



MEZZOTINT BY JOHN SIMON. AFTER PAINTING BY JOHN VERLEST

This portrait painted in 1710 shows the extensively tattooed Mohawk leader Sa Ga Yeath Qua Pleth Tow.

DISCOVERING THE ARCHAEOLOGY OF TATTOOING

THE CURRENT POPULARITY OF TATTOOING
HAS LED ARCHAEOLOGISTS TO STUDY ITS
IMPORTANCE TO ANCIENT NATIVE AMERICANS.

BY GAYLE KECK

“They do not omit to paint their bodies also with curious knots, or antique work, as every man in his own fancy deviseth, which painting to make it continue the better; they use with a thorn to prick their flesh, and dent in the same, whereby the painting may have better hold.”

—Englishman John Sparke, Florida, 1565

IN OLD WESTERN MOVIES, Indians were invariably depicted galloping into the scene whooping and streaked with war paint. At least one aspect of that cliché is true. Native Americans did decorate their bodies with temporary pigments. But you might be surprised to learn that they practiced a more permanent—and deeply meaningful—way of adorning their bodies: tattooing. Equally surprising is the fact that this important aspect of Native American culture was largely neglected by archaeologists.

Why that neglect? The reasons are complex. Some are cultural. “People wearing tattoos were perceived as marginal,” said Christian Gates St-Pierre, an archaeologist at the University of Montreal. “It might have looked like a

non-serious topic for academics.” Tattoos were long considered to be “primitive;” they were frowned on by religious groups, and became casualties of the larger effort to erase Native American culture. According to Aaron Deter-Wolf, of the Tennessee Division of Archaeology, and Washington University anthropologist Carol Diaz-Granados, this meant that tattoo imagery wasn’t granted the same cultural value as images on pottery, shells, stone, and other media.

Even when archaeologists focus on identifying Native American tattoo tools, it’s a challenge. “There is no one single tool type,” explained Deter-Wolf. “In the ethnographic record, there’s an incredible assortment of things people say are being used to tattoo: bones, thorns, fish teeth, stone tools,



DAVID H. DYE

The incised lines on this Mississippian effigy vessel that dates between A.D. 1550 – 1650, as well as body marks depicted in other, older Mississippian art, are believed to represent Native American tattooing.

bones set onto a stick, cactus spines.” Fragile botanical items would most likely have deteriorated over time, and other tools could easily be misidentified.

“Bone tattoo tools are the unwanted stepchild, the Harry Potter of the archaeological world,” added independent researcher Benoît Robitaille. “They are often just inventoried as ‘miscellaneous bone tools.’” In fact, pointed bone objects could potentially be awls, pins, pottery or weaving tools, food-processing implements, blood-letting tools—even game pieces.

Tattooing’s twenty-first century transition from tawdry to trendy has sparked interest in ancient tattoo practices; however, it turns out Native American tattoos were a far cry from an inked hula dancer who shimmies when the wearer flexes his bicep. “This is not tattooing as we know it today,” Deter-Wolf said. “It’s culturally mandated. There are rules, regulations, taboos. It’s something people aspired to. The tools

themselves, the inks, and even the contexts in which these things were stored, have important cultural connotations.

“Native American tattooing was a highly structured event that accompanied profound changes in the social and/or spiritual status of the marked individual,” according to Deter-Wolf. Both males and females received tattoos. The symbols could signify war honors, social status, clan affiliation, and personal guardian spirits. They could mark entry into adulthood, endow the bearer with the ability to channel supernatural forces or travel between worlds, and much more. In some cases, they were applied for medicinal purposes. Most were highly individual. There’s even a 1706 record of Iroquois braves drawing their facial tattoos in a trading post account-book as a personal signature.

“Tattoos were something you had to earn, be vested in, endowed with,” Deter-Wolf said, “They were the equivalent of a medal or diploma.” Archaeologist James Duncan, who

has Osage and Cherokee ancestors, agreed. “Tattoos had the same function as we find with modern-day religious organizations and secular groups, like the military, that use insignia to differentiate themselves from the rest of society,” Duncan, a former director of the Missouri State Museum, said. On a higher symbolic level, “tattoos were an indelible mark of [Native Americans’] place in the cosmos.”

