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Ancient Andean Tattooing Practices

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ANCIENT ANDEAN TATTOOING PRACTICES

by

Madison Auten

A Thesis Submitted in

Partial Fulfillment of the

Requirements for the Degree of

Master of Science

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ABSTRACT
ANCIENT ANDEAN TATTOOING PRACTICES

by

Madison Auten

The University of Wisconsin—Milwaukee, 2018
Under the Supervision of Professor Jean Hudson

This thesis explores the practice of tattooing in the ancient Andean world focusing on Peru. I ask the question: What can we learn about how people in the ancient Andean world used tattoos? For example, who were the people receiving tattoos, where on the body were tattoos located and what did they depict? To address this, I collected data on tattoos preserved on human remains. Mummies originating from Peru were examined and their tattoos were photographed. The mummies I examined come from collections in three museums in the United States, including: the Milwaukee Public Museum (MPM), the Field Museum (FM) and the Arizona State Museum (ASM). The goal of this thesis is to gain a better understanding of the practice of tattooing in the ancient Andean world, exploring the bodily locations and stylistic content people used for tattoos.

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Chapter 1: Introduction

Tattoos are a form of bodily decoration, and bodily decoration appears to be a widely practiced and ancient human activity. Ornamentation is one of the earliest forms of bodily decoration visible in the archaeological record; it is known to be present for at least the past 75,000 years in the form of beads (White 2007). Tattoos are a distinct type of bodily decoration as they alter the body of the individual in a more permanent way than do beads or other transferable types of decoration, such as pendants, feathers, or clothing. Human remains from prehistoric times have been found with evidence of tattooing; the earliest example is the famous Ötzi case from the Italian-Austrian Alps dating back to about 3370-3100 BCE (Deter-Wolf et al. 2016). Archaeological cases of tattooed skin have wide distribution; they have been recovered in South America, North America, North Africa, Asia, Europe, the Arctic, Siberia and the Philippines (Krutak and Deter-Wolf 2018). Tattooing continues to be popular today. The 2013 Pew Research Center report calculated that over 45 million people have tattoos in the United States alone. Tattooing is clearly a widespread practice with considerable antiquity. What can it tell us about the lives of people in the past?

The practice of tattooing has a diverse religious, cultural, and artistic heritage. Tattoos are polysemic and can represent a range of aspects of identity, such as affiliation, individuality, gender, social status, and descent (Cagigao et al. 2013, Krutak and Deter-Wolf 2018). Through individualized traits, tattoos can reflect “individual biographies” (Della Casa and Witt 2013). Tattoos enable a person to visually communicate to other people a wide array of information, such as their

accomplishments (for example in warfare), and important events in their lives (Campbell 1993, Gröning et al 2002, Osterud 2014). Permanent body art is a statement to others about the self and can communicate the evolution of an individual's identity over time. Della Casa and Witt suggests that "The poles of personal identity can be seen as individual identity (self-interpretation) on the one side, and social identity (social identification) on the other side" (2013:11). Tattoos thus provide the anthropologist with a unique way to study both the individual and the various social groups with which they were identified. Ancient tattoos, preserved on the skin of human remains, allow us to extend this study into prehistory.

Evidence of tattoos are apparent when human skin is preserved and that only happens in certain conditions. Ötzi, a well-known naturally preserved mummy was found in the Italian Alps. Snow and ice from a glacier dehydrated the body, which helped to preserve the skin, organs and bones of the individual (Samadelli et al. 2015). In northern Europe, many mummies have been discovered in peat bogs and due to the cold, wet and anaerobic environment, they are remarkably preserved, especially the skin (Lynnerup 2015). In Egypt, the dry, hot climate and chemical composition of soils aided in the natural mummification of individuals. Ancient Egyptians also had other methods of mummification which included embalming and wrapping bodies in linen (Isidro and Herrerin 2017). The Andean region of Peru provides an ideal setting for studying ancient tattoos because it has an arid coastal climate which preserves human skin and several cultures practiced tattooing (Allison et al. 1981). This thesis will focus specifically on the practice of tattooing in the ancient Andean world and the physical evidence of tattooing preserved on human skin. I will begin by reviewing some of the

research that has been conducted on ancient tattooing, both in the Andean part of South America and more widely.

The Archaeology of Ancient Tattooing

If we look at the broader topic of the archaeology of ancient tattooing, the book *Ancient Ink* is of extreme relevancy. Deter-Wolf and Krutak (2018) provide the first comprehensive edited volume on the archaeology of tattooing. Deter-Wolf is a prehistoric archaeologist for the Tennessee Division of Archaeology and researches foodways archaeology in the Southeastern United States as well as the archaeological remains of tattooing on a more global scale. Krutak is an anthropologist, photographer, and popular writer, who has for decades conducted research on the relationships between tattooing, material culture and spirituality. *Ancient Ink* (2018) is an edited volume with a total of 19 chapters broken down into three separate parts. This literature review will briefly touch on each chapter.

Looking at different areas of the world this book examines art, tattooing tools, and tattooed human remains. The editors state that the volume will explore how humans have used their skin to visually show value and knowledge as well as to alter identity through the use of tattooing, thus contributing to the larger field of tattooing in antiquity.

The first section of the book looks at skin that has been purposely tattooed and is evidenced in preserved human remains. Freidman examines tattooed mummies from

the sites of Gebelein and Hierakonpolis in Nubia and Egypt. She considers the location of the tattoo on the body and its visibility, tattooing tool kits, and artistic representations of tattoos as seen on figurines (2018:11-36). She argues that tattoos may have been used as a social identifier. Salvador-Amores considers tattooing traditions in the Philippines, combining archaeological evidence in the form of mummified human skin with historical accounts and contemporary traditions (2018:37-55). Krutak briefly discusses the reappearance of Filipino and Ibaloi tattooing traditions in the Philippines (2018:56-61). Authors Piombino-Mascali, Beckett, Albinion and Shin examine the mummification of the Kabayan mummies from the Philippines (2018:62-65). They argue that since tattoos can be telling statements about the events of individuals in life, mummification is a way of preserving this crucial information. Pankova discusses the intricate tattoos representing fauna on mummies from Siberia of the Pazyryk and Tashtyk cultures (2018:66-98). This study did not reveal any function or meaning behind the animal tattoos but did explore the similarity and differences between the tattooing of both cultures, concluding that these ancient people had cultural interactions. Dale and Krutak write about the modern revival of Neo-Pazyryk tattoos from artists around the world (2018:99-106). Angel discusses a collection of tattooed skin at the Wellcome Collection in London by looking at past European tattooing practices as well as implications for future research (2018:107-129). Krutak and Deter-Wolf highlight the work done by the *Foundation of Art and Science of Tattooing* and *Save My Ink Forever*, which work to save the tattooed skin of willing modern individuals for future generations (2018:130-136).

The second section of this volume discusses tools found archaeologically that have been used to tattoo human skin. Zidarov looks at the start of tattooing in southeastern Europe and attempts to identify bone needle-like tools from Romania that could have been used to tattoo skin in the past (2018:137-149). Krutak discusses the documentation of Balkan tattooing traditions by modern tattoo artists and teachers (2018:150-158). Furey provides an interesting breakdown of the archaeological materials possibly used to tattoo in Oceania (2018:159-184). Krutak writes about the revival of Papua New Guinea tattooing traditions (2018:185-192). Deter-Wolf, Robitaille and Walters (2018:193-209) look at the mistaken identification of tattooing tools from North America and examine ways in which researchers can determine the technological forms and identification of tattooing tools. Krutak researches modern Native American tattoo wearers from the eastern United States and in Canada to understand tattoo revitalizations and its relationship with decolonization (2018:201-214). Yablonsky (2018:215-230) examines recent discoveries of tools and media showing early evidence for tattooing in Eurasia. Deter-Wolf and Clark (2018:231-242) write about the interesting implications of use wear analysis as a technique to reexamine collections of tattooing tools. The researchers even put this to the test and tattoo human and pig skin using bone tools they fashioned to further understand the microwear signatures.

Though not discussed in *Anicent Ink* Krutak (2008) briefly discusses tools used by the Chimu, suggesting they applied pigment with “various types of needles (fishbone, parrot quill, spiny conch) which have been found in mummy burials. The technical application of tattooing was a form of skin-stitching, and it has been suggested that women were the primary tattoo artists” (Krutak 2008). It is also discussed that the

Chimu may have used the juices of a fruit called the Genipap for pigment which is also used for tattooing and body paint among historic and modern people of South America, such as the Jivaro and Mundurucu of the Amazon (Krutak 2008).

The last part of this book is focused on art that depicts human body decoration. It is noted that anthropomorphic figures can be depicted on ancient textiles and ceramics, and as figurines, and that such figures may exhibit markings on their skin; these markings may represent tattoos, although alternative interpretations, such as clothing, body paint, and scars are debated. Renault looks at art from ancient Europe and attempts to determine which markings on the human bodies shown can be determined to be tattoos versus body painting (2018:243-261). Krutak examines ivory dolls from the Bering Strait to discuss the possibility of depicted tattoos (2018:262-285). This discussion is then supplemented with a study of Alaskan tattooing traditions, identity, value, ritual aspects and revival (2018:286-294).

This book is an important summary of diverse efforts to study ancient tattooing and to understand it as a crucial form of "...knowledge transmission, a visual language of the skin whereby culture is inscribed, experienced and preserved in myriad specific ways" (Krutak and Deter-Wolf 2018:8). Research on ancient tattooing was almost nonexistent before 1990. The publication of *Ancient Ink* in 2018 marks the beginning of a more comparative and interpretive approach to the archaeological study of ancient tattooing. The editors have brought together researchers working in different parts of the world, including areas of Europe, Asia, Africa, South America, and North America. The contributors use a variety of methodological and theoretical approaches. Key interpretive themes include the use of tattoos to assess shared heritage or interaction

spheres between different cultures, and to identify social identities and life events of particular individuals.

Ancient Andean Tattooing

The purpose of this section is to give the reader a better understanding of what has been written about ancient Andean tattooing from an archaeological perspective, with a special focus on ancient Peru. First, I discuss the nature of the published literature and limitations of this review. I then review the broader topic of past and current academic discussions about ancient tattooing in general. Finally, I examine the published literature specific to Peruvian tattooing and summarize some of the hypotheses about cultural traditions in who was tattooed, what parts of the body were tattooed, and what types of imagery were used.

When ancient Peruvian tattoos are reported in the archaeological literature, the information is usually limited to a few sentences or paragraphs in a more general archaeological study, making it challenging to achieve a comprehensive review. I used a variety of search terms: tattoo, *tatuaje*, ancient tattoos, tattooing tools, tattooing methods, tattoo symbols, iconography, body modifications, body ornamentation, body paint, body decoration, Peru, Peruvian tattoos, ancient Peruvian tattoos, and South American tattooing. I used several different search engines and databases: Google, Google Scholar, Google books, UWM Libraries webpage, JSTOR, Academia.edu, ResearchGate.net, ProQuest, and WorldCat. I also used the reference sections of all my initial sources to expand my search. In this section I included the published literature

mainly in English that was relevant to my thesis topic of ancient Peruvian tattooing. The available studies that have been published on the subject are tremendously important to this thesis and will be extensively discussed.

For the purposes of this thesis I have focused on English language publications; research on Spanish language publications are beyond my current scope but would be valuable to pursue in the future. Throughout this thesis I have taken the approach of using the English version of locational names, thus omitting accents relevant in the Spanish forms of the words; thus I use Peru rather than Perú, and Chimu rather than Chimú. However, when I do borrow the Spanish or Quechua form of a word, I italicize it and include any appropriate accents. I do include three articles in Spanish (Allison et al.1981; Ruiz Estrada 2012; Maita and Minaya 2014) due to their extreme relevance to my thesis topic.

One of the earliest comparative studies of Andean tattooing was published by Allison et al. (1981). It presents a survey of 343 mummies, 22 of which were tattooed. Their total sample includes 11 dated collections of mummies from three coastal locations, Ancash and Ica in Peru and Arica in Chile. Most of the tattooed specimens were associated culturally with Chimu from the Late Intermediate Period in the Casma Valley region of the Department of Ancash. The other tattooed specimens were attributed to either the Ica or Inca from the Late Horizon and Colonial Period in the Department of Ica. Other cultures represented in their sample of mummies, but showing no evidence of tattoos, included Paracas, Nazca, Wari, and Tiwanaku. For the tattooed specimens Allison et al (1981) present tabled data on sex, age, and body part

represented, as well as body stencils showing the placement and stylistic details of the tattoos.

Allison (1996) also published in English on the mummies from Chile and coastal Peru. While the publication discusses a range of things like environment, preservation, pre and postpartum skeletal changes, and arsenic poisoning, I focused specifically on the tattooing section. Allison and a team of archaeologists excavated about 50 graves a year from cemeteries covering the region from the Casma Valley in the north to the Tarapaca Valley in the south. The individuals uncovered were studied to determine diet, health, social structure and position in society. He notes that the Ica and Wari people had tattooing on the arms, wrists, legs and face. He also states that 30% of the population in the Casma valley had tattoos. These tattoos were found on the arms, legs, chest, back and face in designs representing birds, fish, and geometric shapes.

The oldest tattoo known from South America was uncovered by Allison's team. The tattoo was a thin line on the upper lip of a male, similar to a mustache. Originally it was stated that this tattoo belonged to a man who was a member of the Chinchorro culture and dated to 6,000 BP. Later, however, it was suggested that this early date represented a misreading of radiocarbon data (Deter-Wolf et al. 2016). The mummy, later identified as MO-1 T28 C22, actually dates to 2563-1972 BCE (Deter- Wolf et al. 2016).

Verano (1997), in a review of paleopathological research in Andean South America, includes tattooing as one among several traditions of cultural modification of the body. He notes that there is mummified evidence for tattoos along the central and

north coast of Peru dating from at least 1500 BP and includes a photo of the tattooed right arm of a young adult female from the site of Pacatnamu. Pacatnamu is located on the north coast of Peru in the Jequetepeque Valley and is associated with both Moche and Chimú cultures.

Pabst et al. (2010) published an article on the substances found in the tattoos of a Peruvian mummy who lived 1000 years ago in southern Peru at Chiribaya Alta. The researchers looked at two areas of this mummy that were tattooed and state that both decorative and therapeutic tattoos were found. The decorative tattoos found on the hands, arms and lower left leg were identified as resembling reptiles, birds and other shapes. Tattoos used for therapeutic purposes were found in overlapping circles on the neck and upper back of the individual (Pabst et al. 2010).

The sex of the mummified individual was determined to be female by examining the DNA. The substance found in the tattoos were then examined using microscopic analyses. The decorative tattoos on the arm indicate that soot was used to stain the tattoo. The neck tattoos indicated that charcoal and ash from plant material, possibly herbs, were used to stain the tattoos. The authors also found that the neck tattoos on this mummy align with acupuncture points. They argue that form, location, visibility, size, and shape of a tattoo, in combination with the organic composition of the staining particles, can help classify a tattoo as either decorative or therapeutic (Pabst et al. 2010). When discussing the tattoos with a modern-day Peruvian shaman, they were told that the tattoos on the neck were possibly done as a “strengthening ceremony of an upper-class subject” (Gill-Frering et al. 2013:3262). The main conclusion that the

authors leave us with is the variations in the dyeing materials used in decorative versus therapeutic tattoos.

Ruiz Estrada (2012) published *Tatuajes prehispánicos de Huacho, valle de Huaura, Lima* which I translated for the purposes of this thesis. He focuses on a single cemetery in the Huaura Valley in the Department of Lima. These Huaura Valley mummies are associated with the Chancay culture and the Late Intermediate Period. The author examines the tattoos, photographs them and then renders them on to body stencils.

In the cemetery of Cerro Colorado in Huacho several individuals were identified as having tattoos. These included a chest with tattoos in a dotted circle pattern, another chest with birds, a hand with tattooed lines and a zigzag pattern on the wrist, another hand tattoo with geometric shapes and depictions of fish, felines and birds, an arm with tattooed circles and fish, a leg with a tattooed design of flying birds with geometric designs, another leg with depictions of two felines and geometric designs, and a foot with birds and feline like figures and geometric designs.

This study reveals that individuals of all ages and genders were subject to tattooing with some emphasis on adult males. The age differentiation led the author to believe that the tattoos indicate a certain event that occurs in the lifetime of the individuals. The color of the tattoos was a dark blue. The imagery included fauna like birds, fish, deer and felines, as well as geometric motifs such as circles, lines, triangles, flowers, and zigzags. The majority of tattooing represent geometric designs which are similar to iconography seen in Chancay pottery and textiles (Ruiz Estrada 2012).

Though most of the representations are of various geometric designs, the zoomorphic imagery can be linked to fauna found locally on the coast. According to the author the practice of tattooing in the valley of Huaura may have begun in the Middle Horizon (Vivar Anaya 2008 as cited in Ruiz Estrada 2012). Placing this in a larger chronological context, the author mentions that tattooing may have been present in other areas during the Early Intermediate Period within Moche society and even earlier within Paracas society (Tello and Mejia 1979 as cited in Ruiz Estrada 2012).

Maita and Minaya (2014) examined a set of 20 mummies from the Paracas Cemetery of Wari Kayan excavated by Tello in the 1920s. The mummies are thus culturally associated with the Paracas culture and a span of time that includes parts of the Early Horizon and the Early Intermediate Period. They noted that the most common locations for tattoos were the hand, fingers, and forearm, and that there were more women than men in their sample of tattooed individuals. They suggest that many of the tattoo designs, which include fish, birds, and geometric patterns of circles and lines, are similar to those seen in regional textiles and ceramics.

Gill-Frerking, Begerock and Rosendahl (2013) published an interesting chapter on the tattoos found on the mummified remains of an adult female who may have lived between CE 1200-1470. The mummy was recovered from the Chiu-Chiu site in modern Chile. The good state of preservation of the body allowed researchers to identify tattoos on the breasts and face. The researchers note that there is a lack of contextual information such as any burial goods that may have been placed in her grave. The article focuses on interpretations of the meaning of the tattoos. It considers each tattoo separately and lists possible alternative interpretations. First the facial tattoo is

examined, located below the left lower lip and shaped like a circle with a dot in the middle. The breast tattoo is located just above the nipple and shaped like a circle with a dot in the middle. One interpretation that the authors suggest is that the woman may have had an infection such as ringworm and that the tattoo may have been given to treat the affliction. This is also given more weight due to a large scar on the left breast area. Alternatively, the tattoo may have been given to represent surviving a great trauma.

The shape of the tattoo also resembles the general form of an eye and therefore leads the authors to consider the possibility of a rite of passage. The last interpretation is that the tattoo could be a sign of fertility. The authors list a few categories of meaning to consider when interpreting tattoos: therapeutic, cosmetic, ceremonial and other cultural reasons. Therapeutic purposes could not be confirmed. Cosmetic reasons were considered due to the visible location of the facial tattoo however, it was pointed out that the tattoos were very simple to be decorative. Ceremonial purposes were also discussed by pointing out the comparison of facial tattoos on women during puberty in other cultures. Other cultural reasons like social identity and affiliation were not eliminated but could not be confirmed. The authors concluded by saying that all interpretations must be considered and that one tattoo could embody many different meanings/purposes.

Cagigao, Peters, Lund and Ayarza (2013) published a chapter on body modification in the south coast of Peru, specifically in the Paracas Necropolis, 2000 BCE. The authors do not restrict themselves to tattoos. Cranial modifications, piercings, tattooing, body and face paintings are discussed, first by defining them and then

discussing the earliest evidence for them. The authors point out that body painting and facial modification after death was common in the Chinchorro cultures and that cranial modifications started in the Andean region by at least 3800 BCE (Cagigao et al. 2013).

The Paracas Necropolis is described as a cemetery for people of elevated social and political status, as inferred from body preparation, which included extensive wrapping in textiles and accompanying artifacts, such as headdresses, fans and staffs. Some adult males had war clubs and spears. The authors cite earlier studies that noted tattooing or body painting on the hands of individuals buried at the cemetery and artistic representations on textiles and ceramics of figures with skin markings. The authors of this study identified five females and four males with extensive markings on the skin. Tattoos were found on the limbs, hands and even on the head of the mummies. The tattoos took the form of geometric shapes, lines, dots, and possibly birds and fish. About half of these individuals show evidence of cranial modification. There is even evidence of body painting which was distinguished from tattooing through microscopic examination.

The adult males had extensive grave goods with elaborate textiles, headdresses and feathered objects. Four of the five females were older than 40 years of age and had elaborate textiles and feathered artifacts found with them. Other ornamentation, including masks, earrings, and band-like bracelets were also found with these individuals. The only difference between males and females with body marking that the authors observed was that females had designs on the lower limbs, such as lines that travel down the thigh to the lower legs. The authors believe that body painting was more prevalent than tattooing and would be displayed during life for events and even in death

in the transition to the role of an ancestor. The authors notice that figures in textiles recovered from the necropolis show body painting that are very similar to the markings found on the buried individuals. In the conclusion, the authors stated that the body modification at the Paracas Necropolis was used to show affiliation to a social group.

One other important source of information about known cases of Andean tattoos should be mentioned here. As part of an article clarifying that the oldest documented tattoos belonged to the European body known as Ötzi rather than a South American Chinchorro burial, Deter-Wolf and his colleagues (2016) published a data table summarizing known prehistoric cases of tattooing world-wide. Of the 49 cases listed, 22 represented prehistoric sites in Peru or Chile. Many of these have been detailed above. All are included in the summary table below.

To summarize, this review of published literature on Andean tattooing is not meant to be comprehensive, but rather to provide a sense of background for the museum specimens that are the focus of this thesis. I attempt here to synthesize some of this information in map and table form. Figure 1.1 illustrates the Andean region of South America and the locations for which prehistoric tattooing has been reported. Table 1.1 below provides details per case to the extent these data were available. These data include the location, the number of individuals represented, sex and age, location of tattoos on the body, the associated archaeological culture, and the source reference.

Several patterns are notable in Figure 1.1. All the reported cases of tattooing are coastal rather than highland. This is true even for cultures with highland origins that later

expanded to the coast, such as Wari, Tiwanaku, and Inca. Mummification has been known to take place as far east in Peru as the *Chachapoyes* who lived above the river valleys of Utcubamba (Friedrich et al. 2010). However, no tattoos have been found on mummies from that region. Contemporary or recent tribes in the Amazon have been known to practice tattooing such as the *Mundurucú* and the native people of the *Gran Chaco* (Krutak 2008).

From the map you can see that that majority of published cases of tattooing are clustered along the coast of Peru more than Chile. There is a cluster of locations on the map surrounding the Lima area. These range from the Huaura Valley to the Rimac Valley. The frequency of reported cases seems to drop off in southern Peru, with a large gap between Ica and the border area of southernmost Peru and northern Chile. There are also relatively few recorded locations in northern Peru suggesting that the majority of reported ancient Andean tattooing cases occur on the central coast of Peru.

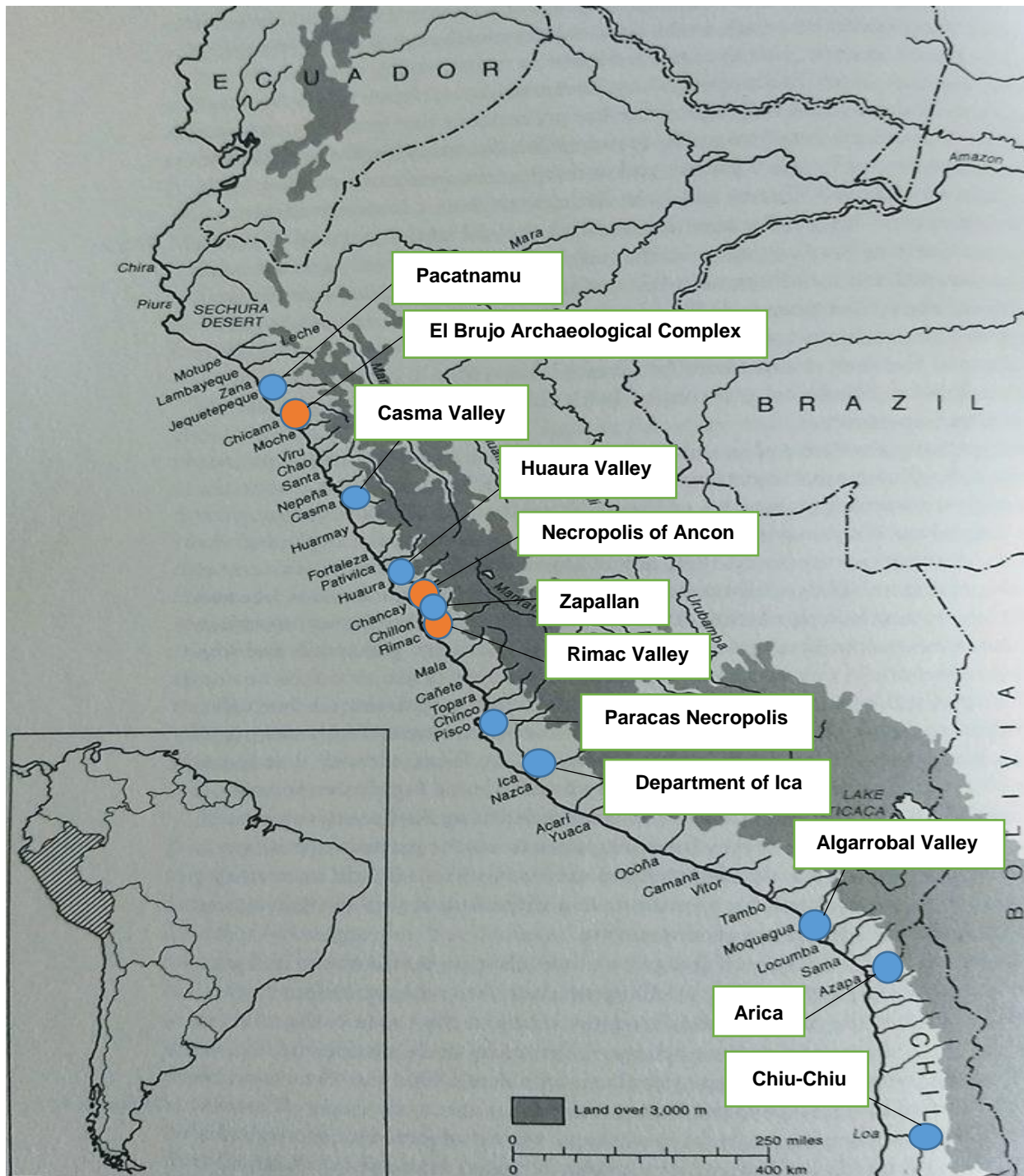


Figure 1.1: Map modified from (Moseley 2001:16) depicting the original locations of the tattooed individual samples in Table 1.1. The orange dots also represent the areas which the samples in my thesis research originated. Many sites in the Huaura Valley and especially around modern-day Lima fall under one dot rather than having multiple dots over lapping each other.

