koger's Island or Fernvale sites therefore remains difficult to parse.

The contextual approach presented here should not be mistaken for a definitive method of identifying ancient Native American tattoo tools. Neither should this research be interpreted to assert that all sharpened turkey tarsometatarsii in the archaeological record of the Eastern Woodlands are tattoo implements. Instead, when coupled with direct physical examinations, the contextual framework of the tattoo bundle provides an avenue through which to identify tattooing as a ritual activity associated with specific places, people, and artifacts in North America's archaeological past. Our collective knowledge of ancient Native American bundle traditions will continue to expand in the future to incorporate new data on the organization and deposition of these ritual items and how those factors may shift over the geographic and temporal expanse of North American prehistory. In addition, our grasp of precontact tattoo traditions will continue to improve along with an expanding catalog of contextual and use-wear data. As these data accumulate and are integrated, they will further illuminate the significance, antiquity, and distribution of these important ancient Native American ritual practices.

Notes

1. See also Krutak (2013a) for previously unpublished field notes regarding this bundle.

2. This basic assemblage of diagnostic materials (needles, pigment, applicator, and container) is also found in tattoo toolkits from throughout the Indigenous world (Deter-Wolf 2013b).

3. Lederer (1672:16) suggests that the locally mined material he designates as cinnabar is also a mercury sulfide pigment: "the same which is in so much esteem amongst Physitians, being the first element of Quicksilver." However, while trace amounts of mercury are present in geologic formations throughout the Midcontinent and interior Southeast (Jolly and Heyl 1968), the nearest concentrated mercury belt lies in southwest Arkansas (Rytuba 2013).

4. Ethnographic and ethnohistorical documentation of Indigenous tattoo practices throughout the world show clear preference for carbon-based pigments (e.g., Krutak 2007). This is also demonstrated in the physical composition of ancient tattoo pigments preserved on mummified remains, albeit from a very limited sample examined to date (Kyzlasov and Pankova 2004; Pabst et al. 2009, 2010). A number of archaeologically identified tattoo tools have been recovered in association with red earth and/or mineral pigments rather than carbon residues (e.g., Deter-Wolf 2013a, 2013c; Friedman 2017; Kononenko et al. 2016; Yablonsky 2017; Zidarov 2017); however, the specific relationship of these pigments to the tattooing process remains to be fully examined.

5. "Ils trempent ces aretes dans une espece de peinture noir qu'ils font avec du charbon de bois tender pilé et avec de l'eau, ou dans du vermillon ou de la terre rouge delayée" (Raudot (1904 [1709]:64–65).

6. These practices are also referenced in the literature as "scarifying." The widely spaced, multi-tine split-bone tools known as "scratchers" or "scarifiers" and used in bloodletting rituals were not used to tattoo (see Deter-Wolf et al. 2017).

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