Warriors often had tattooed “scalp tallies” or other markings to indicate the number of enemies they had killed; some Native American groups believed braves gained powers

from their dead enemies. Duncan noted an upper-body tattoo borne by members of the Osage Bear Clan, who were keepers of the tribe’s war bundle, as late as the early twentieth century. The imagery included war pipes incorporated into a raptor-wing design—“pretty much standard for Osage warriors”—and running the length of the wearer’s chest is the Great Knife, which Duncan believes to be a representation of the Ramey knives unearthed at the Mississippian city Cahokia Mounds, in Illinois. The knives were found in burials on the chests of male skeletons. “Apparently what we’ve got there is an actual object during the Mississippian period that is expressed in a tattoo,” Duncan said. “It’s a metaphor for war and war honors. Though it exists physically in Mississippian times, it’s a tattoo in later times.”

Tattoos could also be highly symbolic, with a strong connection to oral tradition, explained Diaz-Granados, who is an adopted member of an Osage clan. For example, Osage women belonging to a special society had spiders tattooed on the backs of their hands and webs tattooed on their arms and legs that related to oral histories linking Grandmother spider to her creation of the Middle World, which, of the three Osage worlds, is the one occupied by humans. And Duncan described a male Osage tattoo that was “a model of the cosmos, with a red oak tree that is the axis mundi.”

Tattoos were so important that there are reports of people tattooing themselves in order to claim status they didn’t possess. “There’s evidence of false tattoos being forcibly removed, even flayed off,” said Deter-Wolf. He noted that tattooing took place within consecrated spaces, performed by elevated-status practitioners, who incorporated highly symbolic, ritually prescribed actions. Eighteenth-century French explorer Jean Bernard Bossu described one tattoo ritual, performed when he was adopted into the Quapaw tribe:

I sat on a wildcat skin while an Indian burned some straw. He put the ashes in water and used this simple mixture to draw the deer. He then traced the drawing with big needles, pricking me until I bled. The blood mixed with the ashes of the straw formed a tattoo which can never be removed. After that I smoked a pipe and walked on white skins which were spread under my feet. They danced for me and shouted with joy. They then told me that if I traveled among the tribes allied to them, all I had to do to receive a warm welcome was to smoke a peace pipe and show my tattoo.

Indigenous peoples of North America practiced three distinct tattooing methods: hand-poking with a sharp implement dipped in a pigment solution (or in some cases powdered pigment was rubbed into the punctures); incisions with flint, obsidian, or quartz blades, followed by pressing pigment into the wound; and a stitching method, where pigment-infused thread was pulled below the skin surface. By far, hand-poking is the most-documented in ethnographies, followed by stitching, which was practiced primarily in the Arctic and Pacific Northwest.

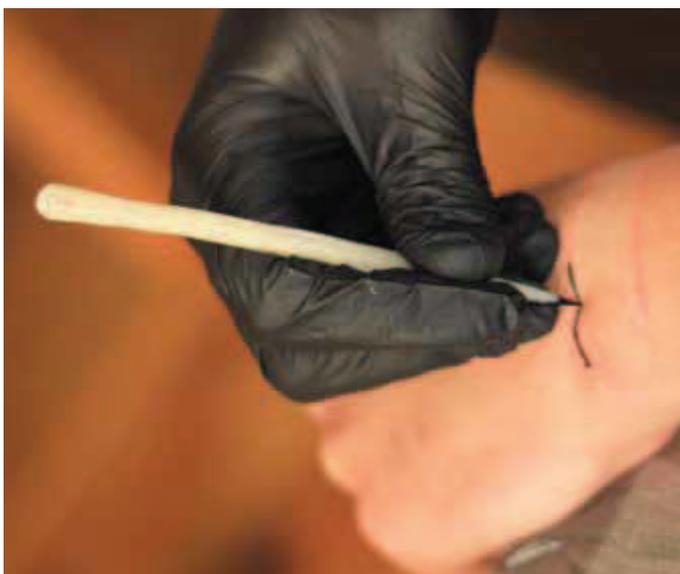
The most popular pigment was carbon, often from a

AARON DETER-WOLF



A turkey bone pigment applicator (A) and possible tattoo implements (B and C) were discovered in a 5,000-year-old bundle in central Tennessee. Magnification of these items shows possible red ocher pigment residues.

AARON DETER-WOLF/ETHAN FREEMAN



Aaron Deter-Wolf tattoos himself with a deer bone tool during an experimental archaeological evaluation.

tree that had deep significance for the clan or tribe. Post-contact, gunpowder sometimes took its place. There's also some evidence that red pigments were used. Accounts of Native Americans using cinnabar or vermilion to tattoo could be a case of Europeans applying familiar words to native pigments such as red ocher—or accurate reports of trade pigments.