Table 1.1: Published data on tattooed mummies from the ancient Andean region.
 Modified from Deter-Wolf et al (2016:20), Table 1.1 and Deter-Wolf 2017.

Culture	Location	Number of Individuals	Sex/Age	Location of Tattoo	Reference
Chancay	Rontoy, Huaura Valley, Peru	1	Male/ Adult	Right Knee	Roach 2008
Chancay	Cerro Colorado, Huacho. Huaura Valley, Peru.	1	Male	Arms and Back	Ruiz Estrada 1998:6-7.
Chancay	Huaura Valley, on the site of Centinela, Peru.	1	Male	Face, Forearm, Hand	Vivar Anaya 2008, as cited in Estrada 2012 (a).
Chancay	Cerro Colorado, Huacho. Huaura Valley, Peru.	7		Arms, Legs, Hands, Chest/Torso	Ruiz Estrada 2012
Chancay	Cemetery 2, Huacho	1	Male		Ruiz Estrada 1990 as cited in Deter-Wolf 2017
Chancay	Zapallan, Peru	1	Female		Lothrop and Mahler 1957 as cited in Deter-Wolf 2017
Chimu	Huaura Valley, Peru	Multiple			Kutak 2007 as cited in Deter-Wolf 2017.
Chimu/ Casma	Casma, Valley	13	3 Female/ 3 Male/ 1 Female Adolescent /12 Adults.	Arms, Legs, Chest, Back, Face	Allison 1996
Chinchorro	El Morro	1	Male	Face	Arriaza 1988
Chiribaya	Algarrobal Valley, Peru. Currently at the Museo de Sitio El Algarrobal?	1	Male	Fingers	Reid 2001:241-242
Chiribaya	Chiribaya Alta, Peru	1	Female/ Adult	Hands, Arms, Lower Left Leg, Neck, Upper Back	Pabst et al. 2010
Chiu- Chiu	Chiu-Chiu, Chile	1	Female/ Adult	Breast and Face	Gill-Frerking et al. 2013
Ica	Department of the Ica, Peru	4	3 Female/ 1 Male/ Adults	Arm, Hand, Calf	Allison et al. 1981
Ica Colonial	Department of the Ica, Peru	5	Female, Adults	Arms, Wrists, Hands	Allison et al 1981.
Inca	Department of the Ica, Peru	1	Female	Arm	Allison et al 1981.
Inca	Huaca 37, Huaca San Miguel, Maranga, Peru	2 or more	M/F		Agence France-Presse 2016 as cited in Deter-Wolf 2017

Lambayeque	El Brujo, Peru	1			Franco et al 2007 as cited in Deter-Wolf 2017
Moche	Huaca Cao Viejo, El Brujo, Peru	1	Female/ Adult	Arm, Hands, Fingers	Franco 2015
Moche	Pacatnamu Jequetepeque Valley, Peru	1	Female/ 18 years old	Arms	Ubbelohde Doering. 1951: 225
Moche	Pacatnamu, Jequetepeque Valley, Peru	1	Female/ Adult	Right Arm	Verano 1997:248
Paracas	Paracas Necropolis, Peru	9	5 Female/ 4 Male/ Adults	Limbs, Hands, Head	Cagigao et al. 2013
Paracas	Paracas Necropolis, Peru	20	13 Female/ 7 Male 13 Adults/ 2 Elders/ 1 Adolescent	Common locations: Hand 21%, the Fingers 16 % and Forearm 14% (Maita and Minaya 2014)	Maita and Minaya 2014 as cited in Deter-Wolf 2017
San Miguel	Arica, Chile	Multiple	N/A		Allison 1996
Tiwanaku	Near Ilo, Peru	1	Male	Forearm, Knuckles, Neck, Legs	Krutak 2007
Wari	Department of the Ica, Peru	Multiple	N/A	Arms, Wrists, Legs and Face	Allison 1996
Ychsma	Pachacamac, Peru	Multiple			Herrmann and Meyer 1993, Eeckhout and Owens 2015 as cited in Deter-Wolf 2017
Yshma	Huaca San Pedro Cemetery, Armatambo, Peru	1	Female/ Adult (40-45 years)	Hands, Wrists, Ankles, Legs (Paint on Face)	Diaz Arriola 2015 as cited in Deter-Wolf 2017
	Necropolis of Ancon, Peru.	Multiple		Arms, Hands, Upper Torso	Reiss and Stübel 1880
	Possibly Ancon, Peru?	1	Female/ Adult	Arms	Alterauge et al 2013.
	Rimac Valley, Peru? Currently at: American Museum of Natural History	1		Right Arm, Hand and Wrist.	Morgan 1996
	Total	87	Female-40 Male- 22	Most Common-Arms	

Of the 87 cases documented in Table 1.1, both males and females exhibit tattoos, although more of the tattooed individuals are female. For those cases where age is noted, adults are more common than adolescents, and no children are mentioned. In terms of which body parts receive tattoos, there appears a strong preference for tattooing the arms, particularly from the forearms down to the fingers. Tattoos were also observed on face, neck, chest, back, and legs, but these were relatively rare. In terms of cultural affiliations, quite a few are mentioned: Lambayeque, Moche, Chimu, Chancay, Yshma, Paracas, Ica, Chiribaya, Wari, Tiwanaku, and Inca. Though some highland cultures are represented, the cases of tattooed individuals are all buried in coastal cemeteries. However, many of these are represented by only one or two known cases. The cultural areas and associated time periods where tattooing seems to have been an especially visible tradition are the Casma Valley during the Late Intermediate Period (Chimu), the Lima area during the Middle Horizon and Late Intermediate Period (Ancon, Chancay and Yshma) and the Ica area during the Early Horizon and Early Intermediate Period and (Paracas and Ica). These are, at best, starting impressions. Tattooing has only recently become a focus of study, and few systematic inventories of Andean mummies have been made with tattoos in mind.

Thesis Organization

The thesis is organized as follows. Chapter 2 reviews the general framework of Andean archaeology relevant to this study, particularly the sequence of prehistoric cultures along the arid coast and discusses the specific archaeological contexts for the

museum collections I examined. This includes all the background information pertinent to understanding where my museum samples came from originally and how they became part of the particular museum collection. Chapter 3 reviews the methods I used to identify potential museum collections and how the data on the tattoos was collected and analyzed, and why I chose certain methods. Chapter 4 presents my results. It illustrates the tattoos with photographs and body stencils and summarizes the data collected per specimen. Chapter 5 discusses my results in a wider context of Andean traditions and considers the potential for continued research on ancient tattooing. The thesis concludes with a series of appendices which document all data collected on the study specimens, including copies of all photographs, stencils and original data collection sheets concerning the museum documentation of the specimen.

Chapter 2: Archaeological Context

In this chapter I present the archaeological contexts of the three cases of Andean tattoos presented in this thesis. All three cases represent mummified human remains recovered archaeologically from sites along the arid coast of Peru. Something to note is that in all three cases, professionals with a background in archaeology were involved in the original collection and donation to the museums, although precise provenience details were not always recorded. To place these, as well as some of the other coastal Andean tattoos discussed in the published literature reviewed in Chapter 1, in the larger trajectory of Andean traditions of mummification, I begin with a review of Andean prehistory. I then discuss the museum samples in detail, including some of the deduction that was involved in linking the sample to its region of origin. I conclude the chapter with a brief summary of what is currently known about the distribution of tattooing as a cultural practice in Andean prehistory.

Andean Prehistory

The Andean region can be defined both geographically and culturally. Geographically, the word “Andean” sometimes refers to the Andes Mountain range, which spans the west coast of South America from Venezuela and Colombia in the north to Chile and Argentina in the south. However, for archaeologists, and for this thesis, the term Andean carries a cultural meaning and represents a vast region whose prehistory evolved along trajectories that set it apart from some of the surrounding regions. This prehistoric cultural sphere culminates at the end of the Inca Empire,

approximately CE 1532. For the purposes of this thesis, I define prehistoric as all times prior to written language.

Geographically, this cultural region includes the Central Andes, located in the modern nation of Peru (Figure 2.1). It encompasses not only the mountains themselves, but also parts of the tropical jungles to the east and the slopes to the west, extending down coastal deserts of the Pacific coast. It is home to one of the driest deserts on the planet, a factor of great relevance to the study of prehistoric tattoos because the aridity allows the preservation of even the most delicate of buried organic materials, including human skin (Moore 2014). Many rivers run down from the Andes through the desert valleys of the Andean region. These valleys became important centers of prehistoric settlement and shared cultural identity, fostering the exchange of goods, ideas and artistic styles between people. It is in these valleys that we see the rise and decline of many cultures in the Andean region throughout the phases of prehistory.

Culturally this region includes a prehistoric past that began with early hunter-gatherer-fishers in the late Pleistocene and evolved through a series of distinct cultures, including the Nasca, the Moche, the Wari, the Tiwanaku, and the Chimu, among others. When the Spanish arrived in CE 1532, the entire region was part of the Inca Empire. For the purposes of this thesis, I will focus on cultures with known coastal settlements and cemeteries, as these represent the primary sources for what we currently know about Andean tattooing practices. First, however, I present a general overview of Andean prehistory and its major time periods (Table 2.1).

Table 2.1. Key time periods, dates, and cultures in Andean prehistory (following Moseley 2001; Slovak 2007; Quilter 2014).

Period	Dates	Cultures
Archaic/Preceramic	14,000 - 1800 BCE	Chinchorro
Initial/Formative	1800 - 900 BCE	Cupisnique, Chiripa
Early Horizon	900 - 200 BCE	Chavin, Paracas
Early Intermediate Period	200 BCE - CE 650	Nasca, Moche
Middle Horizon	CE 650 -1000	Sican, Wari, Tiwanaku
Late Intermediate Period	CE 1000 -1470	Chimu, Chancay, Ychsma, Ica
Late Horizon	CE 1470 -1534	Inca

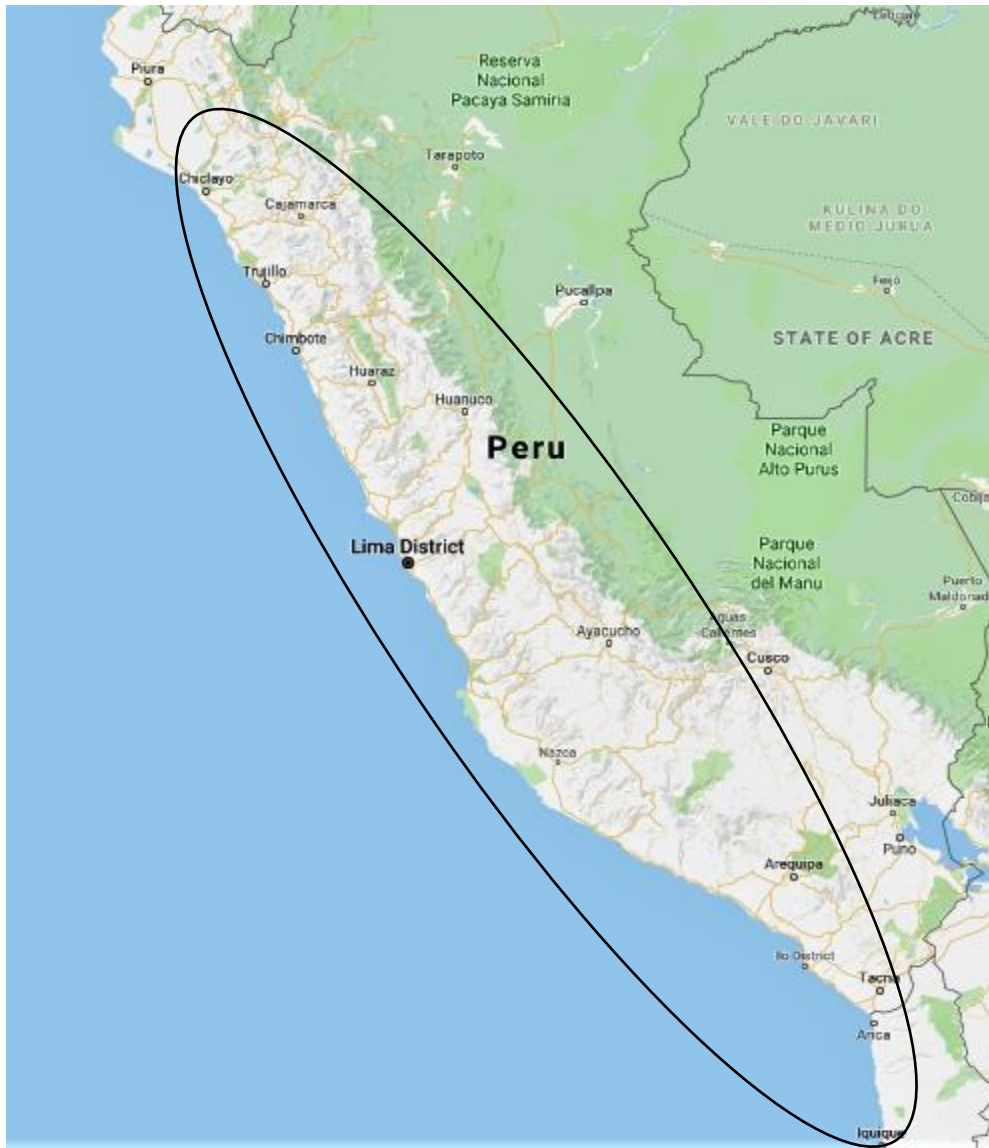


Figure 2.1 Map showing the core of the Andean region in Peru; the area circled encompasses the region from which my samples and related samples originate. Modified from Google Maps, accessed 12/5/2018.

The Preceramic Period ranges from roughly 14,000-1800 BCE (Quilter 2014). This is generally a time after the arrival of the first people, as various hunter-gatherer-fisher groups were settling into their new environments, with various degrees of nomadism. Their cultural trajectories were diverse. By the end of the Preceramic we see experimentation with the domestication of plants and animals as well as ritual architecture and irrigation. We also see the emergence of cotton textiles. This is an aspect of special interest to this thesis since some Andean tattoos show remarkable design continuity with textiles. The Chinchorro mummies are associated with the Preceramic Period.

The Initial or Formative Period (1800 BCE-900 BCE) represents a time of transitions. Archaeologically it is marked by the introduction of ceramics. It is frequently associated with increased investment in ritual architecture, such as circular sunken courts, plazas, stepped platform mounds, U-shaped layouts, and ritual fire pits. Often co-occurring is increased investment in irrigation agriculture and agriculturally-based settlements in the interior valleys of the coast. In the highlands ritual architecture is also developing, but on a smaller social scale.

The Early Horizon (900-200 BCE) is characterized by Chavin-style iconography, with its fanged and taloned anthropomorphic figures, seen in stonework, textiles and ceramics throughout the central Andes. The highland site of Chavin de Huantar is considered representative of both this Pan-Andean set of icons in a ritual site context and the associated role of long-distance trade in creating shared rituals and meanings across the wider Andean cultural region, both highland and coastal.

The Early Intermediate Period (200 BCE- CE 650) is noted for the development of the first state level societies on the coast and diverse traditions of artistic expression. During this period archaeologists see the expansion of irrigation canals in the Moche Valley, the development of the *puquio* system in the Nazca Valley, and a general increase in the importance of agriculture. The Moche culture spreads from the Moche Valley north to the Lambayeque Valley and south to the Huarmey Valley. The Moche people constructed large platform monuments made of thousands of mudbricks, decorating them with murals of warriors, captives, and fanged decapitators (Moore 2014). The Moche are also famous for the sophistication of their ceramics and metalwork, and for the elaborate tombs of their ritual elite. While Nasca politics are less state-like, their ritual life and artistic traditions are remarkable, combining finely made polychrome ceramics and textiles, artistic themes involving trophy heads, and expansive geoglyphs forming geometric and animal shapes across the flat Nazca plain.

In the Middle Horizon (CE 650-1000) the Wari culture arose in the highlands and spread over the central Andes. The Wari are famous for their engineering of irrigation canals across rugged terrain and their development of terraced agriculture. Their political expansion saw the development of architecturally distinctive outposts with dedicated storage rooms and feasting plazas. Towards the end of the Middle Horizon another highland culture, the Tiwanaku, arose. The Tiwanaku, with their primary center near Lake Titicaca, are famous for their development of raised field agriculture around the lake, greatly increasing their agricultural productivity. The Tiwanaku, like the Wari, expanded, although their regional impact was more restricted, stretching into the Moquegua Valley in Peru and into the Atacama Desert in Chile (Moore 2014).

The Late Intermediate Period (CE 1000-1470) saw the rise of many other cultures, both large and small. On the north coast the Sican (or Lambayeque) and Chimú cultures developed. The Chimú eventually conquered the Sican and built an empire that spanned most of the north coast. On the central coast smaller regional cultures included the Chancay, the Ychsma, and the Ica-Chincha.

The Late Horizon (CE 1470-1534) saw the expansion of the highland culture of the Inca into the largest empire the Andean world had known, stretching from Ecuador to Chile, and from the highlands down to the Pacific coast. The Inca conquered the Chimú and influenced cultures all along the coast. They established colonies, took over major religious centers, and developed their distinctive system of roads and taxes. Associated with some of their coastal colonies are large cemeteries. The Spanish arrived in 1532 and had conquered the Inca by 1534 (Slovak 2007).

Of special interest to this thesis are those cultures and time periods known for their well-preserved dead, as these are where remnants of tattoos are most likely to be recovered. Among those cultures known to have practiced some form of ancestor veneration and to have produced mummies are: Chinchorro, Chavin, Paracas, Nasca, Gallinazo, Moche, Recuay, Lambayeque, Wari, Tiwanaku, Chimú, Chancay, Ica and Inca (Owens and Eeckhout 2015; Silverman and Isbell 2008). A few of these are known to have practiced tattooing, as detailed in Chapter 1. These include Chinchorro (Preceramic Period), Chavin and Paracas (Early Horizon), Nasca and Moche (Early Intermediate Period), Wari and Tiwanaku (Middle Horizon), Chimú, Chancay, Ychsma, and Ica (Late Intermediate Period), Inca (Late Horizon), and Colonial Period Ica and Inca.

The samples documented for my thesis may represent tattooing in the Chimu, Chancay, and Yschma cultures. The following sections detail each individual museum sample and present the evidence for their original archaeological context.

Milwaukee Public Museum Sample (A56903/23045)

A56903/23045 is a tattooed left arm in the anthropology collection at the Milwaukee Public Museum. It was collected during a museum expedition led by Lee A. Parsons in 1968 (Appendix A). Parsons was the Assistant Curator of Anthropology at the Milwaukee Public Museum from 1958 to 1968, and again from 1972 to 1973. He received his Ph.D. in Anthropology from Harvard University. He specialized in Pre-Columbian Art and he focused his career on the study of ancient Mesoamerica.

Unfortunately, there is no published record of the detailed itinerary of the 1968 expedition. However, the accession record for this arm (Appendix A) states that it came “From the North Coast of Peru Near the Site of Huaca Prieta” and refers to a “mound called Huaca de la Bruja near mouth of Chicama Valley” and “collected on the surface of a looted Chimu Cemetery”.

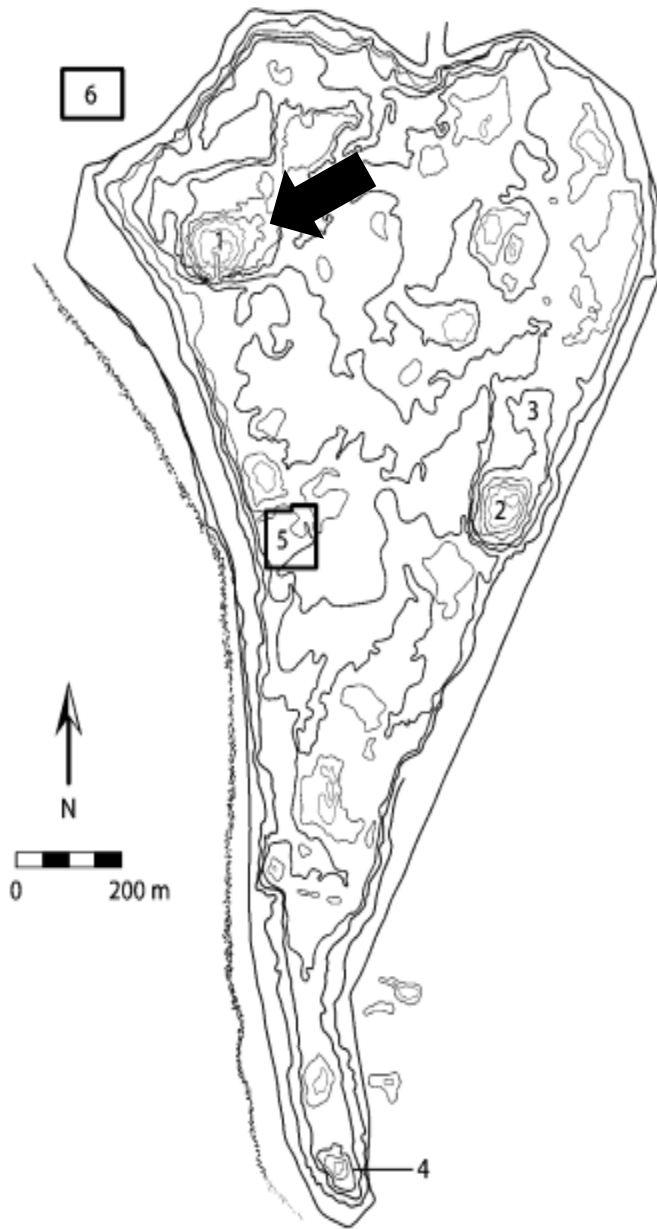
There is an archaeological complex currently referred to as El Brujo that fits the locational description (Figure 2.2). It is located on the North Coast of Peru at the mouth of the Chicama Valley. It includes three *huacas* or large mounds, one of which is called Huaca Prieta. It seems likely that the La Bruja mound mentioned in the museum documentation refers to one of the other mounds and represents an error in translation (*la bruja* is female, *el brujo* is male, both refer to a person with magical powers) or a name that has since fallen out of use. A Kroeber publication (1930) identifies the three

nearby huacas as El Brujo, Blanca, and Negra. Based on his descriptions, these correspond to Huaca Cortada, Huaca Cao, and Huaca Prieta. Kroeber (1930:84) notes “Brujo is half surrounded by cemeteries... Some of the cemeteries are certainly Early Chimu. Others seem to be Late Chimu.”



Figure 2.2 Map of Moche archaeological sites in northern Peru; black arrow locates the El Brujo complex. Modified from Franco 2015.

The Huaca Prieta mound dates to the Preceramic Period and became well-known in the 1940s when it was excavated by Junius B. Bird (Bird and Hyslop et al. 1985). More recent excavations at Huaca Prieta led by Tom Dillehay (2017) have pushed the earliest occupation dates back to “13,720-13,260 cal BP”. The El Brujo complex (Figure 2.3) also includes two Moche Period mounds, Huaca Cortada and Huaca Cao, the latter famous for a Moche mummy, the tattooed Lady of Cao (Franco 2015). Several cemeteries are also associated with the complex, representing various post-Moche cultures, including the Chimu (Kroeber 1930, Tate 2006, Franco 2015). The El Brujo complex thus has a long and complex story of use over thousands of years and encompasses a number of different cultural groups. In this discussion I will focus on two facets, the Chimu presence as it pertains to the MPM arm, and the Moche mummy of the Lady of Cao as it provides an example of Moche tattoos.



1. Huaca Cortada, 2. Huaca Cao Viejo, 3. Colonial Church
4. Huaca Prieta, 5. Study Area, 6. Sunken Field

Figure 2.3. Map of the El Brujo Archaeological complex arrow pointing out Huaca Cortado, originally referred to as El Brujo. Modified from Tate 2006.

Tate (2006:130-132) provides a review of archaeological research at the complex and summarizes relevant observations made by Bennett in the 1930s, including extensive excavation at the Moche huacas and looting in a Late Chimu cemetery. Bennet purchased items from the looters (Bennett 1939:84-86 as cited by Tate 2006).

Tate notes that looting was particularly intensive during the decade from 1980-1990. Interestingly, Tate's research added documentation of a Late Chimu or Chimu-Inca residential occupation along the western edge of the El Brujo complex; he notes that Chimu burials were also present, although few in number and poorly preserved.

Rodman and Lopez (2005) review some of the known cemetery locations and ethnic distinctions for post-Moche burials. Their study examined burial textiles for evidence of distinct cultural groups, including radiocarbon-dated samples for "Moche III-IV during CE 530-550, Chicama Middle Horizon around CE 900-1000, Lambayeque-Chicama CE 1000-1100, and Chimu at CE 1430" (Rodman and Lopez 2005:119). Their primary focus was on a non-looted area along the north face of Huaca Cao and in the northern plaza, excavated in the 1990s, and they identify Chimu burials in both those locations. They describe distinguishing characteristics of Chimu funeral bundles follows: "their exteriors are covered with thick plant fiber ropes. The ropes wrap the bundle in many turns, covering the cloth-encased body neither completely nor more loosely, as the cotton ropes in the earlier burials" (Rodman and Lopez 2005:130). They also mention that the heavily looted open sandy area between Huaca Cao and Huaca Cortada may have once been home to tens of thousands of burials, suggesting an enduring identity for El Brujo as a sacred place for multiple post-Moche cultures.

While it is unclear which Chimu cemetery at the El Brujo complex the MPM arm A56903/23045 was collected from in 1968, the Chimu cultural association provided in the MPM accession record seems fairly secure, given the more recently confirmed and dated Chimu tombs as well as the early mention of the sale of looted Chimu items. Archaeological evidence suggests that the Chimu culture took over the Chicama Valley

around CE 1130 (Tate 2006), although the most secure Chimú dates for El Brujo, by radiocarbon dating and artifact chronologies, are around CE 1240 and after, during the Late Chimú and Chimú-Inca periods.

Also of interest, given the subject of this thesis, is the remarkable find in 2006 of the well-preserved and extensively tattooed mummy of an elite Moche woman, known now as the Señora or Lady of Cao. What follows is a brief description of that find, its cultural context, and its tattoos. The Moche culture was present at El Brujo between 100 BCE-CE 800 (Titelbaum 2012). It is associated with two large human-made mounds, Huaca Cortada and Huaca Cao. Huaca Cao is a large adobe brick structure that went through seven episodes of construction. Señora de Cao was found in northwest upper corner patio of Huaca Cao (Quilter et al. 2012). The Señora de Cao's elite status was determined from the location of her tomb, which was found in a chamber with brightly colored murals within the upper part of the Huaca, the grave goods found in her tomb, and the presence of an accompanying burial of a sacrificed female (Quilter et al. 2012). Hundreds of metal artifacts from the tomb were analyzed and determined to be made of silver, gold and copper (Cesareo et al. 2016).