ARCHAEOLOGISTS SEARCHING FOR TATTOO instruments shouldn't just be looking for "a single pointy bone," Deter-Wolf noted. That could be the equivalent of searching for a needle in a haystack of similar bone instruments, whose functions could be tough to distinguish. Instead, he said they

"should look for groupings, such as a sharp bone implement associated with pigment materials and containers or artifacts for mixing and holding pigment, all of which combine to make a larger toolkit. Because of the importance of tattooing, the pigments, other tools, and the regalia are as important as the needles."

Examples of tattooing tool kits, or bundles, were collected from Great Plains tribes, whose tattooing customs lasted into the late nineteenth century. Deter-Wolf believes that tattoo bundles were sacred—just like medicine bundles or war bundles—and were carried by tattooists who were the bundle-keepers. "A number of archaeologists have identified sacred bundles in the archaeological record of North

Identifying Tattooing Needles

How can researchers distinguish tattoo tools that may have been misidentified in the past? One way is to conduct use-wear analysis of these artifacts. In this version of experimental archaeology, researchers create tools employing traditional techniques, and use them in ways they believe ancient peoples did. They then search for microscopic wear patterns on the tools resulting from friction and compare those to the wear patterns on ancient tools.

Research by archaeologists Aaron Deter-Wolf and Christian Gates St-Pierre offers a breakthrough for identifying bone hand-poking tattoo tools. In 2009, Deter-Wolf conducted initial experiments, using tools made of bone, thorns, fish teeth, spines, and stone to tattoo pigskin, which is considered by forensics experts to be the best analog for human skin. He found that single-point bone tools worked best.

In 2011, Deter-Wolf followed up with an experiment using three implements made from white-tailed deer leg bones. The tools were dipped in ink and each used to tattoo lines onto pigskin by making a series of 200 punctures. He used a scanning electron microscope to analyze the tools before and after tattooing and discovered rounding of the tips and flattening of bone fibers, as well as smoothing of longitudinal striations that had been made during manufacturing. But a nagging question remained: Does tattooing the skin of a dead pig actually create the same micro-wear patterns as tattooing the skin of a live human? Deter-Wolf decided to conduct tests on human subjects, including himself. "I felt like I couldn't ask others to do it if I wasn't willing, myself," he said.

"We manufactured about a dozen tools out of white-tailed deer metatarsal, using authentic technologies," Deter-Wolf said, "soaked them in rubbing alcohol for a while, sharpened them up, and let fly." As a concession to modern health standards, they used commercial tattoo ink, rather than charcoal. His team inked different patterns, ranging from 250 to 1,500 punctures on four human subjects and duplicated those patterns on pigskin, using identical tools. (Deter-Wolf chose to ink two lines around his wrist—identical to the oldest known tattoos, discovered on Ötzi, the 5,268-year old "Tyrolean Iceman.") Microscopic analysis showed there was no discernable difference in the wear between the two sets of tools, indicating that pigskin is a viable analog for tattooing use-wear experiments.

Informed by Deter-Wolf's findings, Gates St-Pierre recently conducted rigorous experiments on pigskin, using three tools fashioned from the metapodial bones of white-tailed deer, with ink made from soot, water, and paraffin. One needle was used



Archaeologist Benoît Robitaille uses a bone needle to tattoo pig skin. Robitaille worked with Christian Gates St-Pierre.

for twenty minutes, while the others were each used for periods of five, fifteen, thirty, and sixty minutes, with microscopic study at multiple magnifications between each usage period.

Gates St-Pierre found distinctive micro-wear patterns emerging after only five minutes of use—including a bright polish and a rounding of the tip—restricted to the first tenth of an inch of the tool. "That's an important characteristic of tattooing needles: micro-wear is very limited and doesn't extend to the other portion of the object," he observed.

The absence of striations was an important distinction to Gates St-Pierre, as well, and can help distinguish tattoo tools from objects like awls, where striations result from making holes in dry hides. The wear on awls also extends much further, to roughly half an inch from the tip.

Armed with this new information, Gates St-Pierre examined dozens of bone implements from the Droulers site, a fourteenth-century Iroquois village in Southern Quebec. He discovered three tools that matched the use-wear criteria, including one that has possible blood residue. "We could speculate, we could suggest, but we really couldn't identify them before," Gates St-Pierre said. "When you look at the micro-wear, it's the most reliable way to identify tattooing needles." —Gayle Keck

CHRISTIAN GATES ST-PIERRE

America,” he said. “They were previously thought to be tool kits, but they’re much more significant than what we think of as a tool belt.” Some groups believed the bundles were “created by ancestors following the instructions of divine forces,” he added. “The Great Spirit taught them about the tools and the songs to be sung during tattooing.”