The role of women in Moche ritual is evidenced elsewhere as well, both in the form of elite female burials and in Moche iconography. Castillo has documented the tomb of a "warrior-priestess" at the site of San José de Morro (Castillo 2005). Donnan (1993) has identified a significant female role in the Sacrifice Ceremony depicted in the fine-line illustrations of ritual events on Moche ceramics. The visibility of the tattoos on the elite woman at El Brujo was enhanced by her burial treatment with cinnabar, which acts as a preservative (Vásquez Sánchez et al. 2013).

The Senora de Cao had many tattoos on her hands and arms (Figure 2.4), and a few on her feet. These tattoos are believed to be representations of snakes, spiders, jaguars and geometric motifs. The jaguar, described by some as a lunar being, is theorized to represent spiritual activities associated with someone who had religious power (Vásquez Sánchez et al. 2013). The spider and snake are argued to be linked with the prosperity of the water and land (Vásquez Sánchez et al. 2013). Spiders and snake-like creatures are common icons on the wall murals of moche huacas. The interpretation of symbols in the past is a challenging undertaking. Several authors have written about iconography, interpretative issues and potential meanings as they relate to tattoos (Deter Wolf et al. 2016; Pabst et al. 2010; Sharp 2009).

The Lady of Cao, associated with the Moche culture, comes from the same archaeological complex as the Milwaukee Public Museum's Chimu sample, providing an opportunity to consider continuities and discontinuities in tattooing practices in the same region over time. Like Lady of Cao, the Milwaukee Public Museum sample has tattooing on the hand and fingers. This suggests continuity in the body parts deemed appropriate for tattoos. The MPM sample also appears to have various geometric shapes and representations of animals – in the Chimu case the animals appear to be birds rather than snakes, spiders, and jaguars. This suggests some overlap in tattooing traditions, in which both geometric and animal themes are valued, while suggesting some distinctions in the exact designs executed. The differences may also be related to differences in individual status. I review the designs on the MPM sample in more detail in Chapter 4. Interestingly, Chimu pottery and textiles at El Brujo include motifs of fish, birds, waves and geometric shapes such as triangles and diamonds (Tate 2006).



Figure 2.4 Tattooed arm of the Moche Lady of Cao, photograph from Mujica (2007).

In summary, A56903/23045 is a tattooed left arm in the Anthropology collection at the Milwaukee Public Museum. It was collected during a museum expedition led by Lee A. Parsons in 1968. Accession records indicate that the arm was collected on the surface of a looted Chimu cemetery at the El Brujo site in Peru. Though the documentation is not extensive there are no data to contradict that its original archaeological context was the El Brujo complex in the Chicama Valley and that the cultural attribution to Chimu is accurate. Future lines of study could include radiocarbon dating to confirm its Chimu identity.

The Arizona State Museum Sample (A22-117-6)

Arizona State Museum (ASM) accession record states that “A22-117-6 is a pair of tattooed arms that came to the museum in 1943 from the sand valley in Peru”. It notes “Location: 12 to 13 kilometers outside of Lima”. My search for a mapped region in the Lima area of Peru referred to as “Sand Valley” or “Valle de Arena” was unsuccessful. However, I was able to create a likely region of origin based on a 13 km radius (Figure 2.5). No cultural attribution was listed in the ASM records.

Archaeologically, this region is known to have been home to the Chancay, Yschma, and Inca (Stumer 1954; Silverman 2004).

Donor information on A22-117-6 at the Arizona State Museum states that the remains came to the museum from a man named Arthur Woodward. Arthur Woodward was an archaeologist, historian and museum curator. He studied anthropology at the University of California-Berkeley under Alfred Kroeber. Although he is often referred to as Dr. Woodward, financial constraints prevented him from completing a Ph.D.; he does hold an honorary degree from the University of Arizona (Woodward 2014). In 1928, he became the Curator of Anthropology and soon after, the Head Curator at what was then known as the Los Angeles County Museum of History, Science, and Art (now known as the Natural History Museum of Los Angeles County). He retired in 1953, moved to Tucson, Arizona and was an active member of the Arizona Historical Society (Woodward 2014). The donation date of 1943 suggests that Woodward may have obtained the tattooed arms during his time working for the museum in Los Angeles, although I have found no documentary confirmation to support this suggestion. There is information, however, that places Woodward on the islands of Pitcairn and Easter in 1943, the same year A22-117-6 was collected (Woodward 2014). Additional notes concerning Arthur Woodward's career can be found at the University of Arizona, the Arizona Historical Society, and at the Guy B. Woodward Museum.

Perhaps of more relevance, there are records indicating that Arthur's third wife, Barbara Loomis Woodward, studied Peruvian archaeology and worked with, the famous Peruvian archaeologist, Julio C. Tello. In 1937, Barbara Woodward traveled to Peru to work with Dr. Tello on excavations at Cerro Sechin and Sechin Alto in the Casma Valley

(Arizona Historical Society, Library and Archives online). Sadly, most of Barbara Woodward's research is unpublished and exists instead in the form of various field notes currently stored at the Arizona Historical Society in Tucson along with Arthur Woodward's notes.

In combination, the travels of Arthur Woodward in 1943 and the Peruvian archaeological fieldwork of Barbara Loomis Woodward in 1937, offer some possibilities for how the ASM arms were originally obtained. However, a third possibility became apparent when I noticed a side note in the Arizona State Museum's documentation file that the rest of the collection associated with A22-117-6 might be located at the Burke Museum in Washington state. I contacted the Burke Museum and spoke via email with Jess Milhausen, the Assistant Registrar, and was able to gain additional valuable information on the collection.

Based on the Burke Museum records, it appears that Arthur Woodward and his colleague Dr. Samuel Lothrop, a well-known Latin Americanist (Willey 2009), donated a Peruvian collection to the Burke Museum in 1952. Then, in 1954, some of the collection was returned to Arthur Woodward and subsequently donated to the Arizona State Museum. The documents at the Arizona State Museum indicated that the mummified arms, A22-117-6, were part of the collection that was donated to the Burke Museum. The Burke Museum records indicate that Arthur Woodward and Dr. Lothrop collected the items from 12 km east of Lima, Peru in the Rimac Valley, at an unnamed site. This note is both consistent with the ASM note of a location 12-13 km from Lima, and adds important information, designating the eastward direction and more importantly the valley name of Rimac.

The donation dates at first appear problematic. However, there are notes in the Burke Museum's file that help to clarify the mix-up: "Items collected by Dr. Arthur Woodward and Dr. Samuel Lothrop, 12KM east of Lima, Peru at an unnamed site in the Rimac Valley. NOTE: Ledger shows collected 1949, but documentation in file indicates collected in November 1943. RS 1/9/2007 NOTE: In 1954 33 objects were returned to the donor. These objects were later donated to the Arizona State Museum." (Burke Museum accession record). These records, including the accession list, the catalog list and the original ledger page copy, are illustrated in Appendix B.

The Arizona State Museum's file corroborates a collection date of 1943 and a source location 12-13 km outside of Lima. It thus seems likely that the arms in question, A22-117-6, were collected in the year 1943 from a site in the Rimac Valley, approximately 12 km east of Lima, Peru, and were donated first to the Burke in 1952, and then to the ASM in 1954. Both the Burke Museum and the Arizona State Museum have separate records indicating that the arms were collected in 1943. I reviewed all the Burke Museum records but was unable to find any mention of the 1949 date that is given in the notes of the accession records. I believe it probable that arms were collected in 1943. Future lines of research could be to research all of Dr. Woodward's, Dr. Lothrop's and Barbara's field notes and journals, some of which are held at the Arizona Historical Society. I contacted the Arizona Historical Society for these records but they had not digitized them and could not give me direct access while I was visiting their institution.

Besides clarifying the Rimac Valley as the source location, the Burke Museum records, by mentioning Lothrop, add another possibility to how the ASM arms were

originally obtained. Lothrop was involved with the Institute of Andean Research program in Latin American Archaeology on the coast of Peru in 1941 (Willey 2009:257).

Of particular interest is Easby's summary of Lothrop's activities in the early 1940s:

“Early in 1941, before America's entry into World War 11, Sam was in Peru, directing a unit of the Institute of Andean Research's program in Latin American archaeological studies. This was the first time this author came to know him well. He gave generously of his time in guiding some of us younger colleagues to archaeological sites up and down the Peruvian coast. His knowledge of the ceramics, textiles, and other arts of the area was enormous, so that he was an excellent consultant for those who were tyros to that particular field. Although he carried out no excavations in this 1941-1944 period, being largely occupied through much of it with U.S. governmental matters, he was able to travel widely and to make numerous surface collections as well as compile field notes on sites” (Easby 1965).

There is also brief record of Lothrop visiting Pachacamac, a site near the Rimac Valley around 1941-1942 (Browman 2013).

The Rímac Valley is one of the largest valleys on the Central Coast of Peru and one of three valleys associated with the city of Lima. The Rimac Valley is paralleled by the Chillón Valley to the north and the Lurin Valley to the south. The north bank of the Rimac Valley shares some upper tributary areas with the Chillón Valley (Figure 2.5).

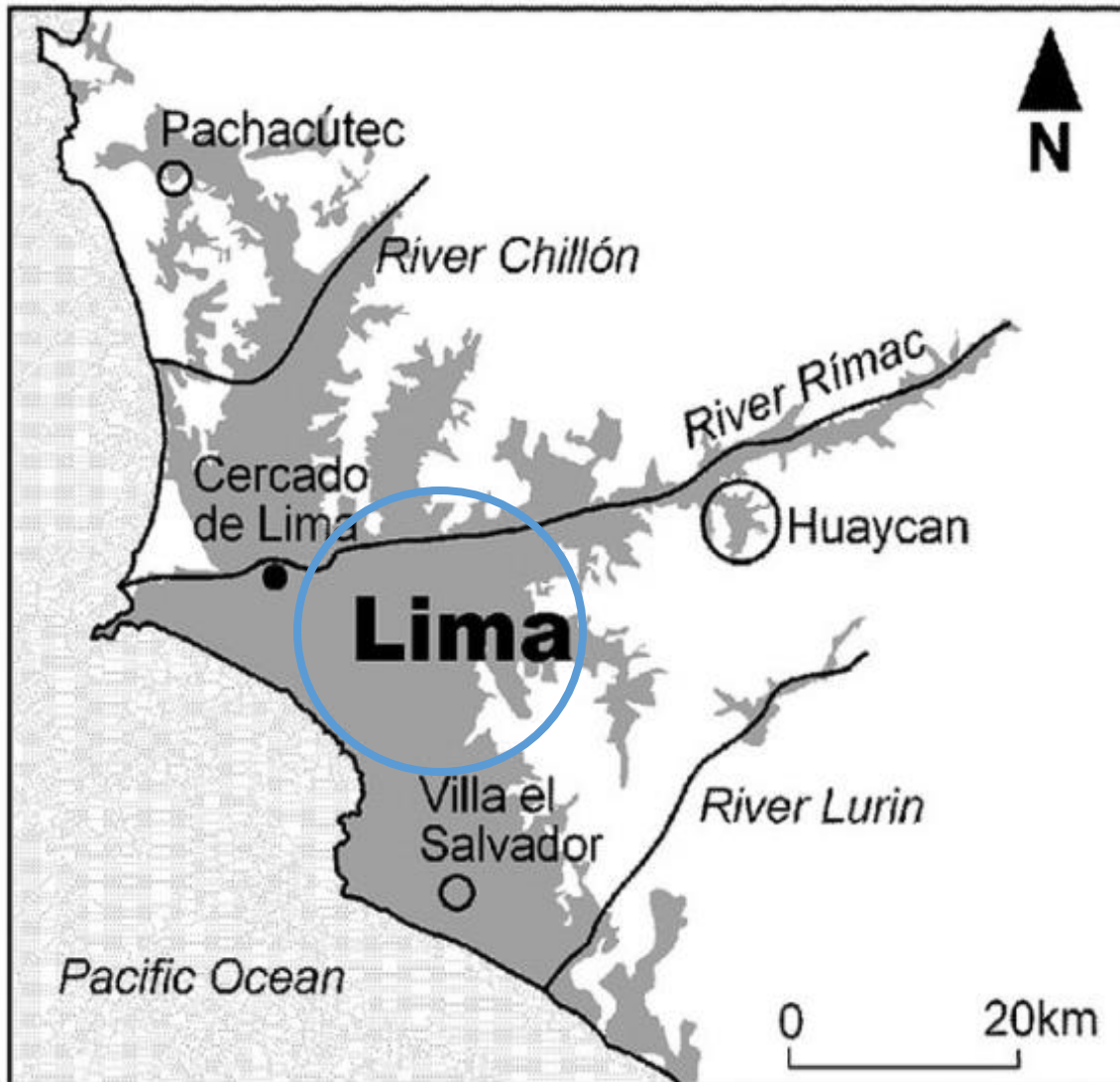


Figure 2.5 Map showing the region of Lima and surrounding rivers. Circle indicates approximate 12 km radius around central Lima and its intersection with the Rimac Valley. Modified from Ioris 2012.

Prior to Spanish conquest the Rímac Valley had an estimated population of approximately 125,000 (Salter-Pedersen 2011). Sites in the Rímac Valley have been dated from the Initial Period (1800 BCE-900BCE) onwards (Salter-Pedersen 2011). Among the named archaeological cultures of relevance in the broader Lima region are the Lima culture (CE 200-700), the Chancay and Ychsma cultures (CE 1100-1440), and the Inca (CE 1440-1532) (Gilbertson 2015; Mosely 2001; Young-Sanchez 2000;

Williams and Katzenberg 2012). Stumer (1954) offers a more detailed cultural sequence for the upper Rimac Valley in particular, with terms in use in the 1950s, such as Huancho and Marenga. Stumer pays special attention to possibilities of distinct spheres of cultural influence for upper valley regions in contrast to those closer to the coast.

While the records at the Burke Museum state an unnamed site 12 km east of Lima in the Rimac valley, there are several named sites that fit that description. Of special interest are those reported by Stumer (1954) as the timing of his publication is especially relevant for a collection period in 1943. Two sites are mentioned, Vista Alegre and Pedreros. Vista Alegre is located on a fertile area of the Rimac Valley 12 km east of Lima (Stumer 1954). In 1954, the site had still not been officially excavated but was known. Another 4 km east of Vista Alegre is a site named Pedreros. The context for that mention is the suggestion that it was occupied by a distinct cultural group, termed Huancho, associated with the upper Rimac valley. The Huancho are of special interest since the associated burials excavated in 1952 included mummies with “tattoos on fingers rather than hands and arms” (Stumer 1954:143).

Additional evidence of tattooed mummies from the Rímac Valley comes from collections at the American Museum of Natural History mentioned by Morgan (1996). Morgan describes “a mummified adult right arm with a tattooed or painted hand or wrist, wrapped with hanks of cotton yarn alternatively white and brown, one blue hank near shoulder” (AMNH no.5202) (Morgan 1996:257). I contacted the AMNH to inquire about this mummy but have not yet received a reply.

In summary, A22-117-6 is a pair of tattooed mummified arms at the Arizona State Museum that likely originated from the Rimac Valley in Peru. Based on the field travels

of the donors, they were likely present in that area conducting archaeological research in 1943. While neither the specific archaeological site nor cultural affiliation is mentioned in the museum documents, tattooed mummies are known from Huancho sites in the upper Rimac which date to the Late Intermediate Period (CE 1100-1440) (Stumer 1954). There are also accounts of tattooing in Chancay and Ychsma culture, both Late Intermediate groups whose regional extent included the Rimac Valley.

The Field Museum Samples (971371, 183930, 183595, 183583, 40252, 40249, 40246, 40169, 40121)

The Field Museum samples consist of nine individuals, all associated with burials excavated at the Necropolis of Ancon on the central coast of Peru just north of Lima (Figure 2.6). The Necropolis of Ancon was part of an ancient cemetery, containing thousands of burials. The site of Ancon has a long occupation sequence. The Wari culture was present at Ancon during the Middle Horizon and the Chancay culture was present at Ancon during the Late Intermediate Period (Slovak 2007).

The documentation for the Field Museum samples is clearly linked with dissertation fieldwork in Peru conducted by George Dorsey in the late 1800s. Dorsey was a doctoral student at Harvard University. The Field Museum samples I examined were collected by Dorsey in 1891-1892 for the Field Museum for Chicago World's Fair, the 1893 Columbian Exposition. Dorsey's collections at Ancon are documented in his 1894 dissertation, which focused on the funerary bundles of over 100 burials.

The plain of Ancon lies north of Lima at south latitude 11 degrees 47' 20' and west longitude 77 degrees 11' 35" (Dorsey 1894:14). Ancon is surrounded by the sea

and low mountains. Dorsey describes the plain as “literally an absolute desert of sand” (1894:15). The Necropolis of Ancon is located on the southeast portion of the plain. Milling stones and walls enclose the burial ground to the north and east (Figure 2.7).

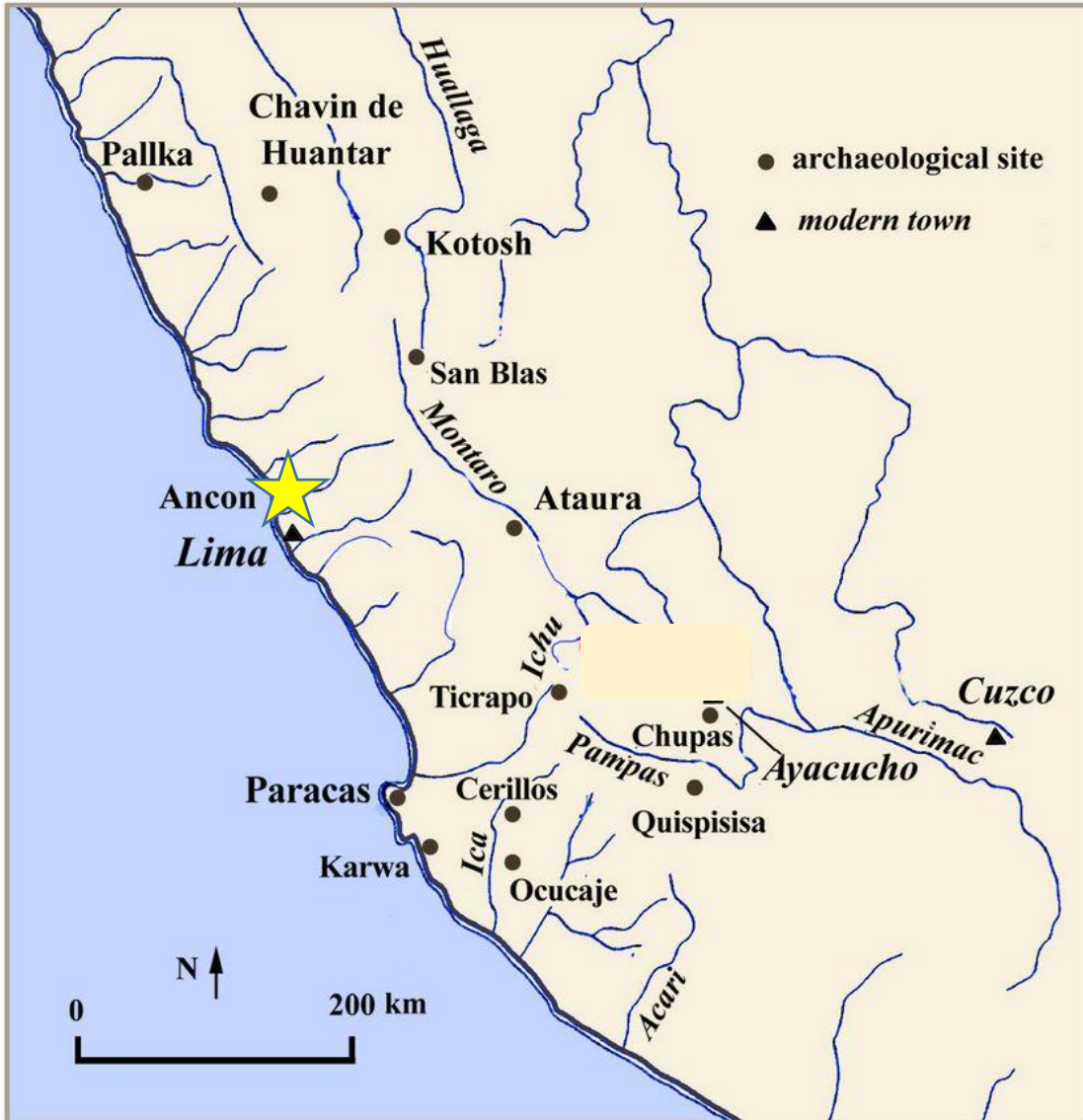


Figure 2.6: Map showing the site of Ancon on the coast of Peru, signified with a star icon. Modified from the Rust Family Foundation: Archaeology Grants Program.

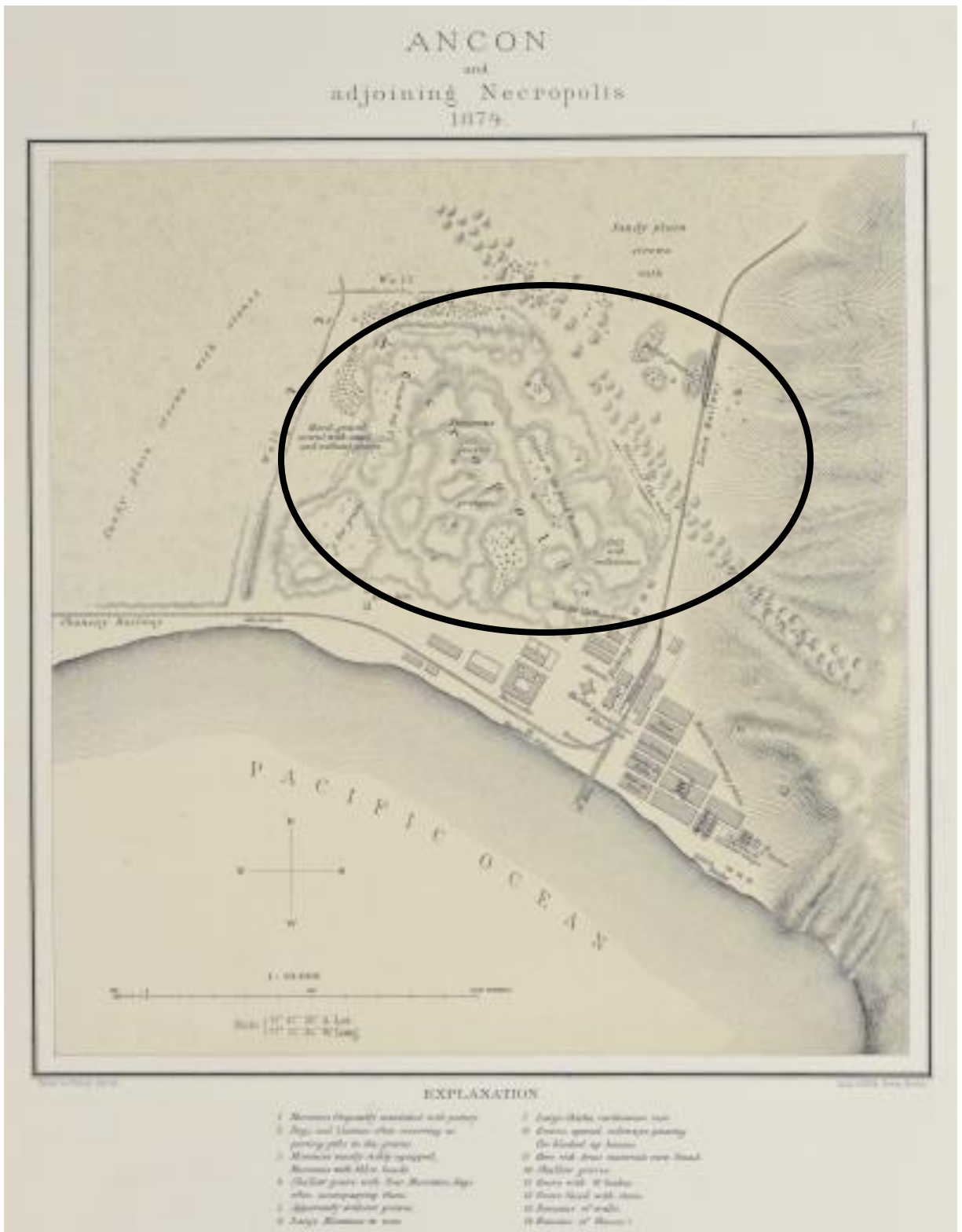


Figure 2.7 Map of Necropolis of Ancon site, early rendering, circle encasing the excavated cemetery. Modified from Reiss and Stübel 1880.

Dorsey states that the burial ground now known as the Necropolis of Ancon was discovered in 1869 when the railroad of Lima and Ancon began construction and the workers unearthed many graves (Dorsey 1894:23). In total, Dorsey opened 127 graves and excavated 186 sets of human remains (Dorsey 1893b). It is not certain from which culture or time period the samples at the Field Museum might have come.

Other researchers have discussed this issue with Dorsey's excavations. "Though his collection appears to span a considerable time period based on the types of tombs he encountered, Dorsey's publication lacks any information on stratigraphic context and he provides only a rudimentary sketch map of his excavations. As a result, it is difficult to situate Dorsey's collection in either spatial or temporal terms" (Slovak 2007:43).

Based on the artifacts in each grave and examination of each skeleton, Dorsey noted differences in the status and sex of the remains he excavated. Dorsey states that due to the level of disturbance of the graves some individuals could not be sexed but of the ones he could determine, there were some striking differences. He states the females are buried deeper and more often with a roof covering their graves than men (Dorsey 1893a). This suggests the possibility that depth and roofing helped to preserve the skin and therefore preserved more tattoos on female remains than male remains. Kaulicke (1997, as reviewed by Reindel 1997 and Seki 1998), on the other hand, suggests that tomb style reflects chronology, with simple shallow tombs more typical of the early Middle Horizon, and deeper roofed tombs more typical of the end of the Middle Horizon and the Late Intermediate Period. He also notes a parallel shift in textiles designs from more geometric to more anthropomorphic.

Dorsey documents distinctions in grave goods. He notes that seven bodies at Ancon were extensively decorated with colorful cloth, plants, and false heads and of these seven individuals, five were women (Dorsey 1893b). The five false heads that belonged to the women had been painted red or yellow on the face and decorated with ear ornamentation resembling a star. The women also often had necklaces made of shells inside the wrappings. The male false heads had large feather plumes (Dorsey 1893b). Most graves at Ancon contained corn and beans.

Graves with male remains contained “war-clubs, agricultural implements, slings, tablets, and the llama and dog” (Dorsey 1893a:374). It is important to mention that, while weapons were found at Ancon, they were very few compared to the number of individuals excavated, about three cases of weapons out of almost 200 individuals (Dorsey 1894).

Graves with female remains contain “work-baskets, containing spindles, threads, wool and cotton, looms and other implements employed in weaving or manufacturing garments” (Dorsey 1893a: 374). All the women at Ancon were buried with textile kits and meals. Dorsey found paint in the graves of most females. He states that this paint would have been used on the face: “white on her cheeks and red on her forehead” (Dorsey 1893b:14852). Females were also adorned with silver bracelets and ear ornamentation.