Oral histories identify tattoo bundles as collections of sacred objects used to harness and transfer spiritual energy. “In the case of tattoo bundles, that energy was collected from specific supernatural forces invoked during the tattooing ritual and, through the efforts of the tattooist, was directed into the body of the recipient at the tips of the needles,” said Deter-Wolf. “There are a couple of places in the archaeological record in the Southeast where groups of artifacts can be reasonably identified as tattoo bundles.”

One Late Archaic (ca. 3000 B.C.) site in central Tennessee was excavated by the Tennessee Division of Archaeology in 1985. Deter-Wolf believes a discrete cluster of artifacts from one feature at that site, identified by excavators as a “tool bag,” was actually a tattoo bundle that contained tattoo tools, bundle wrappings, pigment applicators and holders, and pigment remains.

The find included stacked halves of mussel shells, some with red ochre present in their cups, plus two obliquely-cut and polished right turkey radii (the smaller of two middle bones in a turkey’s wing), that are “highly polished on the tips, with pigment worked into that polish,” Deter-Wolf noted. “They may have been used to mix pigment in the shells and to apply it to a surface. There’s also a smaller grouping of turkey bone tools that a decade ago you might have called awls. They are leg bones, each one sharpened into a single point. Those tools were arranged alongside one another, suggesting they were grouped into a smaller interior wrapping. Two of them have pigment staining on the tips, as well.”

The implements also show use-wear on their tips, consistent with recent use-wear testing of bone tattoo tools by Gates St-Pierre (see sidebar). “Were they used to tattoo? Definitely maybe,” Deter-Wolf said. Seventeen canid toes were discovered on top of all the other items, and Deter-Wolf thinks they are part of an outer bundle wrapping made from wolf, dog, or coyote skin with attached feet.

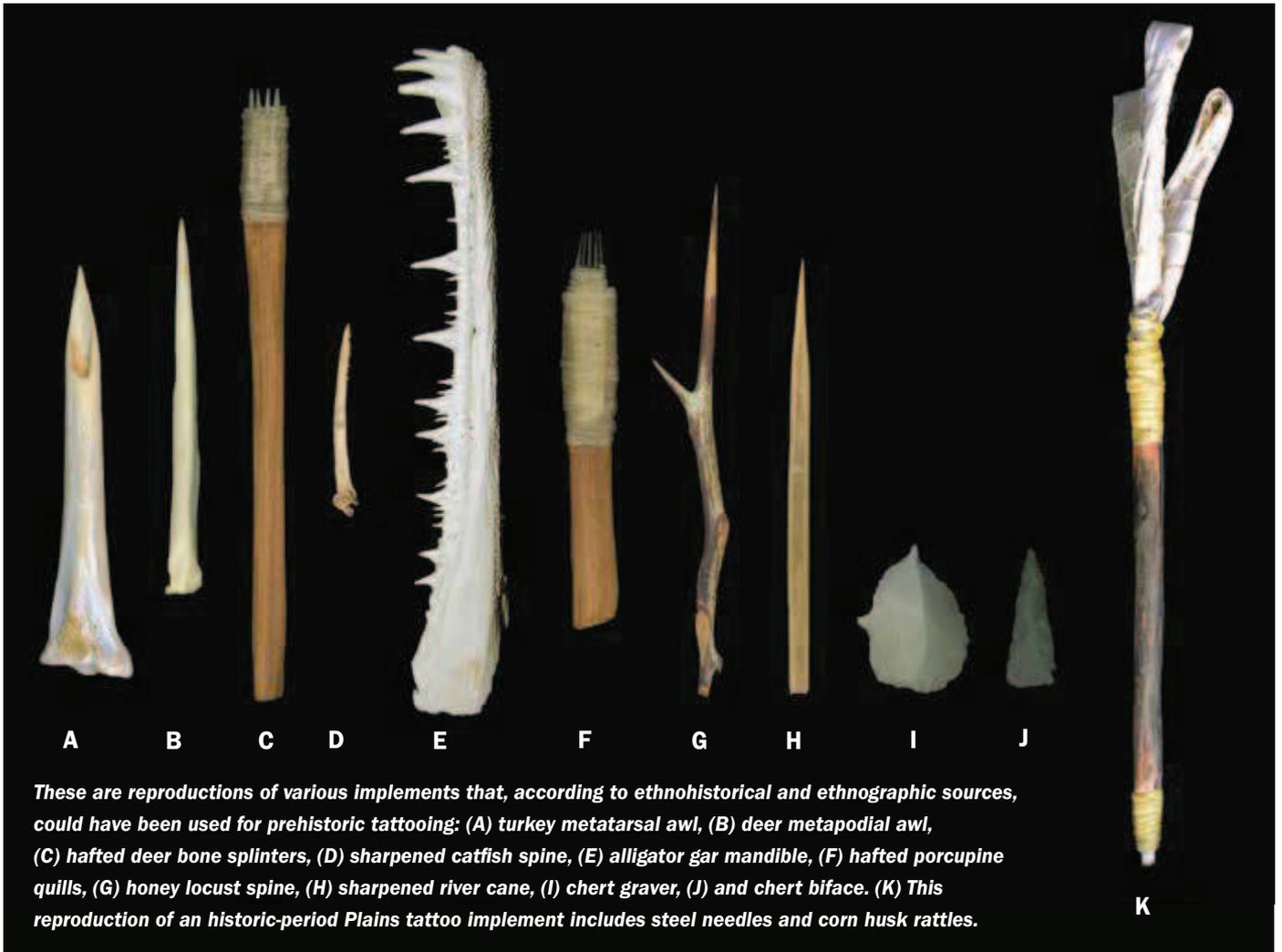
Mississippian burials at Koger’s Island in northern Alabama also contain artifacts that may have been used for tattooing, including sharpened bone tools, mineral pigments,