Most interesting to this study is that Dorsey makes notes about the tattooing found on the individuals of Ancon. “The art of tattooing was well known and is practiced on both sexes. The hands, arms and breasts were covered with triangular-shaped

figures in parallel rows. The one case, that of a man, the whole breast was tattooed with an intricate design which cannot now be clearly distinguished” (Dorsey 1893b:14852).

Dorsey was not the first to make note of tattooing at Ancon. Reiss and Stübel visited the Necropolis in 1880-1887 and published on their observations. They described and illustrated (Figure 2.8) both tattooing and painting on human remains at Ancon.

Of the many mummies taken from their coverings on the spot, a great number betray clear traces of painting, limited however to the arms and hands, or to larger surfaces on the upper part of the body. The seemingly black and mostly elegant drawings represent simple lines, stars, darts and such like patterns, whose motives reappear also on the materials of the garments. Professor Virchow’s examination has shew that there is here no question of a superficial painting liable to be effaced, but that the colouring matter permeates the tissue of the cuticle. The interesting fact is thus established that the widely-diffused practise of tattooing was known also to the ancient Peruvians. Besides this method of adorning the skin, a species of red painting also prevailed, seemingly, however, limited to the face. The features of adult as well as infant mummies are not unfrequently covered with a thick coating of a red colour, protected by a layer of cotton. The colouring matter is occasionally laid on very thinly.” (Reiss and Stübel 1880:168)





Figure 2.8. Reproduction of Figures 6-14 from (Reiss and Stubel 1800:169)
 “Fig. 6. Child’s head painted red. 7. Upper part of a body with tattooed breast. 8. Right fore-arm and hand with tattooed bracelets round the wrist. 9. The same with a richer design. 10. Right upper and fore-arm adorned with a frequently recurring cross-shaped design. 11. Left arm and hand with a rich pattern. 12. Left fore-arm and hand. 13. Piece of skin from the breast with cruciform tattooing. 14. The same embellished with frequently recurring and regularly disposed darts.” (Reiss and Stubel 1800:168-169)

Below I detail the archaeological context for each of the tattooed Field Museum specimens, as reconstructed from Dorsey’s dissertation and museum records. First listed is the Field Museum identification number, what the museum specimen now consists of and any information that Dorsey included in his dissertation specifically

about that individual including his numerical identification of the grave and the mummy number. I also summarize Dorsey's descriptions of associated artifacts, including any mention of iconography on those artifacts.

Sample 40249- Field Museum

The following information is derived from Dorsey 's dissertation (1894:58-60). Sample 40249 at the Field Museum was identified as Grave 73, Mummy 102 which contained both a male and a female. This information was confirmed verbally by Christopher Philip, the Field Museum's Anthropology Collections Manager for the samples I examined. Dorsey notes about the female that when he excavated this grave "the left hand was tattooed with blue dots and there are faint traces of tattooing on the right arm" (Dorsey 1894:60). The museum specimen now consists of skin fragments from this mummy and may show signs of tattooing (see Chapter 4 and Appendix C).

Dorsey details the following associated grave goods. In front of the female were six pots, two gourds, and two dishes. Some vessels seemed to have remnants indicating they were used for cooking. One piece has been decorated with relief of a frog and the other of a cat. These pots were decorated with lines of white, black and red, some having small triangular shapes and one pot was filled with corn. The female also had spindles, loom sticks, and yarn near her in the grave. Near the male were found several clay vessels, a feather plume, neck wrappings decorated with animal-like figures, false bags, gourds with corn, bags filled with shells and balls of hair and decorated with parallel rows of triangles. The male's mummy pack also had a false head.

Sample 40121- Field Museum

Information for this sample comes from Dorsey's dissertation (1894:64-66).

Sample 40121 at the Field Museum was identified as Grave 33, Mummy 57, a female.

Sample 40121 consists of a right ulna. Soft tissue on the ulna is still intact on the lower part of the arm except for on certain areas extending to the fingers. Tattooing can be seen on the distal part of the forearm (see Chapter 4 and Appendix C).

The grave goods included ceramic vessels, some used for cooking, and some decorated with black, white and red lines, with some triangular shapes. One vessel had representations of a human head and relief work depicting the head of a llama on the other side. The grave also contained a basket with a box of earspools, corn, fruit, and perforated shells. Another basket was found with cloth elegantly decorated with animal-like figures and geometric shapes. Parts of a loom, bunches of reeds, and yarn were found next to these baskets. Lastly, tablets or "wand-like" objects were also found around the mummy pack (Dorsey 1894).

Sample 971371- Field Museum

Information for this sample comes from Dorsey's dissertation 1894:69-70. Sample 971371 at the Field Museum was identified as Grave 7, Mummy 20, a female. This individual was noted by Dorsey as having tattooing on the breast. When I examined the museum sample the breast tattoo design was not completely visible due to lack of preservation but I did observe tattooing marks on the feet (see Chapter 4 and Appendix C).

This individual's grave contained extensive grave goods. Beneath the head of the individual was a wooden box decorated with notches, lines, and circles. Dorsey notes that this box is one of the most elaborate examples of wood carving found at Ancon. The head of the mummy pack had a large feather plume of blue and yellow. There were also many necklaces of stone beads and one notable necklace made of cloth, cotton cordage, and 32 rows of shells, each row containing an estimated 150 shells, for a total of 5500 shells. This individual also had several bracelets made of over 1000 shells. Over the breast of the individual were gourds containing corn. Lastly, many cloths were found in the grave of this individual.

For the other six following samples there was no detailed information given by Dorsey in his dissertation, so I will simply describe the samples themselves.

Sample 183930- Field Museum

This sample is a right arm consisting of a radius, ulna and hand of an individual. Tattooing is found just above wrist for a length of approximately 7 centimeters, visible on both the anterior and posterior of the arm (see Chapter 4 and Appendix C).

Sample 183595- Field Museum

This sample is a right arm consisting of a radius, ulna and hand of an individual. Tattooing can only be seen on the posterior of the arm (anatomical position) (see Chapter 4 and Appendix C).

Sample 183583- Field Museum

This sample is a right arm consisting of a radius, ulna and hand of an individual. Tattooing is found just above the wrist for a length of approximately 7 centimeters, visible on both the anterior and posterior of the arm (see Chapter 4 and Appendix C)

Sample 40252- Field Museum

This sample is a left arm and right arm. On the left arm, tattooing can be seen as what appears to be a band on the wrist, possibly another band 4 cm below the wrist and on the soft tissue covering the all four fingers. Tattooing is also seen just below the wrist on the right arm (see Chapter 4 and Appendix C).

Sample 40246- Field Museum

This sample is a 35+ year old female. Dorsey estimated the individual's sex and age based on grave goods and anatomical examination (40246 Field Museum, Acc. 355 Document in Appendices C). Specimen 40246 is also known as "grave 8, mummy 23" which were numbers that Dorsey assigned during his excavations. Tattooing on the right arm is what appears to be a small dot and a line on the far-left finger. On the left arm tattooing can be seen as what appears to be part of a band (see Chapter 4 and Appendix C).

Sample 40169- Field Museum

This sample is a 35+ year old female. Age estimation of 35+ years comes from a human skeletal worksheet in Field Museum records on 40169, completed by L. Konigsberg in 1986. Specimen 40169 is also known as “grave 87, mummy 120” which are numbers that Dorsey assigned during his excavations. Tattooing can be seen as what appears to be two bands just below the wrist of the left arm as well as on the soft tissue covering the sternum, right ulna, and ribs (see Chapter 4 and Appendix C).

In summary, the samples at the Field Museum I examined for this thesis were tattooed individuals that were excavated from the Necropolis of Ancon in Peru. Dorsey documented his excavations in the late 1880s, wrote a dissertation on these excavations and brought back some material to the Field Museum where it was documented and is currently held. Out of the nine individuals at the Field Museum I examined that had tattoos, five were identified as female. Almost all of the tattoos were found on the hands and arms, but a few were found on the foot and the chest. The tattoos appear to be black in color and geometric in shape.

Summary

The end result of my research into the original provenience of these museum samples was a clearer documentation of the archaeological context for all of my samples. While the time period and cultural group from which the samples came is not always conclusive, I am confident about the valley from which each sample was recovered. The Milwaukee Public Museum sample collected from the El Brujo

Archaeological Complex comes from the Chicama Valley and can be fairly confidently attributed to the Chimu culture of the Late Intermediate Period. The Arizona State Museums sample comes from the Rimac Valley and may represent the Chancay culture, the Yschma culture, or the less known Huancho culture; these are all associated with the Late Intermediate Period. The Field Museum samples excavated at the Necropolis of Ancon come from the Bay of Ancon, in between the Chancay Valley and the Chillón Valley and may represent the influence of Wari culture during the Middle Horizon or the local Chancay culture during the Late Intermediate Period. If one wanted to further confirm the cultural attributions of the samples those few with accompanying grave goods could be studied for diagnostic characteristics. Radiocarbon dates could also help narrow the possibilities.

Chapter 3: Methods

This thesis focuses on tattoos preserved on human skin residing in U.S. museum collections as whole or partial mummies. More specifically it focuses on tattoos from prehistoric cultures along the coast of Peru. In this chapter I review how I identified suitable study collections, secured permission to visit and study them and created a standardized system to record archival and photographic data for each sample. Of attention, given my research questions, were museum records pertaining to the archaeological context of the item, and observable details of the sample in terms of the part of the body represented, and the design, size, and placement of the tattoo.

Identifying the Study Sample

I began this thesis by identifying museum collections within the United States that might have tattooed mummified remains from Peru. This was a challenge, as there was no single publicly accessible database with this kind of information. With the support and guidance of Dawn Scher Thomae, Curator of Anthropology at the Milwaukee Public Museum (MPM), the following efforts were made to identify U.S. museums with relevant collections.

First, experts in the field of the anthropology of tattooing and the archaeological study of human remains from Peru were contacted. These included Dr. Aaron Deter-Wolf and Dr. Lars Krutak, two specialists in the field of anthropology with a specific focus on tattooing, and Dr. John Verano a faculty member at Tulane University who

specializes in Andean human remains. These specialists responded with suggestions for relevant articles and possible leads.

Second, local museums were contacted, including the Field Museum in Chicago and the Logan Museum in Beloit. Local museums were a priority for me so that travel costs could be minimized.

Third, a query was posted to the museum discussion list, a listserv for museum professionals. In this way I hoped to access expertise at individual museums, since curators are especially likely to be familiar with their institution's holdings.

Fourth, a simple Google search was made for U.S. museums with Peruvian mummies or mummy exhibitions. It seemed likely that those museum with the largest potential holdings might have advertised their collections or an exhibit of them and thus be identifiable in this way.

Fifth, a journal search was conducted for archaeological articles on Peruvian mummies and the names of associated museums were extracted from these articles. These articles also contributed to my background literature search for prior research on ancient Peruvian tattoos, detailed in Chapter 2.

This five-step process yielded the names of nine likely museums in addition to the Milwaukee Public Museum. I contacted the collection managers of these museums for further information. While most of these museums did have at least one Peruvian mummy, only three museums confirmed that they had tattooed remains. These three were the Milwaukee Public Museum, the Field Museum, and the Arizona State Museum, representing a total sample of 11 cases of tattooed remains. I then wrote to each museum to request permission to visit and view the sample. Specifically, I had to

gain clearance to photograph human remains for the purposes of this thesis. Human remains have a unique space in museum collections. They can contribute to the public good through research and educational displays. However, they also have a cultural, religious or spiritual significance to many groups and individuals. Researchers must keep in mind the legal and ethical obligations when working with human remains. Many museums allow photographs of human remains for educational and research purposes while taking into consideration the views of cultural groups and descendants. Ryan Williams, Associate Curator and Archaeology Section Head at the Field Museum, stated when discussing their Mummies exhibition and its display of Peruvian mummies:

“Our policy on the display of human remains states that where human remains are exhibited, they will be displayed in a culturally appropriate, sensitive, and informative manner, and always accompanied by explanatory and contextual interpretation... Display of human remains will only be made in accordance with the values of the relevant community and/or in accordance with appropriate museum practice. In Peru and Egypt, mummies are widely displayed in national and community museums and we know from ethnohistoric sources that mummies were publicly displayed as honored ancestors in Peru in some of their original cultural contexts.” (Mejer 2017)

At every museum I visited there was some kind of form that I signed that said the research I was doing was for the purposes of my master’s thesis at the University of Wisconsin-Milwaukee. After securing permission I set up times to visit these collections and photograph the remains with evidence of tattooing. Museum staff contact names and the dates of my visits are recorded on my data sheets (Appendices A, B, C).

Data Collection

To ensure the collection of standardized data I created a museum documentation sheet (Figure 3.1). Some variables concern museum archival files, such as accession files and correspondence with donors, and others relate to the tattoos themselves.

Sample # Data Collection Sheet

Author: Madison Auten

Museum Name:

Dates Visited:

Museum Contact Personnel:

Examined:

Provenance information on the specimen:

Date Collected by Museum-

Location excavated-

Head excavator or donor-

Related culture-

Gender identification-

Directly related artifacts found with or donated with-

Additional relevant information-

Sample #:

Description-

Location- Tattooing can be seen on...

Color- Tattooing appears to be...

Supplies Used:

Photos of Sample:

Figure 3.1: Blank Museum Documentation Data Sheet

Ideally museums maintain detailed records about the original provenience of their collections and about the individuals involved in obtaining or donating the material. However, this information is not always available. My museum data collection sheets were designed to record information identifying the museum, their specimen identification number for the item, the donors and/or original collectors, the original location of the item in Peru and the date of its collection, the name of the archaeological site or region, the associated culture, and any other artifacts associated as part of the same collection. This information is crucial to gaining an understanding of the specimen's background in addition to the details relating to culture/individuals with tattoos from ancient Peru.

In cases where specific archaeological contexts are not recorded, records that identify the donor or collector and the date of the collection can sometimes narrow down the possibilities. When the museum accession files included additional information that did not fit my established variables, I recorded them regardless. Through contacting other museums that had received associated items and reading expedition journals and examining newspaper clippings for relevant years, I was eventually able to trace all remains in my samples back to a specific region and to an original donor or excavator. Further information on the regions, sites, related artifacts, publications and donors of these collections can be found in Chapter 2 and the Appendices.

My data sheet was also designed to document the tattooed remains themselves, including an extensive physical description with associated photographs. Variables included as part of the physical description were sex identification, description of the mummified remains in terms of the body parts represented and general condition of

preservation, the color of the tattoo ink, and the bodily locations where tattoos were visible. One of my goals was to create a record that could be used in the future by other researchers and could serve as a backup should the tattoos themselves become less visible over time due to preservation issues.

In order to document and study these tattoos in a non-destructive way, I took digital photographs. Photographs were taken with a digital single lens reflex (DSLR) camera, specifically a Nikon D5300. This camera takes high quality, low noise, and extensive detail depth capabilities. The Nikon D5300 has a 24.2 megapixel resolution from the camera's DX-format CMOS sensor and four image processing engine. The camera's International Standards Organization (ISO) measure of the level of light sensitivity, has a large range of 100 to 25600 in order minimize the issues of camera vibration. This high-quality camera allowed me to capture all the small details of the tattoos including those hard to perceive with the human eye.

Photos were taken in the RAW (digital negatives) format in order to capture all the unprocessed data from the camera sensor. Shooting in RAW is recommended because it allows for higher quality and detailed images. The RAW format of these photos were saved and also copied in order to convert to a Joint Photographic Experts Group (JPEG format), which allows the photos to be shared and viewed on most modern devices with minimal compression. The lighting for photographs were supplemented by table top, adjustable lamps.

A centimeter scale and color scale were included in each photograph, which is standard practice when taking photographs for research purposes (Sonderman, DOI Museum Property Directives 2015). This allows the viewer to calibrate both size and

color accurately when comparing the photographed item to other items. I used a mix of backgrounds for the photos. In some cases it was necessary to photograph the tattoo in a museum display, storage drawer, or storage shelf. Mummified remains tend to be both rigid and fragile. Andean mummies are often preserved in a flexed, seated position, and museum specimens may retain some or most of their original coverings. In combination, these factors sometimes limit the parts of the body exposed and the positions suitable for photographs. Whenever possible, I also photographed the sample against a standardized green centimeter-gridded background to facilitate future measurements and improve visual contrast (Figure 3.2). This background also makes clear any distortions due to parallax.

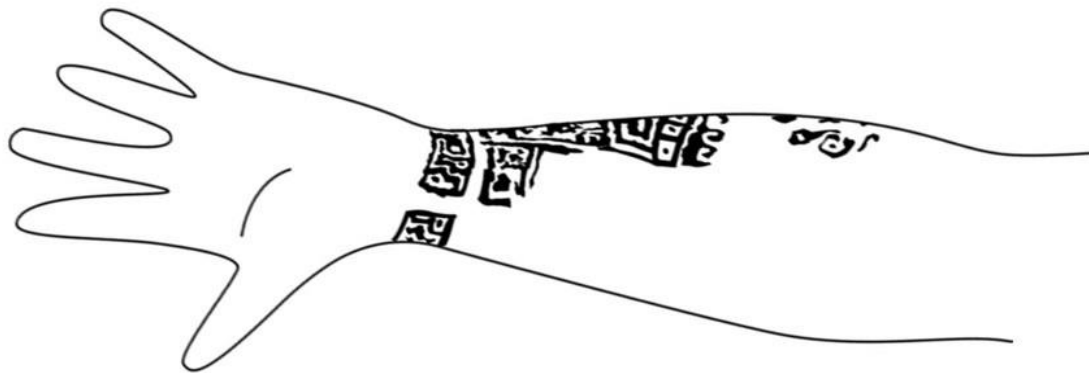


Figure 3.2: Sample A56903/23045, Left arm and related stencil from the Milwaukee Public Museum.

It is worth noting that I tested the camera extensively before traveling to document the collections at other museums. The Milwaukee Public Museum Anthropology Department Curator, Dawn Scher Thomae, allowed with me to practice photographing the MPM tattooed remains in different lighting and positions. I did have prior experience with DSLR cameras, having worked as a wedding photographer for about 2 years. When working at the museums I brought with me several secure digital (SD) cards and back up batteries in case of a malfunction.

The photographs were then used to create a black-and-white representation of the tattoos on standardized body outlines or stencils (Figure 3.3, Figure 3.4). I worked closely with an artist, Kali Desorcy, who created the requested stencils and transferred each tattoo design to the appropriate location on the body or body part. These are also included in the appendices.

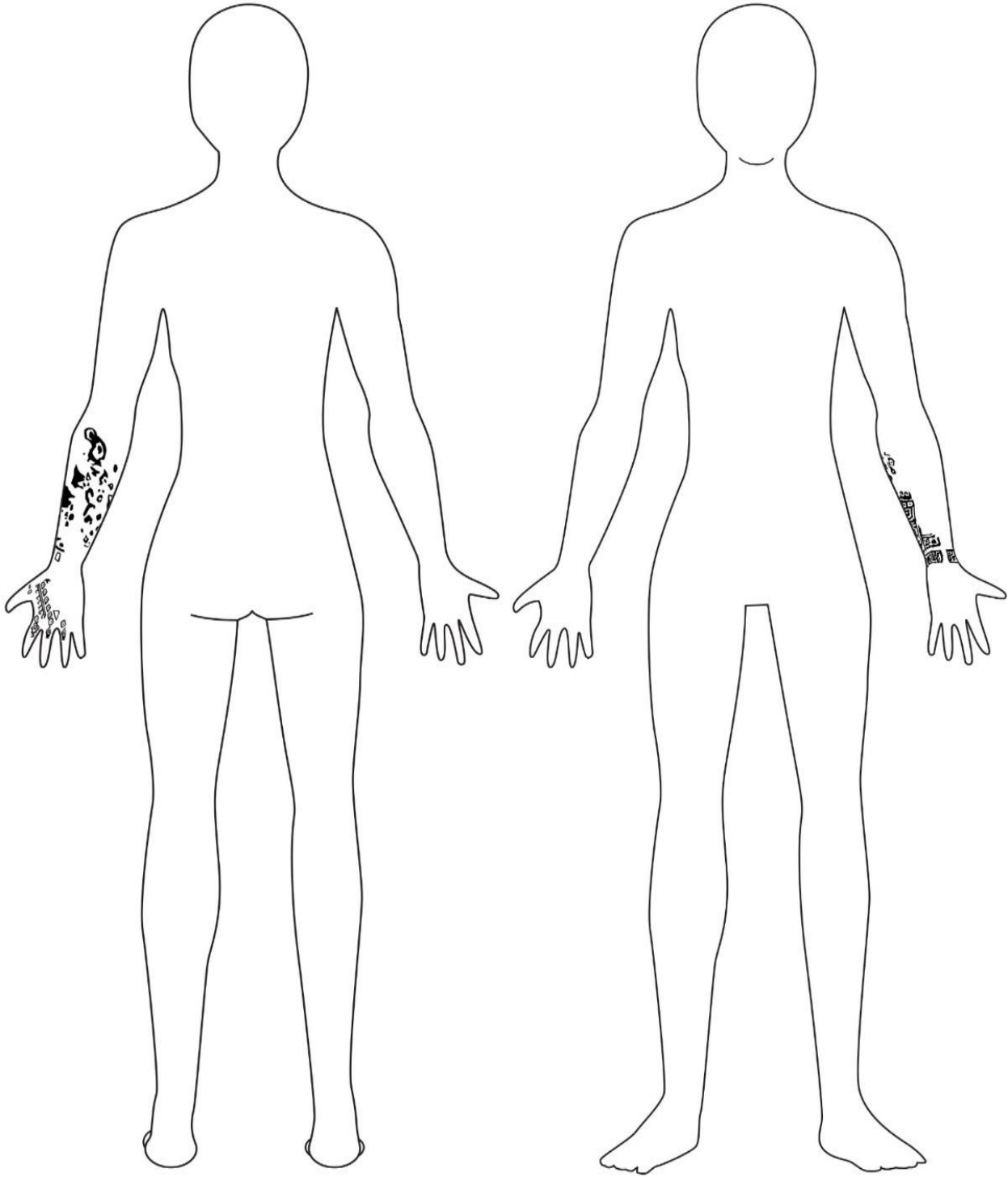


Figure 3.3: Full body stencils of A56903/23045 from the Milwaukee Public Museum.

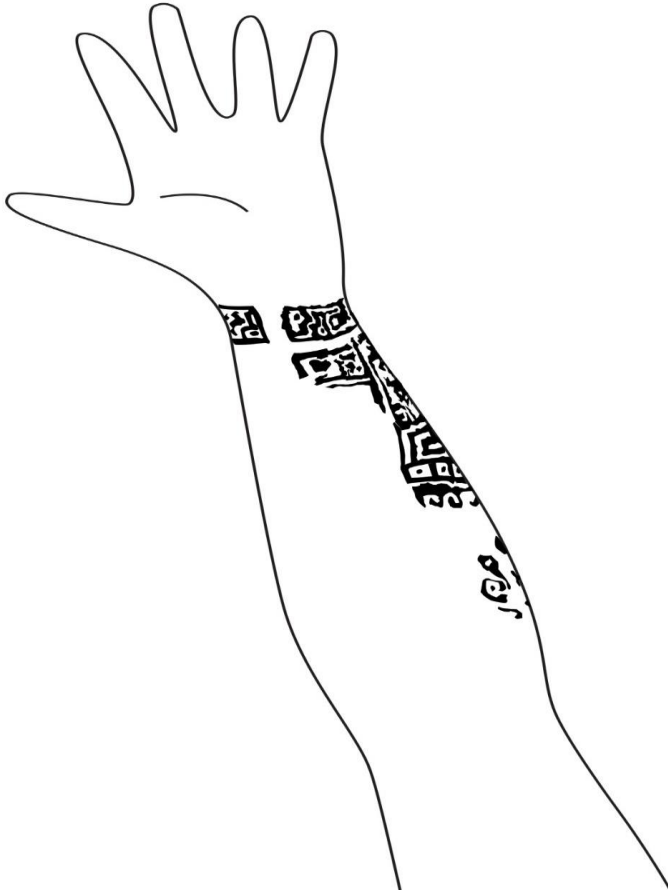


Figure 3.4: Arm stencil of A56903/23045 from the Milwaukee Public Museum.

I believe that these two types of visual records, photographs and stencils, complement each other well for the purposes of tattoo research. The photographs document subtle visual details of each sample, while the stencils facilitate comparisons between samples. The stencil approach has contributed and will continue to contribute to cross-cultural comparisons of tattooing practices (Allison et al. 1996, Ruiz Estrada 2012, Gill-Frerking, Begerock and Rosendahl 2013).

Upon completion of this thesis, a copy of the photographs will be provided to the associated museums to further assure the preservation of a visual record of these tattoos for future researchers. A digital copy of this thesis, including the photos and the

stencils, will be available online via the UWM library and the Anthropology Department, for use by other researchers. I also will be uploading the blank body stencils for online access via my ResearchGate account for other researchers to utilize or reference (https://www.researchgate.net/profile/Madison_Auten2).

Chapter 4: Results

In this chapter I present the data I collected on 11 examples of prehistoric Andean tattoos at three museums in the United States: the Milwaukee Public Museum, the Arizona State Museum, and the Field Museum. In each case I start with the museum sample number as the primary reference number and provide a brief summary of any available archaeological context information, such as the site name or region, and the name of the valley where it was collected. I then describe the part of the body represented and the location of the tattoos. I accompany this with photos and body stencils to illustrate the placement and design of the tattoos. At the end of the chapter I summarize the results in map and table form. I list the samples in order of museum visited: Milwaukee Public Museum, Arizona State Museum, and Field Museum.

Milwaukee Public Museum Sample (A56903/23045)

This sample was collected by the Milwaukee Public Museum in 1968 from El Brujo site near the mouth of the Chicama Valley in Peru. Sample A56903/23045 is of a lower left arm consisting of the radius, ulna and hand of an individual. Tattooing can be seen on the anterior skin of the wrist, on both anterior and posterior aspects of the forearm, and on the dorsal surface of the hand extending along the proximal part of several fingers (Figures 4.1-4.3). The tattoo designs are compact and outlined. Designs are mainly geometric in nature with some repeated elements and overall a rectilinear style.



Figure 4.1: Left arm of sample A56903/23045 from the Milwaukee Public Museum.

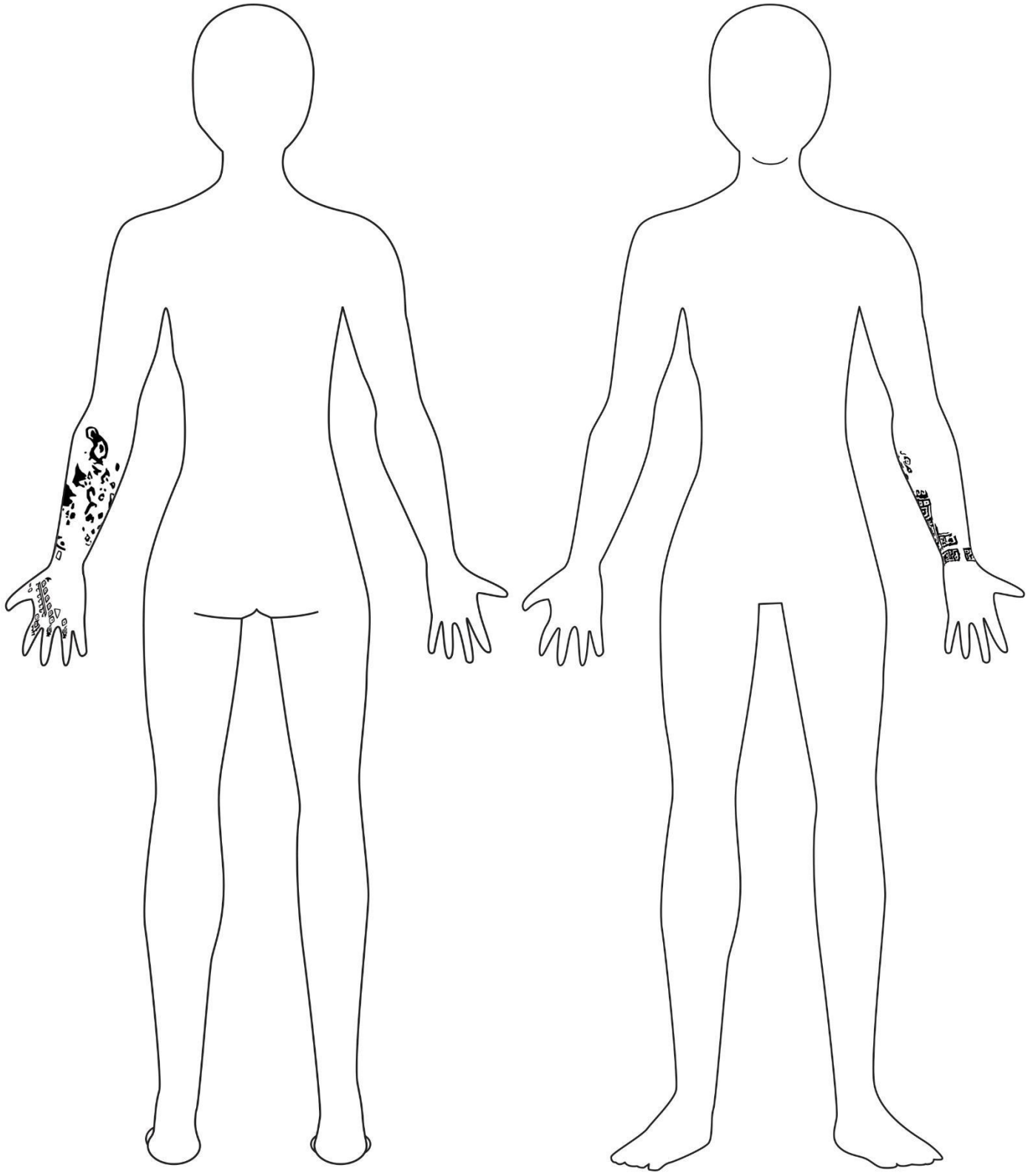


Figure 4.2: Full body stencil of A56903/23045 from the Milwaukee Public Museum

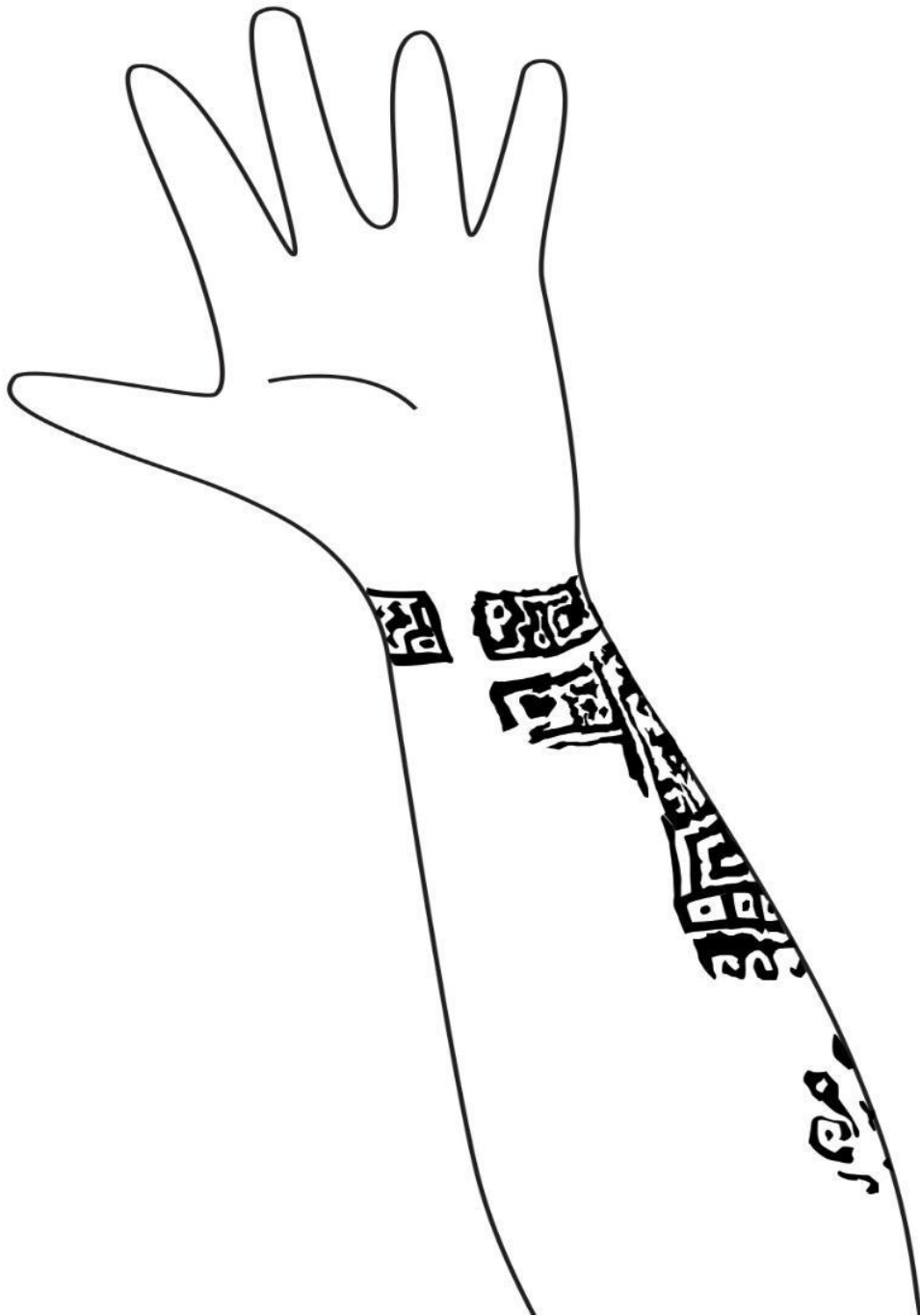


Figure 4.3: Close up arm stencil, palmer side of A56903/23045 from the Milwaukee Public Museum

The Arizona State Museum Sample (A22-117-6), Left Arm

Sample A22-117-6 left arm was collected by the Arizona State Museum in 1943 from the Rimac Valley, 12-13km outside of Lima. Sample A22-117-6 is a lower left arm consisting of the radius, ulna and hand of an individual. Tattooing can be seen on the skin of the dorsal aspect of the wrist, hand, fingers and thumb. It can also be seen on the dorsal aspect of the forearm and across the ulna-radius-humerus joint. (Figures 4.4-4.6). This arm is part of a pair, see A22-117-6 right arm. Designs are a combination of basic lines on the top of the hand and more complex designs on the fingers. The band tattoo is very geometric with some clear repeated styles.



Figure 4.4: Sample A22-117-6, palmer side left arm from the Arizona State Museum

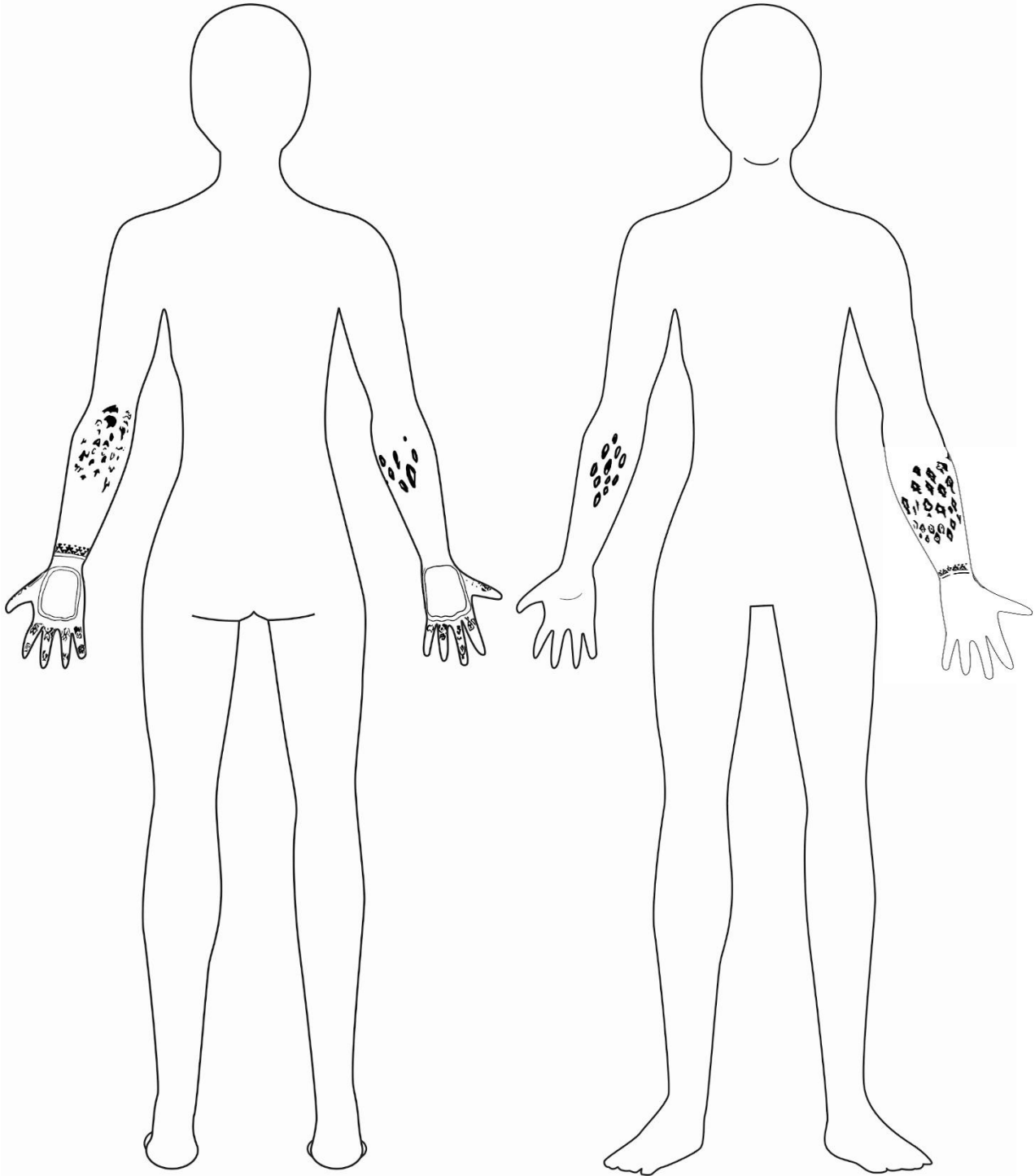


Figure 4.5: Full body stencil of A22-117-6 from the Arizona State Museum

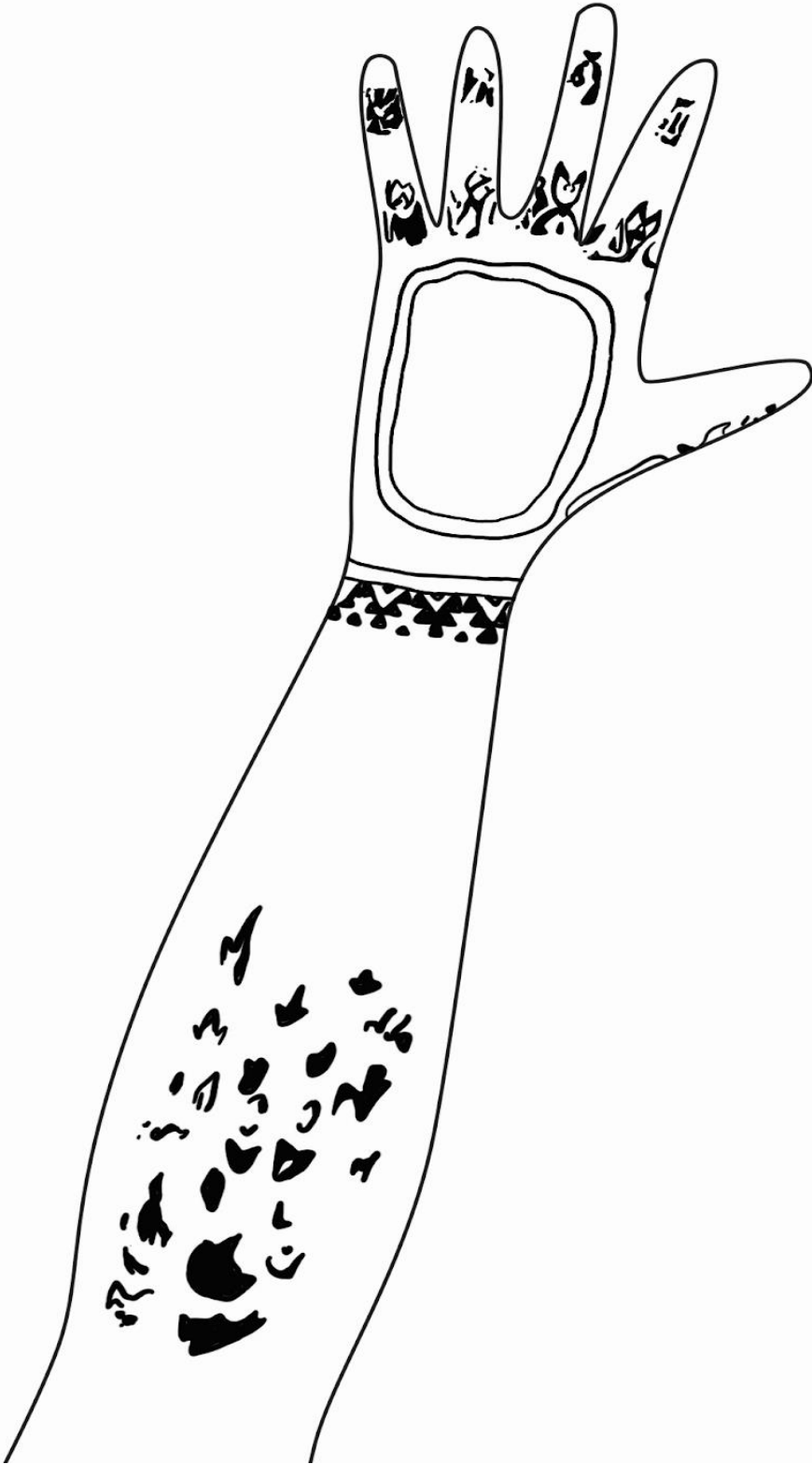


Figure 4.6: Close up arm stencil of A22-117-6, dorsal aspect of the left arm from the Arizona State Museum

Arizona State Museum Sample (A22-117-6), Right Arm

Sample A22-117-6 right arm was collected by the Arizona State Museum in 1943 from the Rimac Valley, 12-13km outside of Lima. Sample A22-117-6 is of a lower right arm consisting of the radius, ulna and hand of an individual. This arm also has a cloth bracelet located on the proximal end of the lower arm. Tattooing can be seen on the skin of the dorsal aspect of the wrist, hand and fingers. It can also be seen on both anterior and posterior aspects of the forearm. (Figures 4.7-4.11). Designs on the right arm are very similar to that on the left arm. Both have tattoos on the fingers and a similar tattoo outlining on the top of the palm. Finger tattoos are more complex than the basic outlining tattooing. The angular tattoos on the right forearm are small repeated shapes, possibly fish-like motifs.



Figure 4.7: Sample A22-117-6 right arm from the Arizona State Museum

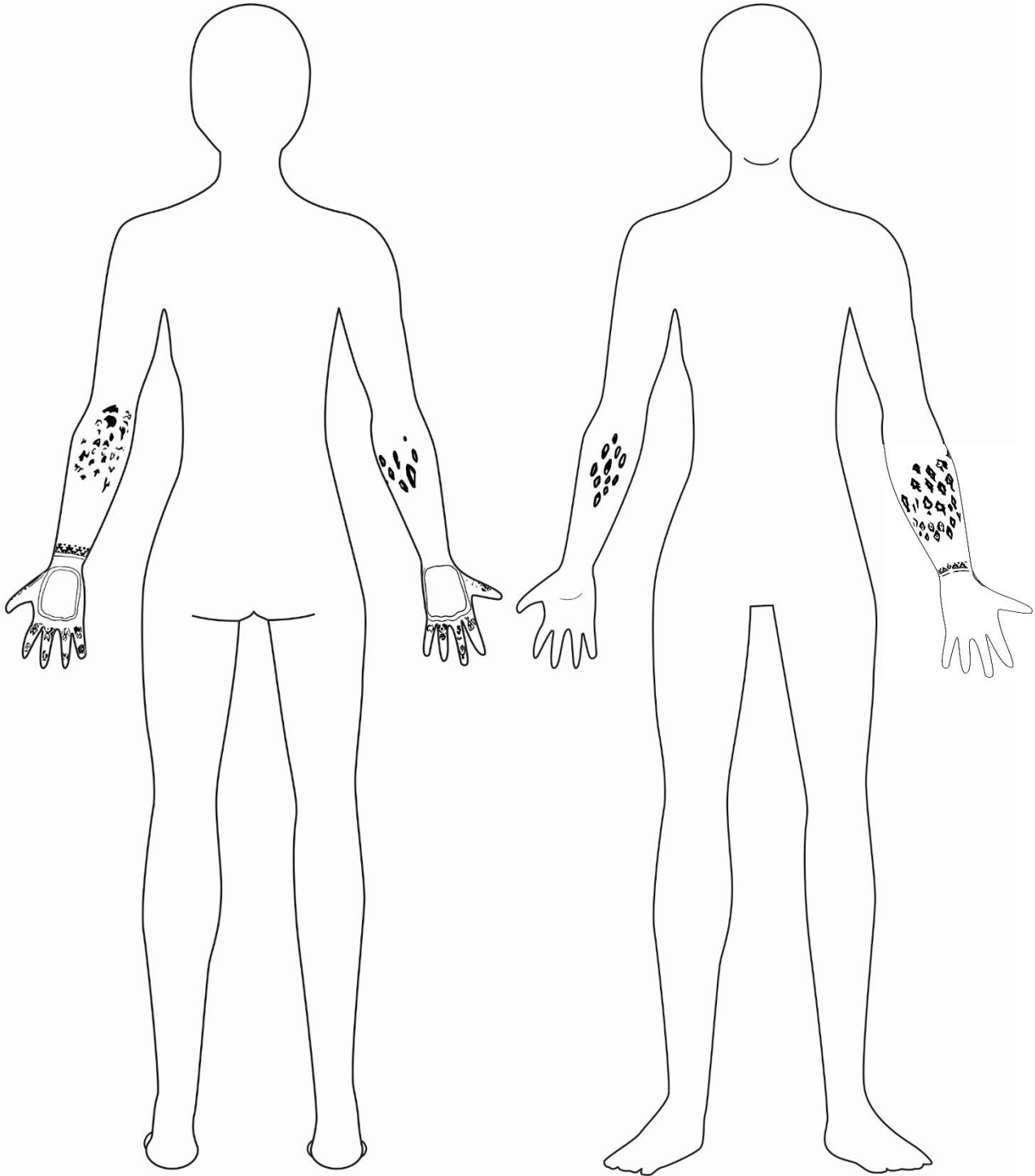


Figure 4.8: Full body stencils of A22-117-6 from the Arizona State Museum

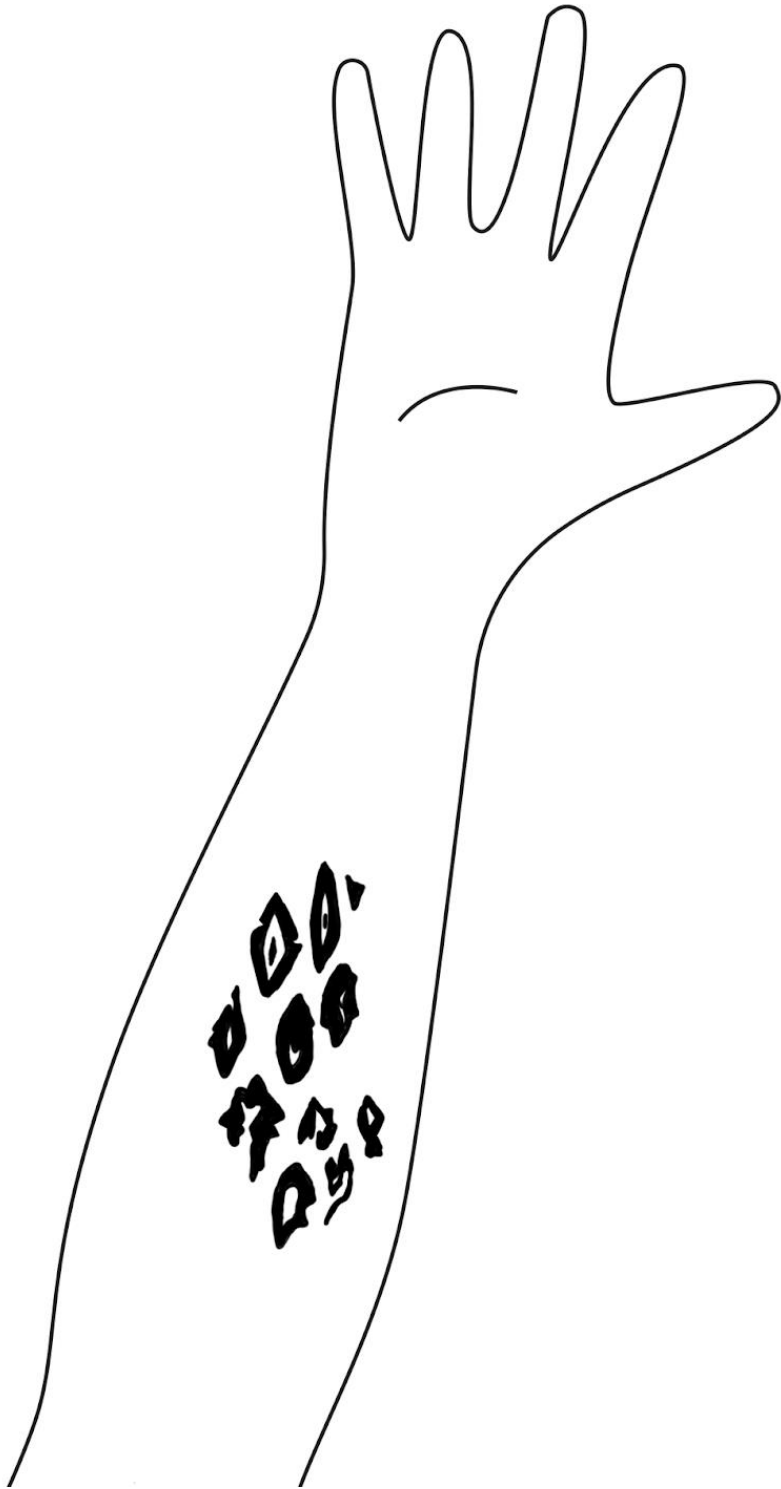


Figure 4.9: Close up arm stencil, palmer side of A22-117-6 right arm from the Arizona State Museum

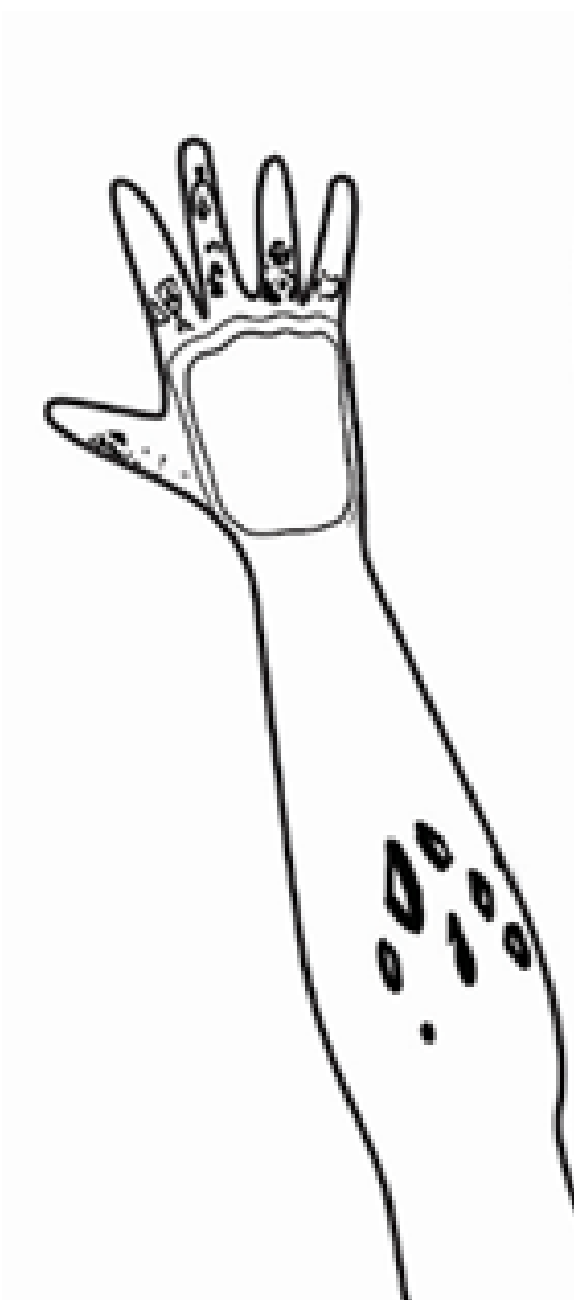


Figure 4.10: Close up forearm, dorsal stencil of A22-117-6 right arm from the Arizona State Museum



Figure 4.11: Close up hand, dorsal view stencil of A22-117-6 right arm from the Arizona State Museum

Field Museum Sample (40121)

Sample 40121 is a right forearm consisting of a complete ulna with a remnant of tissue adhering at the distal end, excavated in Peru at the Necropolis of Ancon by George Arthur Dorsey. Dorsey identified the grave as belonging to a female. A small remnant of tissue is preserved at the distal end in the region of the wrist. Tattooing can be seen as what appears to be several small fine bands. If more soft tissue was still intact more tattooing may have been present. (Figures 4.12-4.13)



Figure 4.12: Sample 40121, right ulna from the Field Museum

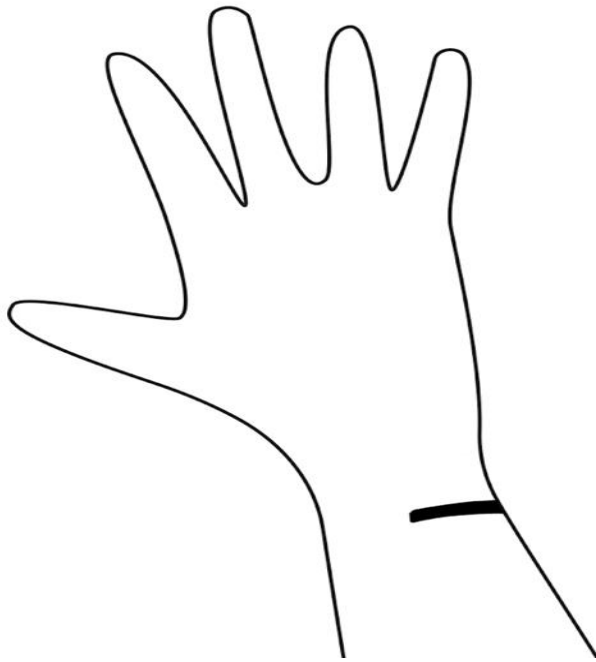


Figure 4.13: Close up arm stencil, dorsal view of 40121 from the Field Museum

Field Museum Sample (40169)

Sample 40169 consists of a left forearm and part of a right forearm (ulna with remnant of skin), and part of a torso (sternum and rib areas). This individual was excavated from the Necropolis of Ancon, Peru by George Arthur Dorsey in 1894. Tattooing can be seen as what appears to be two bands on the dorsal aspect of the left forearm just proximal to the wrist. There appears to be a remnant tattoo in the parallel location on the right ulna. The preserved tissue from the sternum and rib area suggest the chest was tattooed. (Figures 4.14 – 4. 20) The tattoo designs present are basic, thick geometric shaped band designs on the left forearm. The right forearm design is close to the wrist with thinner lines and a smaller geometric pattern. Though the chest

tattoo is not clearly visible the body stencil seems to indicate a complex design due to the multiple small elements shown.