This circa 1920 picture shows the tattooed Osage Chief Wa-tse-mon-in, who was also known as Wa-shin-ha.

and stone palettes as well as groupings that suggest some items may have been contained in biodegradable wrappings. However, Deter-Wolf is hesitant to describe them as tattoo bundles without further analysis.

ALTHOUGH TATTOOING WAS HISTORICALLY practiced on every continent, save Antarctica, a major question remains. As Deter-Wolf put it, is tattooing “the result of independent invention, in which thousands of cultures across space and time separately developed traditions of permanently encasing pigment within their skin? Or is it the result of diffusion,



AARON DETER-WOLF

These are reproductions of various implements that, according to ethnohistorical and ethnographic sources, could have been used for prehistoric tattooing: (A) turkey metatarsal awl, (B) deer metapodial awl, (C) hafted deer bone splinters, (D) sharpened catfish spine, (E) alligator gar mandible, (F) hafted porcupine quills, (G) honey locust spine, (H) sharpened river cane, (I) chert graver, (J) and chert biface. (K) This reproduction of an historic-period Plains tattoo implement includes steel needles and corn husk rattles.

which, like the creation of art and the desire to decorate the body, originates far back in the history of our species?” He added, “The former might explain regional and cultural differences in tattooing technologies, while the later might suggest it is more of a hardwired, universal behavior.”

Robitaille, who believes tattooing traveled to the Americas from East Asia, said it’s likely “that the paleoarctic ancestors of modern day Arctic peoples brought stitch tattooing with them from Asia into the North American continent, where it is unlikely that it was repeatedly re-invented—hence a unique origin in Asia for the tattooing traditions of Arctic peoples.”

In 2016, archaeologist Owen Mason uncovered what he and Lars Krutak, an anthropologist who studies tattooing, believe to be the oldest prehistoric tattooing implement yet found in the Arctic, a circa A.D. 1100 tool with “a wood handle, baleen lashing, and a bone point that closely resembles historic in-line hand-poking tools collected in Canada and Greenland at the turn of the twentieth century,” Krutak said. It was excavated from a Thule culture house at Cape Espenberg, in western Alaska.

Robitaille, who combs Internet resources in search of misclassified tattooing tools, predicts that more discoveries are forthcoming. “I think people are going to go back and

find tattoos [on preserved bodies] that we can’t see with the naked eye, due to skin darkening—using UV cameras, for example.”

Native Americans are rediscovering their rich tattoo heritage, too. Tattoo artist and indigenous studies scholar Dion Kaszas, of Métis and Nlaka’pamux heritage, practices traditional hand-poking and stitch tattooing in British Columbia, Canada. “Sometimes, as indigenous people, we are invisible,” Kaszas said. “But when we get these ancestral marks, because they’re so different from anything else in modern tattooing, we become visible to everyone else as an indigenous person.

“Today in some ways, we still tattoo for the same reasons that our ancestors did,” he explained, “to declare to ourselves and the world that we are proud to be Nlaka’pamux or Inuit or Cree, and we are confirmed in that identity. I’ll take our people out onto the land and we’ll actually tattoo at pictograph sites. I’ll tattoo the picture at the site where it’s drawn. We are stitching ourselves back together, ourselves and each other. We’re stitching ourselves back to the land, reconnecting ourselves to each other and the land.”

GAYLE KECK has written for National Geographic Traveler, AFAR and The Washington Post. Her article “An Instrument for the Ages” appeared in the Fall 2017 issue of American Archaeology.