Figure 4.14: Sample 40169, left forearm from the Field Museum



Figure 4.15: Sample 40169, right forearm (ulna with soft tissue at wrist) from the Field Museum



Figure 4.16: Sample 40169, soft tissue above sternum from the Field Museum

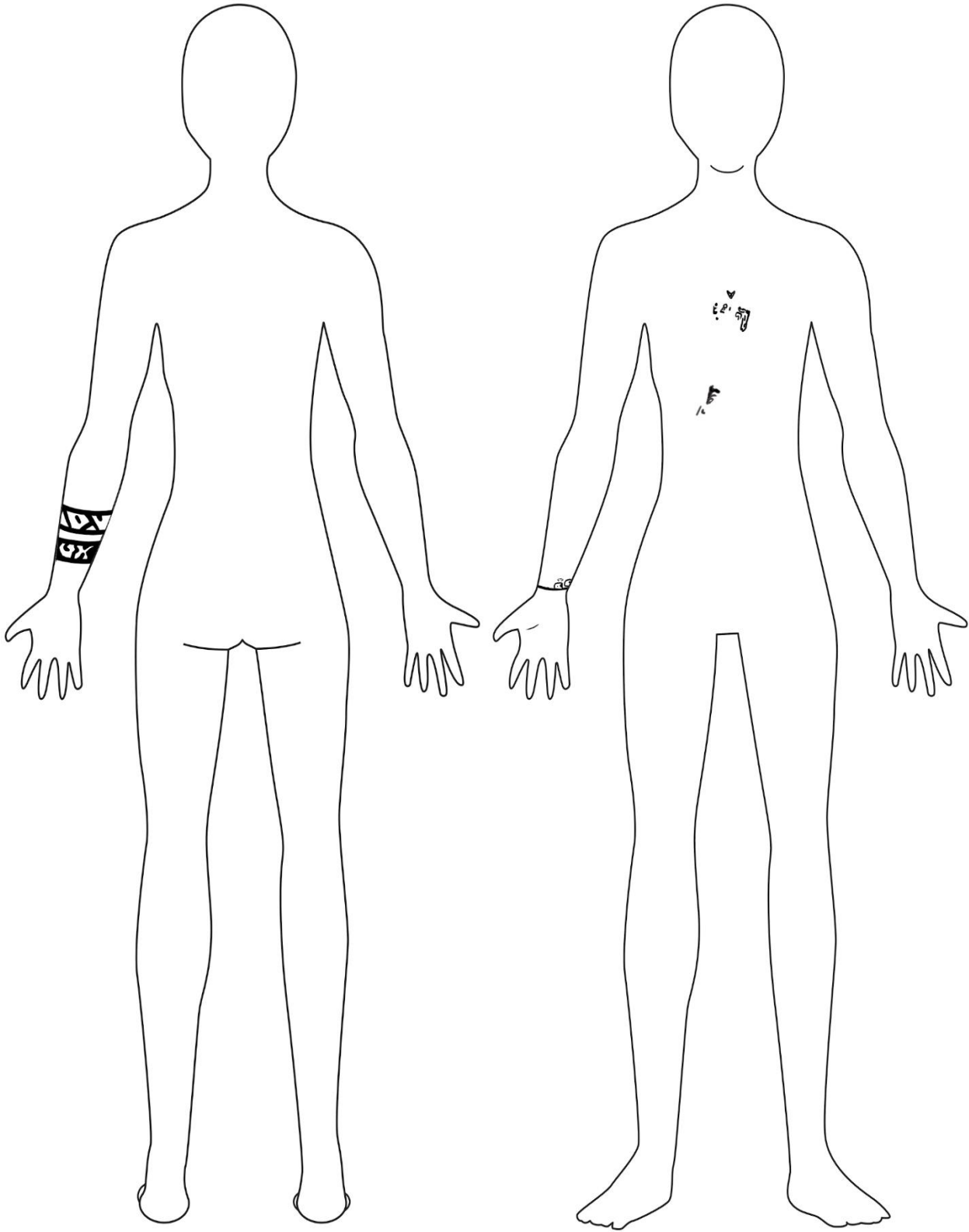


Figure 4.17: Body stencil of sample 40169 from the Field Museum

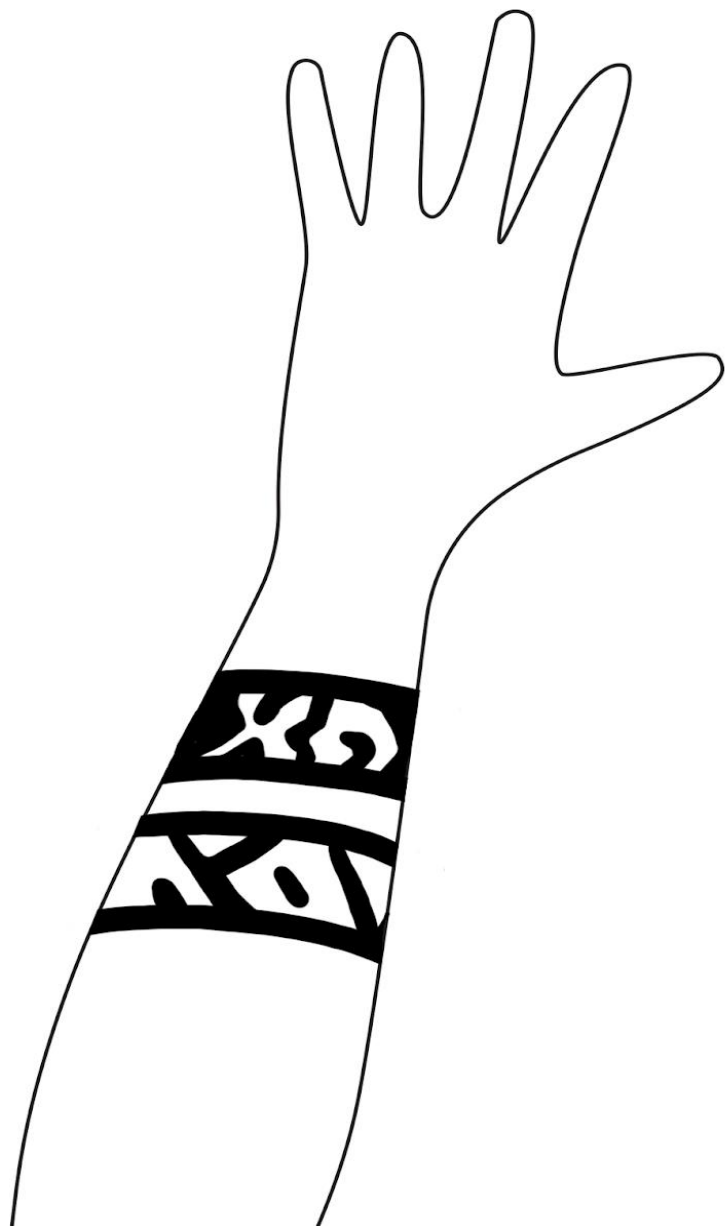


Figure 4.18: Close up left arm stencil, dorsal view of sample 40169 from the Field Museum

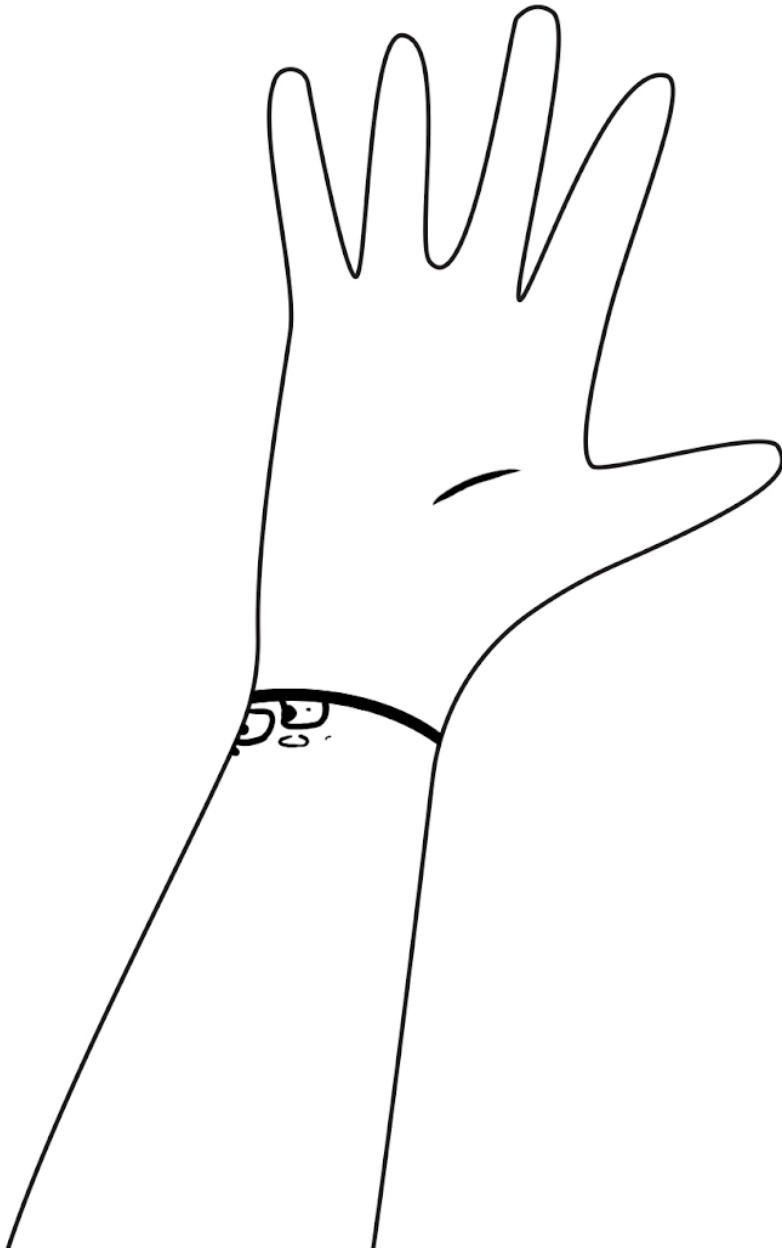


Figure 4.19: Close up right arm stencil, palmer view of 40169 from the Field Museum

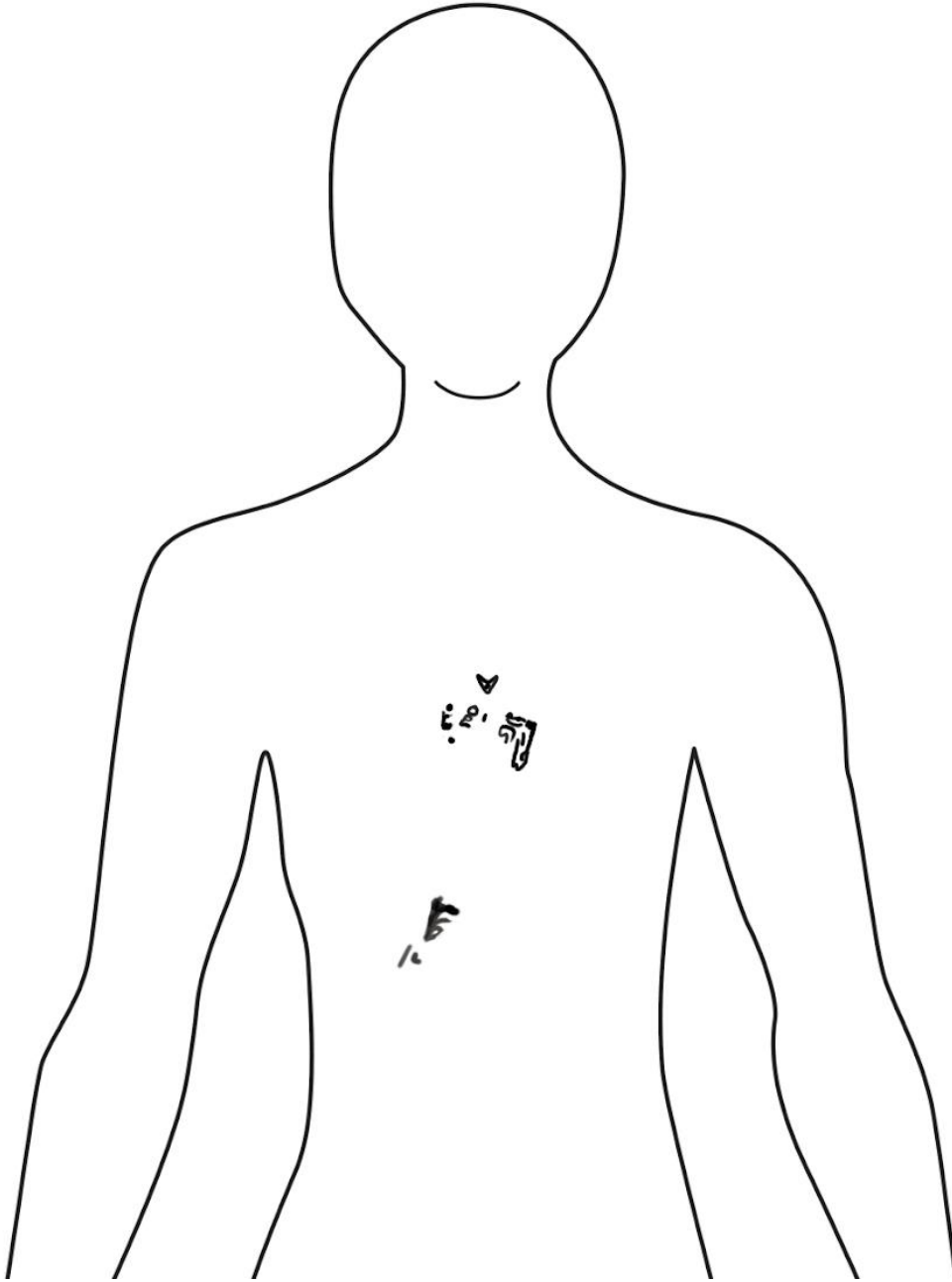


Figure 4.20: Close up chest stencil of sample 40169 from the Field Museum

Field Museum Sample (40246)

Sample 40246 consists of a left arm and right arm from an adult female. This individual was excavated from the Necropolis of Ancon, Peru by George Arthur Dorsey

in 1894. Tattooing can be seen on what appears to be a small dot and line on skin corresponding to the lateral margin of the right hand and on the left arm tattooing can be seen as what appears to be a band on the wrist (4.21-4.23) Full body stencil in Appendix C. The hand tattoo on the right arm is a small basic line. The wrist tattoo on the left arm is a large curvilinear outlined shape that must be part of a larger tattoo not fully seen.



Figure 4.21: Sample 40246, left arm from the Field Museum

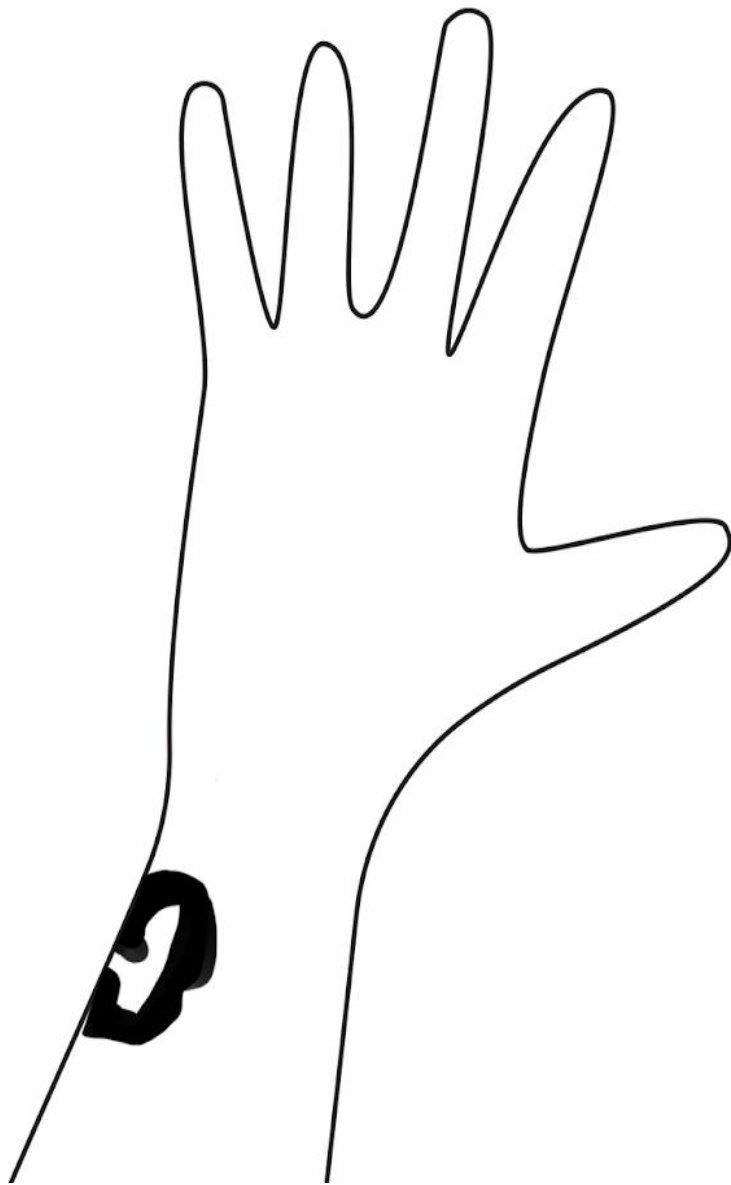


Figure 4.22: Close up left arm stencil, dorsal view of sample 40246 from the Field Museum



Figure 4.23: Sample 40246, hand on right arm from the Field Museum

Field Museum Sample (40249)

Sample 40249 consists of soft tissues pieces from an adult female excavated at the Necropolis of Ancon Peru by George Arthur Dorsey in 1894. Where these soft tissues pieces came from on the body is undetermined. Reference picture in Appendix C.

Field Museum Sample (40252)

Sample 40252 consists of a left and right arm from an individual excavated from the Necropolis of Ancon, Peru by George Arthur Dorsey in 1894. On the left arm tattooing can be seen on the wrist, forearm, and on the proximal and middle phalanx. On the right arm tattooing can be seen above the wrist on the forearm of the individual. (Figures 4.24-4.28). Both forearms seem to show thin line designs of various curvilinear shapes whereas the finger tattoos show thicker more complex designs. Some of the patterning you see in this image is staining caused by the fine meshed textiles in which the body was wrapped.



Figure 4.24: Sample 40252 left arm from the Field Museum



Figure 4.25: Sample 40252 right arm from the Field Museum

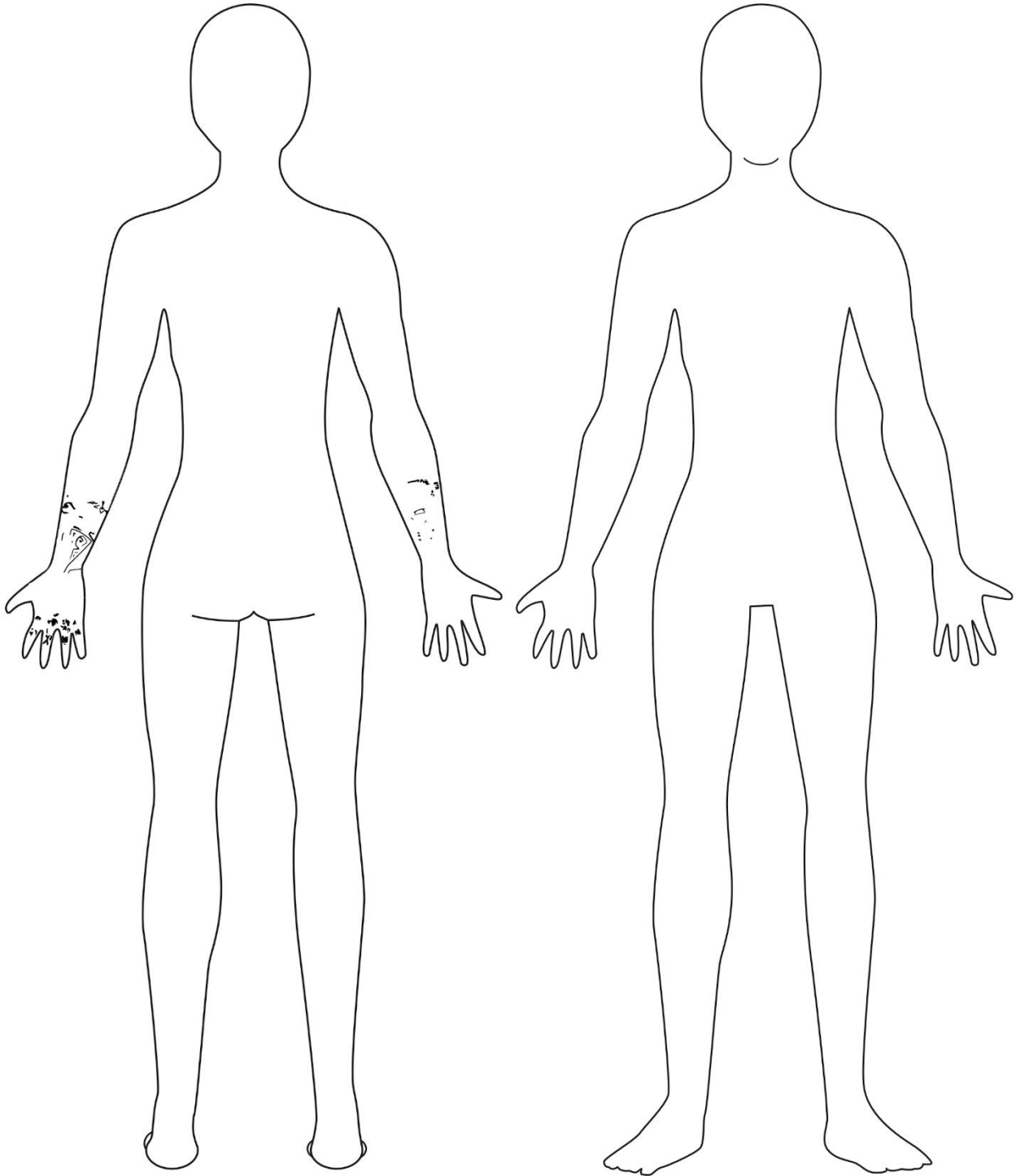


Figure 4.26: Full body stencils of sample 40252 from the Field Museum



Figure 4.27: Close up arm stencil, dorsal view of 40252 left arm from the Field Museum

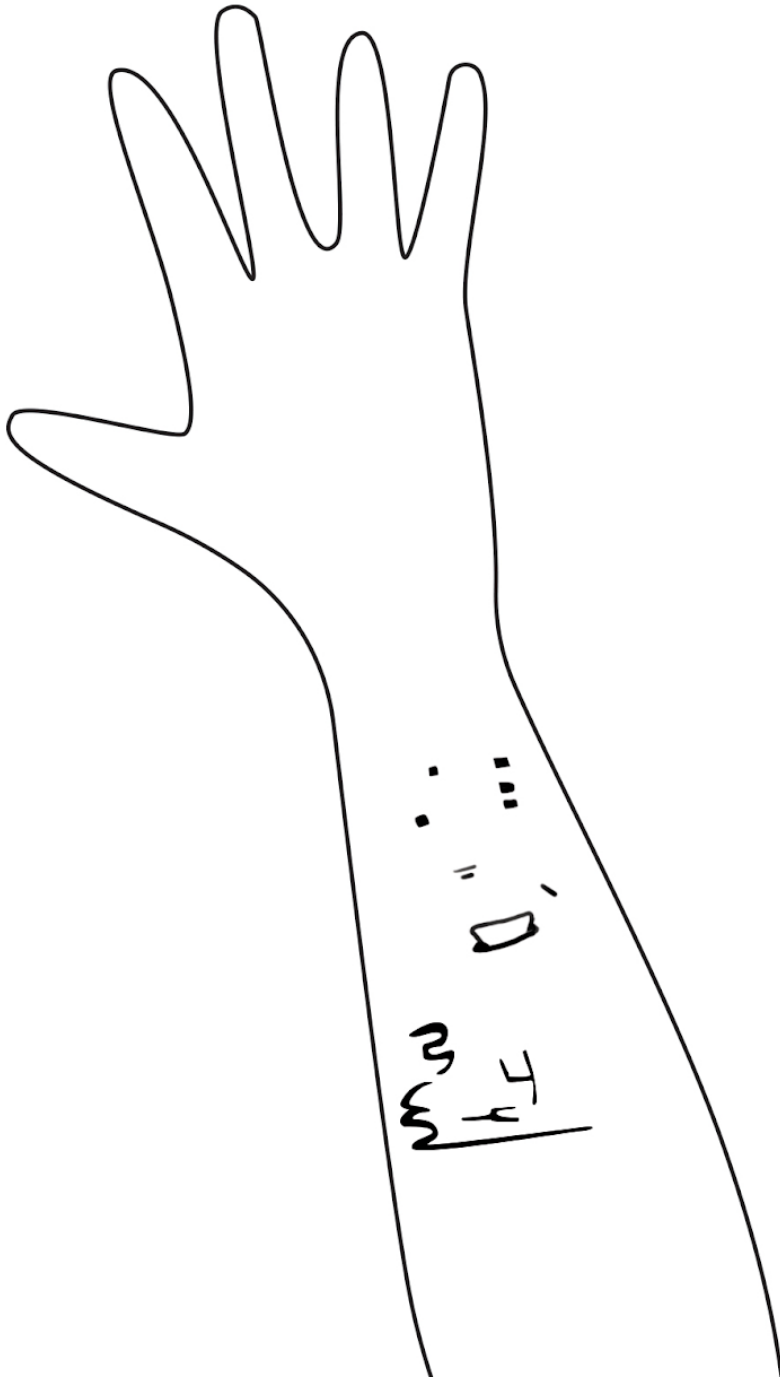


Figure 4.28: Close up arm stencil, dorsal view of 40252 right arm from the Field Museum

Field Museum Sample (183583)

Sample 183583 is a right arm consisting of a radius, ulna and hand of an individual who was excavated at the Necropolis of Ancon, Peru by George Arthur Dorsey in 1894. Tattooing is found just above wrist, visible on the anterior and posterior of the arm. (Figures 4.29-4.32). Tattoo designs for this sample are a rectangular, repeated shapes. The checkerboard design is on both the anterior and posterior of the arm. The zig-zag designs are only on the posterior of the arm.



Figure 4.29: Sample 183583, right arm from the Field Museum

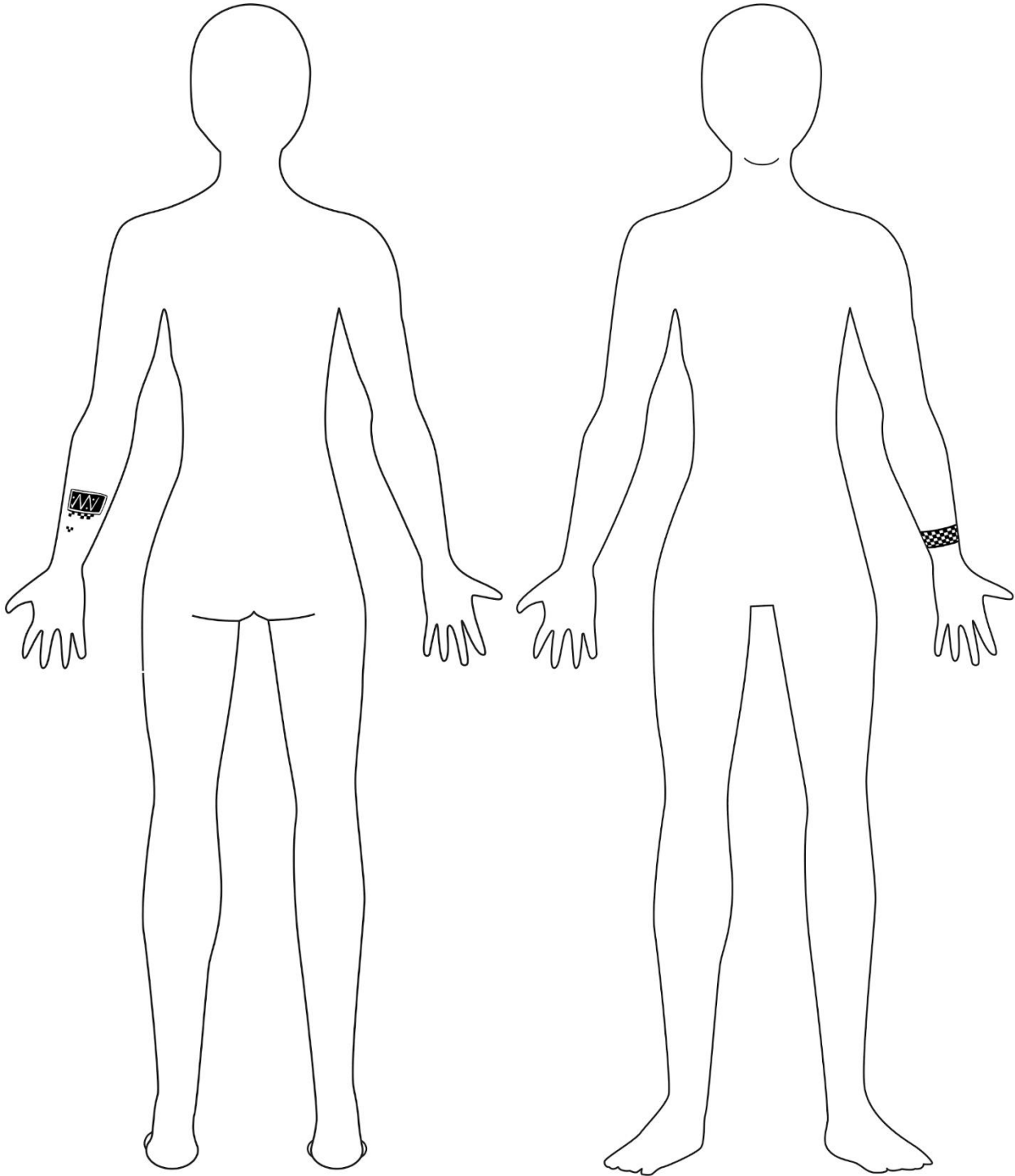


Figure 4.30: Full body stencils of 183585 from the Field Museum

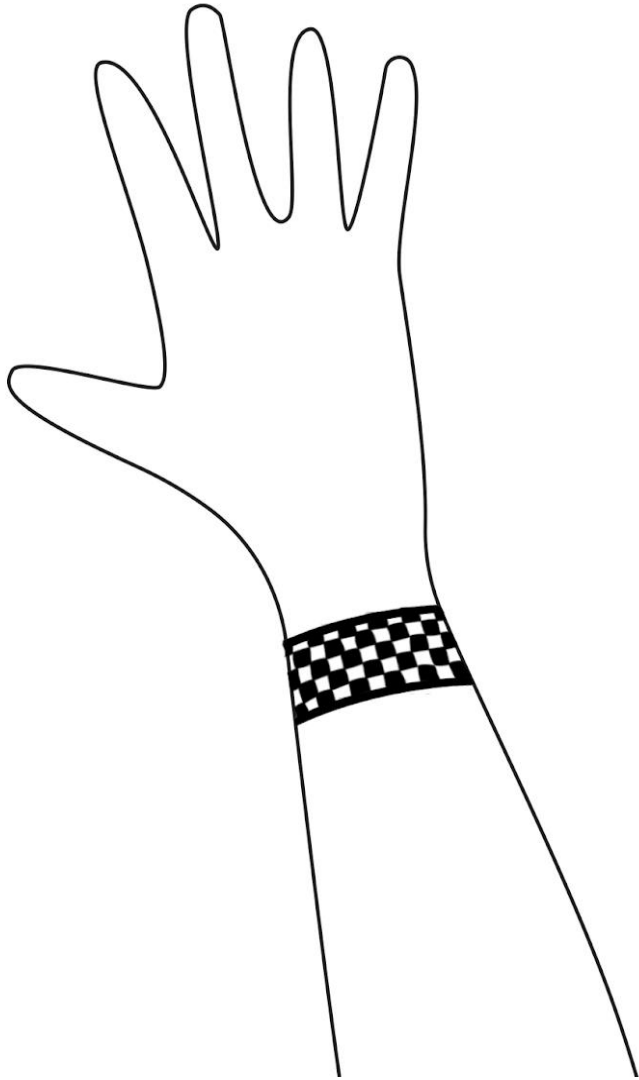


Figure 4.31: Close up right arm stencil, palmer side of 183585 from the Field Museum

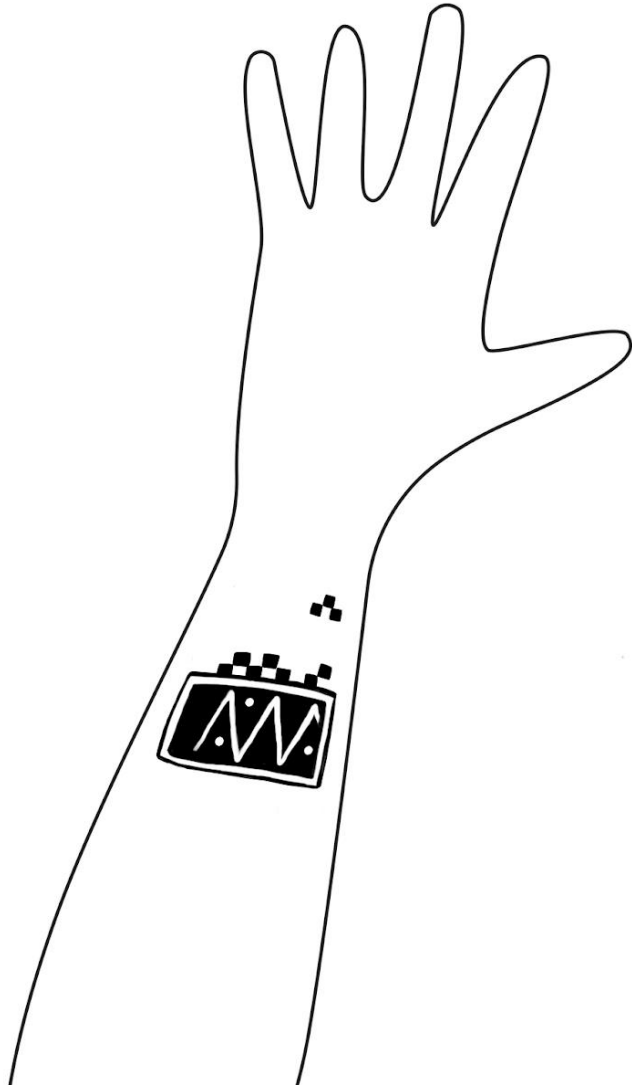


Figure 4.32: Close up right arm, dorsal view stencil of 183585 from the Field Museum

Field Museum Sample (183595)

Sample 183595 is a right arm consisting of a radius, ulna and hand of an individual. Records indicate this arm was excavated at the Necropolis of Ancon, Peru by George Arthur Dorsey in 1894. Tattooing can only be seen on the posterior of the arm. (Figures 4.33-4.35). Unlike most designs in my sample sphere, this arm only has visible

designs on one side of the arm. The designs are mainly rectangular with the start of a band outline at the wrist.



Figure 4.33: Sample 183595 right arm from the Field Museum

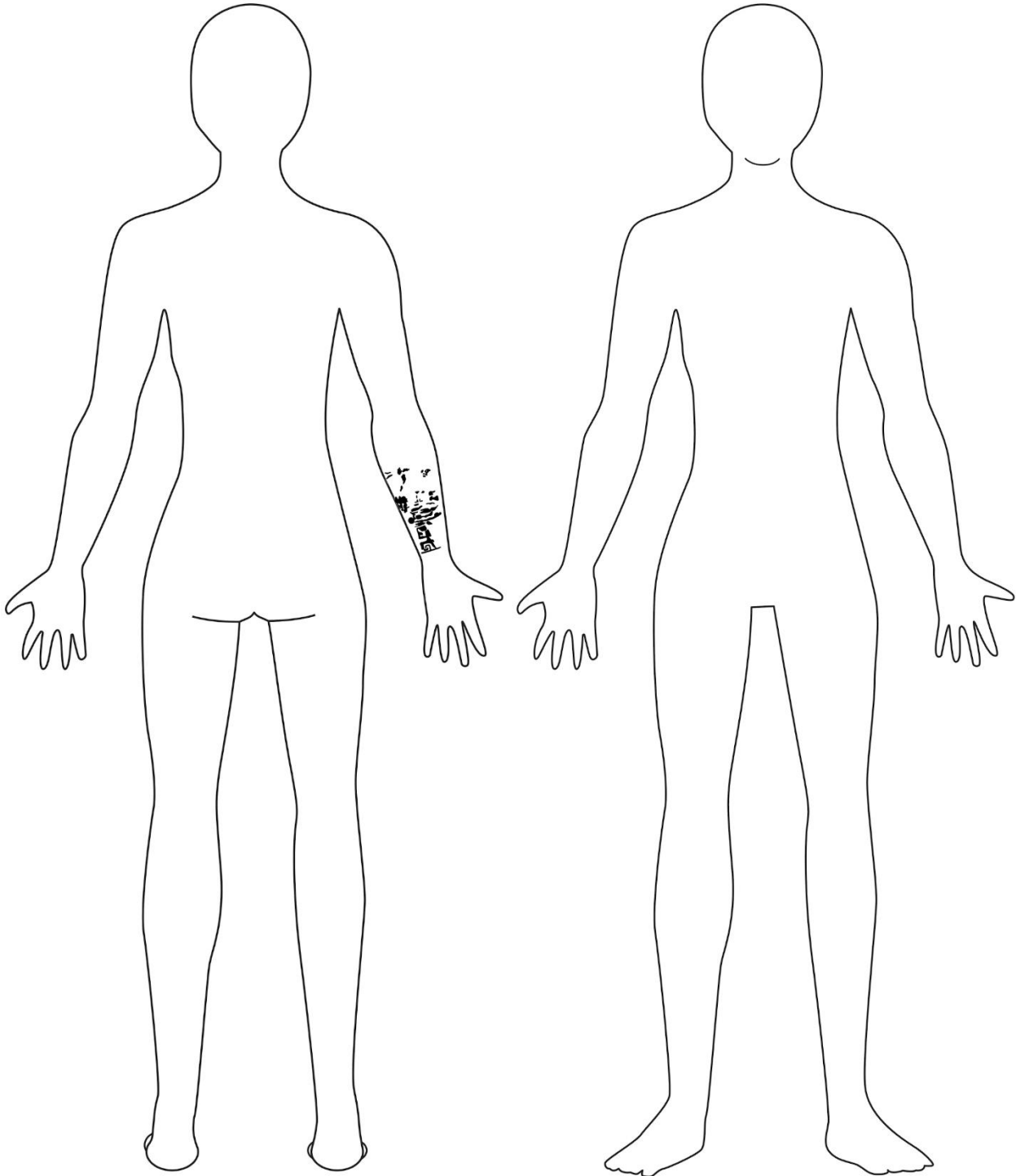


Figure 4.34: Full body stencil of 183595 from the Field Museum

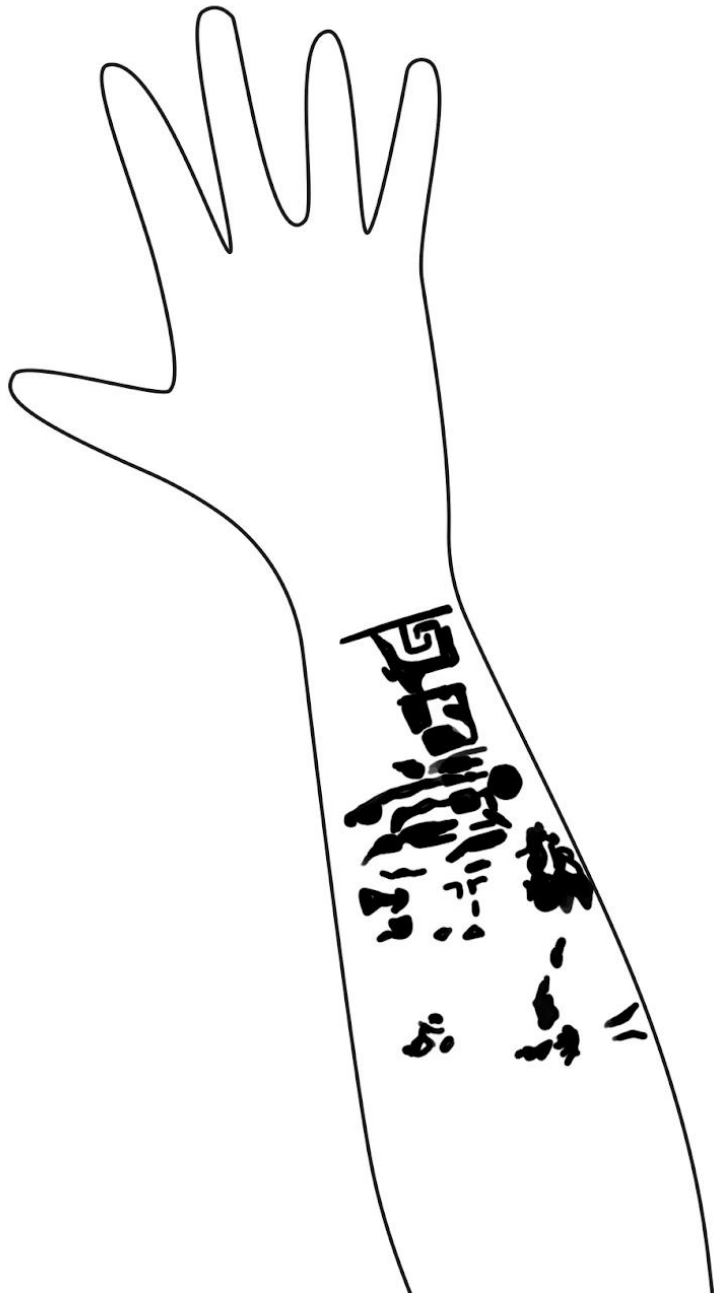


Figure 4.35: Close up right arm stencil, dorsal view of 183595 from the Field Museum

Field Museum Sample (183930)

Sample 183930 is what remains of an individual excavated from the Necropolis of Ancon, Peru by George Arthur Dorsey in 1894. Tattooing can be seen as what appears to be a band on the wrist of the right arm. (Figures 4.36-4.37).



Figure 4.36: Sample 183930, right arm tattoo from the Field Museum.



Figure 4.37: Close up right arm stencil, dorsal view of sample 183930 from the Field Museum

Field Museum Sample (971371)

Sample 971371 is a female excavated from the Necropolis of Ancon, Peru by George Arthur Dorsey in 1894. Dorsey's dissertation indicates that tattooing may have been visible on the skin over the breasts. However, after examining the soft tissue, a tattoo design was not visible on that area. Tattooing can be seen on the top of the feet toward the medial side. Tattooing just appears to be one small line. (Figure 4.38)



Figure 4.38: Foot tattoo from sample 971371 from the Field Museum.

Summary of Results

These eleven specimens add several useful points of information to the growing body of data on ancient Andean tattooing practices. From the samples in my thesis we can touch on topics such as tattoo location on the body, the age and sex of individuals receiving tattoos, what tattoo designs/styles were present and what geographical regions, and cultures were practicing tattooing. Figure 4.39 is a map of showing the original location of my samples, all come from coastal sites in Peru. These samples also increases what is known of tattoos from the El Brujo site and the Necropolis of Ancon site. The Arizona State Museum sample adds a case to the Rimac Valley region.

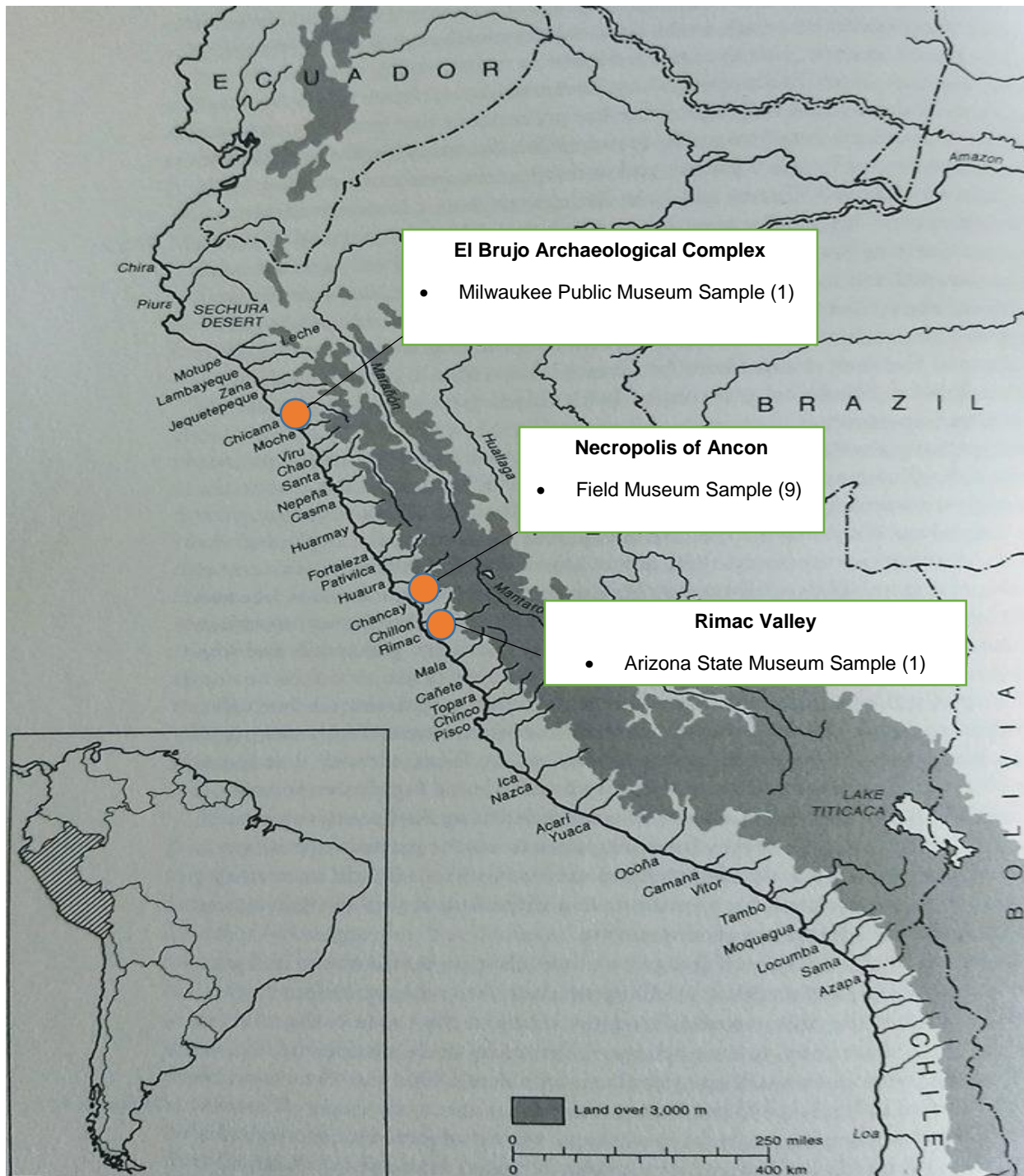


Figure 4.39: Map depicting the original locations of my samples. (Map modified from Moseley 2001:16.)

Understanding the age and sex of tattooed individuals provides potential insights into the role of tattooing practices in prehistoric societies. Five of the eleven individuals

in my sample had been sexed by the original excavator (see Table 4.1), Dr. Dorsey and a physical anthropologist, Dr. Konigsberg. Dr. Dorsey based his determination on the presence of grave goods and Dr. Konigsberg based his determination on pubic morphology. All individuals that were sexed were identified as female and all of these represent a single archaeological location, the Ancon Necropolis. Three of the eleven individuals in my sample were given age determination by Dr. Konigsberg based upon skeletal analysis. All individuals that were given age determinations were adults of 35 years or more. These same individuals were all females from the Necropolis of Ancon. Although the sample is small and limited to a single site, it does echo the tendency noted in Chapter 1, suggesting that adult females were especially likely to wear tattoos.

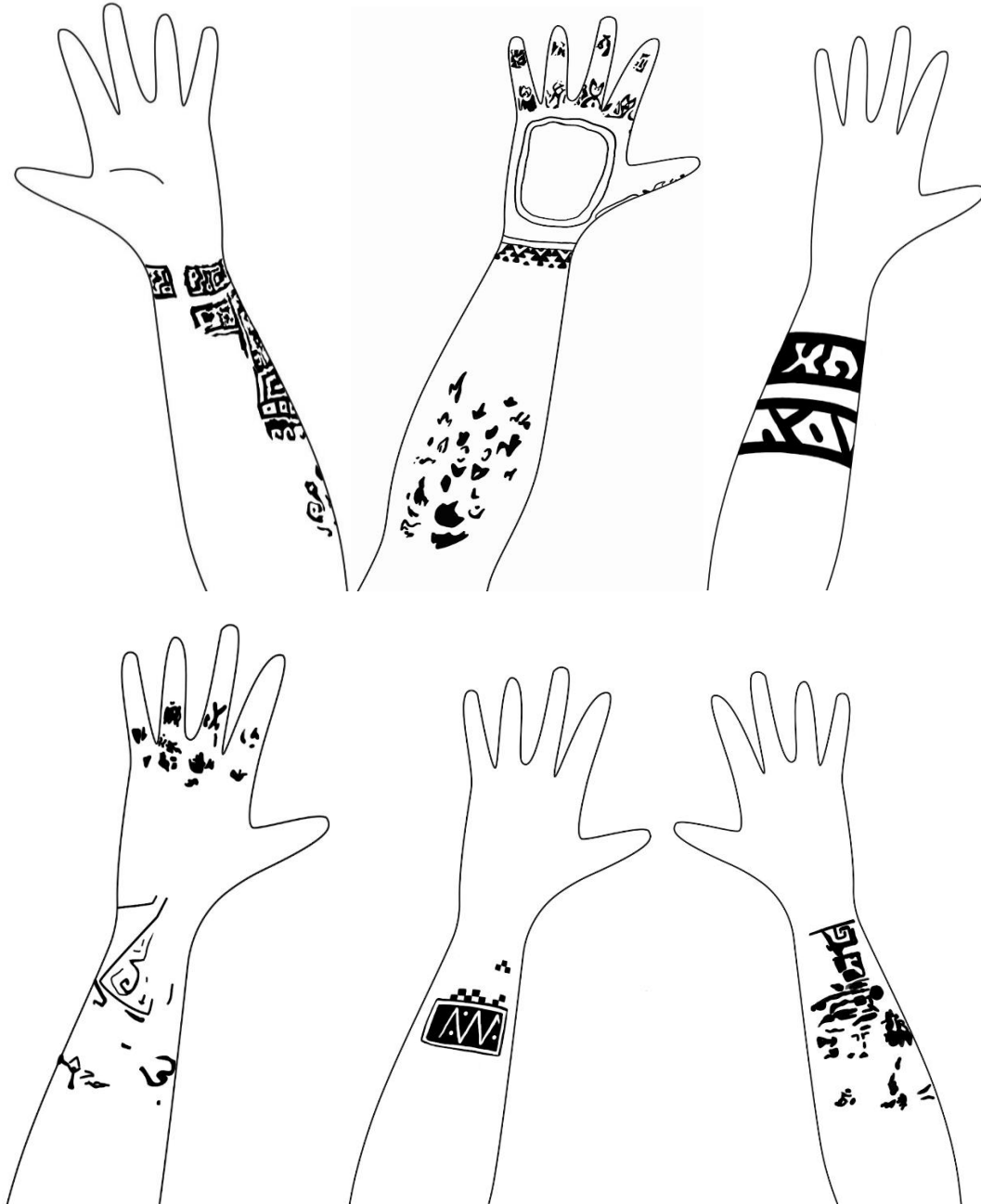
Understanding where on the body tattoos were displayed also provides insights into the emic goals of tattooing, particularly as these related to the visibility of the tattoo to either the wearer or to other members of the society. When it comes to body parts that are tattooed versus those that are not, some complications arise with quantification. The collections I reviewed often consisted of incomplete bodies. My observations of body locations of tattoos thus represent only those body parts available for examination. This is perhaps complicated by the ease with which an isolated forearm could have been collected in the field and sold or transported, relative to whole bodies or other body parts. Future research aimed at careful surveys of complete mummies for tattooed skin may help resolve this uncertainty about what are cultural selected body parts for tattooing and what are not. In my samples I examined approximately 16 forearms, three chest sections and four feet to look for tattoos. Identified tattoos on 13 forearms, one chest section and one foot. Even though this sample is small, and taking into account

possible field collection bias, there appears to be a marked tendency for tattoos to occur on forearms, specifically the wrist and the back of the hand and fingers (see Table 4.1).

Table 4.1 Summary of museum samples examined.

Excavated from	Current location	Museum ID	Tattooing Location	Sex, Culture and Age (if reported)	Related Citations
El Brujo Archaeological Complex, Peru.	The Milwaukee Public Museum, Anthropology Department.	A56903/23045	Left Arm	Chimu, Adult	
Rimac Valley, Peru.	The Arizona State Museum, Anthropology Department.	A22-117-6	Right Arm and Left Arm	Adult	
Necropolis of Ancon, Peru.	The Field Museum, Anthropology Department.	971371	Feet. May have breast tattoo, currently not visible.	Female, Adult	Grave 7, Mummy 20. Dorsey 1894: 69-70.
Necropolis of Ancon, Peru.	The Field Museum, Anthropology Department.	183930	Right Wrist	Adult	Grave 127, Mummy 178.
Necropolis of Ancon, Peru.	The Field Museum, Anthropology Department.	183595	Right Arm	Adult	
Necropolis of Ancon, Peru.	The Field Museum, Anthropology Department.	183583	Right Arm	Adult	
Necropolis of Ancon, Peru.	The Field Museum, Anthropology Department.	40252	Right and Left Arm	Adult	
Necropolis of Ancon, Peru.	The Field Museum, Anthropology Department.	40249	Pieces of skin, possibly from left hand and right arm (Based on Dorsey 1894:60).	Female, 35+ years old	Grave 73, Mummy 103. Dorsey 1894: 58-60
Necropolis of Ancon, Peru.	The Field Museum, Anthropology Department.	40246	Right and Left Arm	Female, 35+ years old	Grave 8, Mummy 23.
Necropolis of Ancon, Peru.	The Field Museum, Anthropology Department.	40169	Left Arm, Right Ulna, Sternum, Ribs	Female, 35+ years old.	Grave 87, Mummy 120.
Necropolis of Ancon, Peru.	The Field Museum, Anthropology Department.	40121	Right Ulna	Female, Adult	Grave 33, Mummy 57. Dorsey 1894: 64-66

The body stencils for each sample allow us to do a comparison between tattoo styles across the three regions (Figure 4.40).



Figures 4.40. Upper left, arm stencil, Milwaukee Public Museum sample- El Brujo site. Upper center, arm stencil, Arizona Museum sample- Rimac Valley. Upper right, arm stencil, Field Museum Sample-Necropolis of Ancon. Bottom row, arm stencils, Field Museum samples- Necropolis of Ancon. All dorsal views except MPM specimen.

In all the regions there are examples of rectangular outlined arm bands with more complex geometric designs within the bands. The Milwaukee Public Museum example is the only band that is interrupted. The Arizona State Museum band is the only example of having a band that is not clearly outlined all the way around. There are curvilinear line elements in all the samples. Thus, we do not have the full tattoos for some samples due to preservation issues, it is noticeable that many designs are compacted rather than dispersed in space. The Milwaukee Public Museum sample has almost all designs outlined. There are some zig-zag elements in the Arizona State Museum sample and some of the Field Museum samples. The Arizona State Museum is one example of a tattooed pair of arms (see Figure 4.8). It is interesting how one arm is more heavily tattooed than the other. While both arms have tattoos on the fingers and the back of the hand has a curvilinear outline, the left arm does not have tattoos on the inside of the forearm. The tattoos throughout this thesis have elements that are simple but many show designs that are either rectilinear or curvilinear, with hints of compact patterns.

Chapter 5: Conclusion

This thesis explores the practice of tattooing in the ancient Andean world, focusing on Peru. I began with the questions: Who were the people receiving tattoos? Where on the body were tattoos located? What did they depict? To address this, I collected data on tattoos preserved on human remains currently housed in three U.S. museums: the Milwaukee Public Museum, the Arizona State Museum, and the Field Museum. Mummified remains were examined and their tattoos were photographed. One of my goals was to critically document these specimens in a way that will contribute to the preservation of the cultural practice they represent, adding a digital record to the fragile one that the original specimens represent. The sample represents 15 body parts from at least 11 distinct individuals from three locations along the Peruvian coast (Table 5.1, Figure 5.1).

Table 5.1. Summary of number and location of tattooed specimens per museum.

Museum	Number of Individuals	Body Parts Tattooed
Milwaukee Public Museum	1	One arm
Arizona State Museum	1	Two arms
Field Museum	9	Ten arms, one foot, one chest

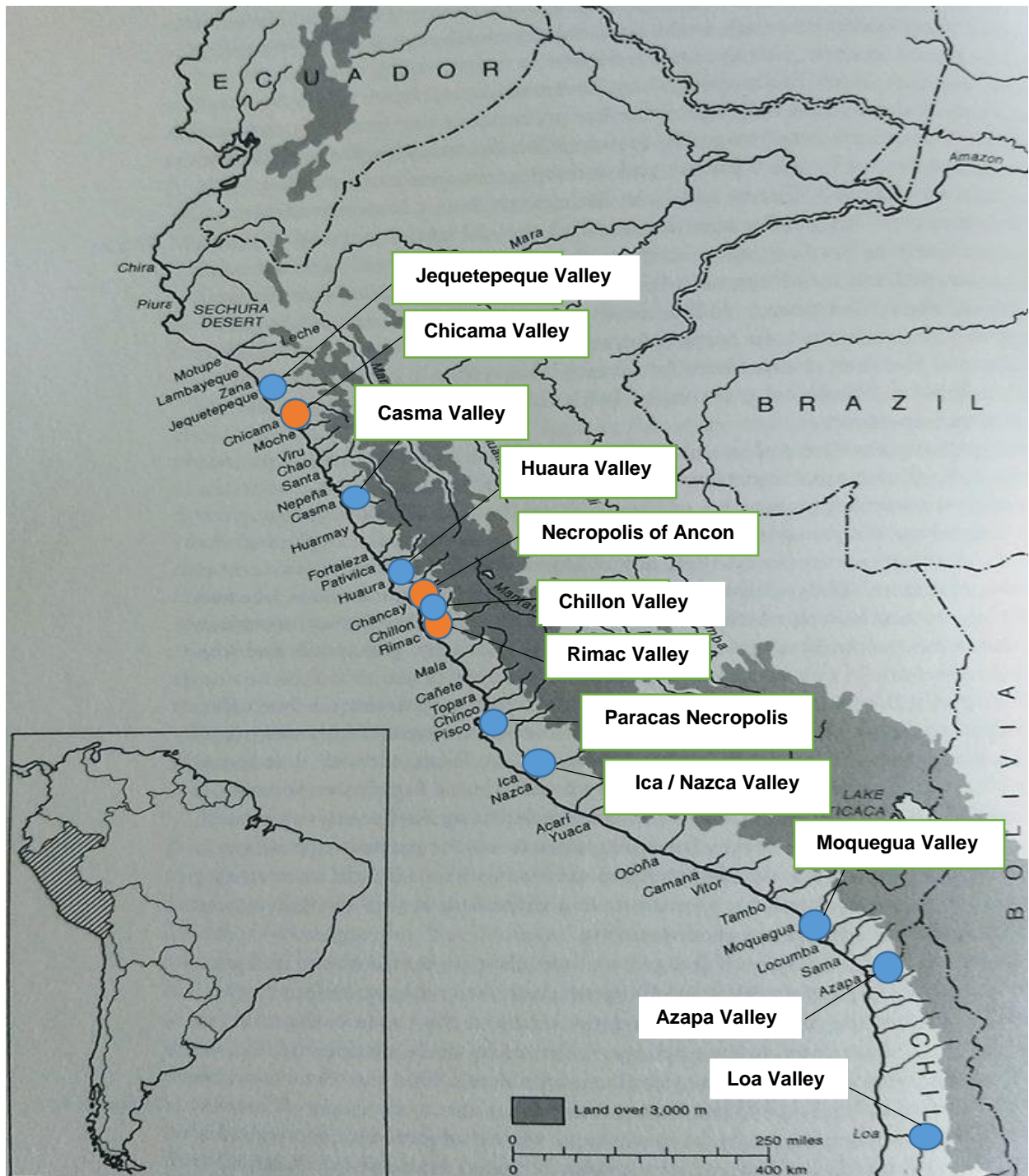


Figure 5.1. Andean coastal valleys with reported cases of tattooed mummies. Orange dots indicate thesis samples. Base map modified from Moseley 2001:16.

Who were the people receiving tattoos?

There are several aspects to understanding who received tattoos. One of these is at the level of cultural association – which prehistoric and historic groups practiced tattooing? This is not always easy to answer. In the process of data collection I found that working with museum materials collected during the late 1800s and early to middle 1900s involves certain challenges. Many of the ancient Andean collections in museums lack detailed information about the original archaeological context. This is due in part to the impacts of looting, which often provided the initial source of finds, and in part to the less rigorous standards of provenience record-keeping among early excavators and museum collectors. While all the specimens I examined can be confidently identified as to their source valley along the Peruvian coast, the exact site or cultural component is sometimes less certain. Thus, while the Chicama Valley specimen was originally identified as Chimu (Late Intermediate Period), the Ancon Necropolis is more tentatively associated with Wari (Middle Horizon) influence or Chancay (Late Intermediate Period), and the Rimac Valley specimen is more tentatively associated with Yshma (Late Intermediate Period).

As part of my background research I reviewed the existing literature on archaeological evidence for Andean tattoos. This enabled me to place the specimens I studied in a larger context. For example, at the El Brujo archaeological complex two other tattooed cases have been reported. The first is of an elite, Moche female who was found with many detailed tattoos (Franco 2015) and the second is a tattooed mummy from the Lambayeque culture (Franco et al 2007). At the Necropolis of Ancon there has been mention of tattooing seen on individuals excavated by Reiss and Stubel (1880).

There is one other published record of a tattooed individual that may have come from the Necropolis of Ancon but this has not been confirmed (Alterauge et al. 2013). When discussing the upper Rimac Valley, Stumer (1954) mentions tattooed fingers on mummies excavated in 1952. When discussing ceramics tentatively associated with the Rimac Valley, Morgan (1996) mentions a tattooed arm in collections at the American Museum of Natural History. See Figure 5.2 for a map of these sample locations.

Background research also helped me identify other locations along the Andean coast where tattooing was practiced and where cultural associations were clearer. There are multiple reports of tattooing for the Chimu in the north coast, the Chancay in the Lima area of the central coast, and the Ica of the south-central coast. All three cultures are associated with the Late Intermediate Period. Tattoos are also well represented in burial populations at the site of Ancon, although the time period and cultural association for those individuals is not securely established. Tattooing has been reported for at least one individual for each of the coastal cultures of Lambayeque, Moche, Paracas, Ychsma, and Chinchorro. Tattooing has also been reported in coastal burials associated with Wari, Tiwanaku, and Inca, all cultures originally centered in the highlands. This shows that tattooing has been present in the Andean region since at least Chinchorro times, with the tattooed individual radiocarbon dated to 2563-1972 BCE, and continues to be documented from the Early Intermediate Period onwards through the Late Horizon.

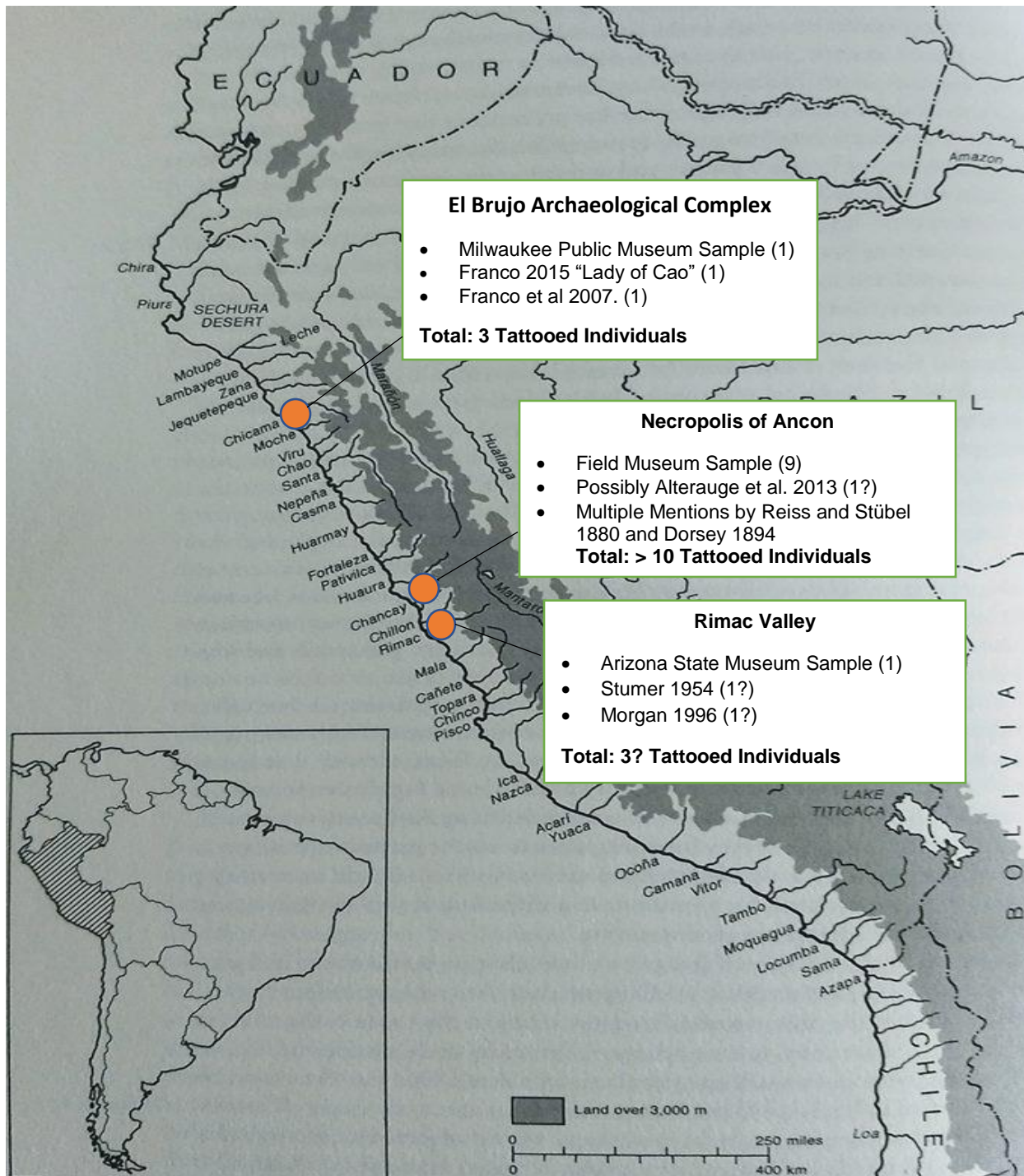


Figure 5.2: Source locations for my samples and other reported tattoos from those locations. Base map modified from (Moseley 2001:16).

The majority of the cultures with reported tattoos lived on the coast or moved from the highlands to the coast. This may mean that people on the coast had a higher

tendency to tattoo and/or that cases of tattoos did not preserve in the highlands area. There is a high cluster of cases on the coast near modern day Lima (see Figure 5.1). This could indicate that tattooing was an especially well-established practice among central coast cultures.

Another aspect of understanding who receives tattoos concerns the age and sex of the person. Of the 11 individuals in my museum samples all appear to be of adult age. This is based on complete epiphyseal fusion of proximal ulna and radius where visible and past examinations by other researchers, as detailed Chapter 2. Five of those individuals were identified as females by previous researchers; all five came from the Ancon Necropolis sample at the Field Museum.

Background research again provides a larger context in which to view my samples. Comparing my sample with those published elsewhere, my sample, although small, appears to be consistent with broader trends. Although both females and males have tattoos, there are more female cases recorded (Table 1.3). When my data are added into those published by Deter-Wolf et al (2016), the total numbers of recorded cases are 45 female and 22 male. One interpretation of this pattern is that women were more likely to wear tattoos than were men. In terms of age, adults appear much more likely to receive tattoos than do adolescents, and there are no recorded cases of tattoos among children (Table 1.4). When my data are added to those published by Deter-Wolf et al (2016), the total numbers are 66 adults and two adolescents and two elders. One interpretation of this age pattern is that tattoos were in some way earned as part of adult experiences.

Where on the body were tattoos located?

During my research I examined 16 forearms, three chest sections and four feet to see which body parts were tattooed and which were not. Of these, 13 forearms, one chest, and one foot were tattooed. I found that tattoos were most often located on the arms, particularly on the forearms, wrists, hands, and fingers. Combining my observations with other reported cases of ancient Andean tattoos (see Table 1.5) there are approximately 41 accounts of tattoos on the arms/hands, nine accounts of tattoos on the legs/feet, three accounts of tattoos on the back, three accounts of tattoos on the chest and seven accounts of tattoos on the face (Allison 1996; Alterauge et al 2013; Arriaza 1988; Franco 2015; Morgan 1996; Ruiz Estrada 2012; Ubbelohde Doering 1951: 225; and Vivar Anaya 2008, as cited in Ruiz Estrada 2012). Thus, the pattern seen in my sample seems consistent with a larger Andean pattern. No tattoos have been found, to my knowledge, on the buttocks or pelvic regions and very few on the lower legs and back.

Why did ancient Andean people repeatedly choose to place tattoos on the arms and hands? Several hypotheses can be considered to explain this trend. This may represent a part of the body that was not covered with clothing and that was within the gaze of others; perhaps these tattoos were meant to easily communicate visually with others. These are also parts of the body that are readily seen by the person wearing the tattoo. Both these perspectives, how others view the person and how the person views themselves, fit well with theories that tattooing connects with social identity.

The location of tattoos can also be related to health. Ancient tattoos have been hypothesized as a treatment for arthritis or other types of pain associated with repeated patterns of motion and the resulting physical stresses on tendons and joints. Fingers and hands are areas known to be prone to arthritis (Kean et al. 2012). Prehistoric Andean people were skilled weavers and weaving can cause muscle strain (Titelbaum 2012:139). Hands and fingers are very involved in the process of weaving. Could it be that the tattoos on fingers and hands are related to the activity of weaving? This hypothesis becomes even more intriguing when the tattooed designs on the wrist, hand, and fingers resemble designs seen on woven textiles and/or ceramics. The tattooed Ancon women in the Field Museums sample are among the few cases where associated grave goods are reported, and they include artifacts associated with weaving, such as cloth, parts of looms, pigment and needle-like tools.

What did they depict?

Deciphering the meaning of tattooed designs is a challenging task, given the symbolic and culturally-specific nature of those meanings. How well can a modern viewer hope to read the symbols of a past culture? One approach to the analysis of designs is to compare multiple examples and look for aspects that are shared and aspects that are different. This places the focus of analysis on recognizing patterns of variation, and other variables that appear to correlate with those variations, such as prehistoric culture, and social contexts of display. For my analysis, I use a simple

descriptive set of design variations, and then consider variations across the body of a single person and between different prehistoric cultures of the Andean coast.

In studying the designs of my samples, I found the following two general descriptive terms to be useful: geometric and zoomorphic. I define geometric designs to include both curvilinear, such as curved lines, short curls or waves, circles, and dots, and rectilinear, such as straight lines, stepped shapes, diamonds, and zigzags. I define zoomorphic designs as those that resemble animals, real or fictive, such as shapes with fish-like attributes or bird-like attributes. Other researchers have used similar terms (Allison et al 1981; Maita and Minaya 2014; Ruiz Estrada 2012). Maita and Minaya (2014), working with Paracas mummies, use the following terms in Spanish: *zoomorfos*, *geométricos*, *figuras míticas y sobrenaturales*, *simbolos sociales*, and *abstractos* or *indeterminados* (zoomorphs, geometrics, mythical figures, social symbols, and abstract or indeterminate). They also distinguish between *solo* and *agrupado* (isolated or grouped) designs.

In a similar fashion, I have found it useful to distinguish between compact and dispersed designs. Compact designs are made of multiple shapes grouped together, either touching each other or bounded by a shared perimeter. Dispersed designs do not touch each other, instead being spaced apart. In some cases, the same design is repeated in a line or an array, in other cases each design appears unique or random.

Tattoo designs can be compared between the three coastal regions in my data set. All three show compact geometric designs within outlined rectangular bands on the arm. Most form complete bands around the forearm or wrist, but the Milwaukee Public Museum example has an interrupted band. All bands are outlined except for the bottom

half of the band from the Arizona State Museum sample. Though not all tattoos are fully shown due to preservation issues, many tattooed specimens include a mix of both compact and dispersed designs, and many include both curvilinear and rectilinear elements. The samples from the Field Museum and Arizona State Museum both have rectilinear zig-zag elements. Some iconic motifs can be seen in all three sets of samples, such as curvilinear wave motifs and zoomorphic fish or bird motifs.

A good example of the zoomorphic designs can be seen on the sample from the Arizona State Museum and the Milwaukee Public Museum (see Figure 5.3). Fish and bird iconography are common in the art of several of the coastal cultural cultures as expressed in other media, such as textiles or ceramics. Compare, for example, the Chimu tattoo in Figure 5.3 with the Chimu textile in Figure 5.4. Examining icons across media is important to the conversation surrounding interpretation of the meaning of the designs of ancient tattoos (Krutak and Deter-Wolf 2018).



Figure 5.3 Bird/fish motif tattoos on three digits on A56903/23045, from the Milwaukee Public Museum. This is identified as a Chimu individual from the Chicama Valley.



Figure 5.4 Bird/fish motif, Chimu textile (Am,+ .7639, British Museum)

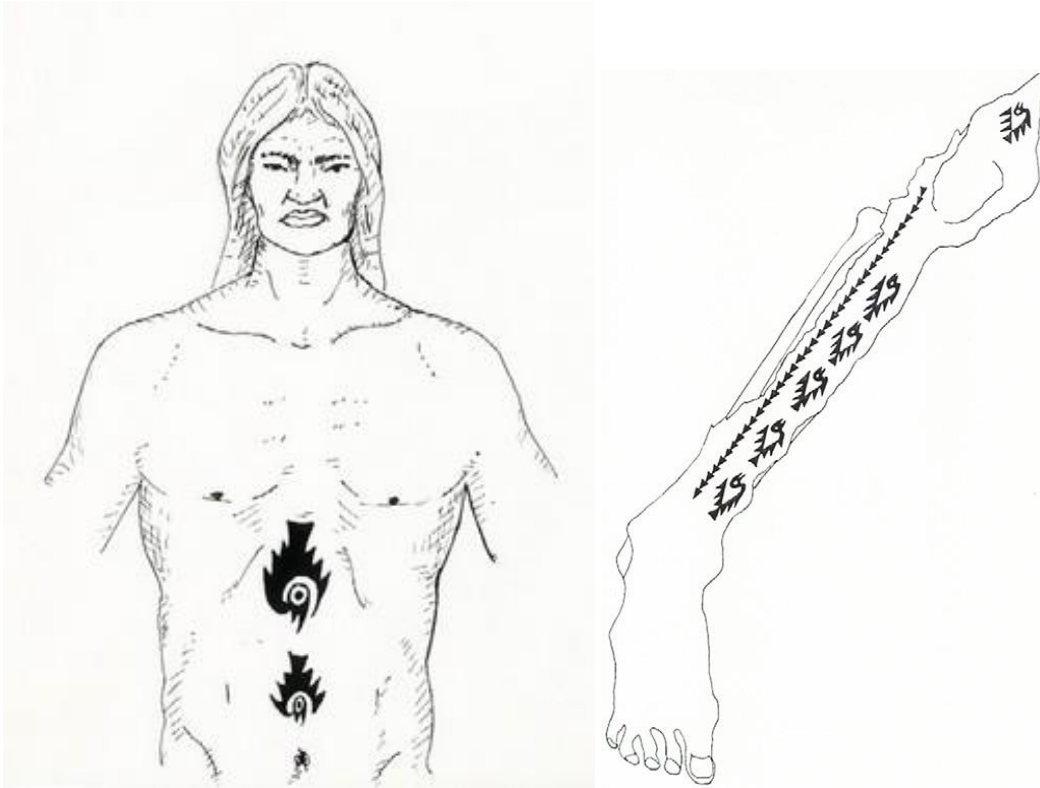


Figure 5.5. Illustrations from Ruiz Estrada (2012), Figures 1 and 4. Note bird motifs.

A similar bird motif is illustrated by Ruiz Estrada (2012) on a tattooed chest and leg recovered from a Chancay cemetery in the Huaura Valley north of Lima (Figure 5.5). Ruiz Estrada (2012) excavated the cemetery of Cerro Colorado in Huacho in the Huaura Valley and reported several individuals having tattoos. These included one male with a dotted circle pattern on his chest, another male with bird patterns on his torso, a hand with lines and a zigzag pattern on the wrist, another hand with geometric shapes and depictions of fish, felines and birds, an arm with tattooed circles and fish, and a leg with a tattooed design of flying birds with geometric designs.

Other researchers in Peru have also reported fish and bird motifs in addition to geometric shapes. Allison et al. (1981) illustrates tattoos found on Chimu mummies in

the Casma Valley (Figure 5.6). These provide a comparison for my Chimu sample from the El Brujo complex in the Chicama Valley (Figure 5.7). The Casma Valley example shows fish-like motifs on the fingers and wrist similar to those on the fingers of the Chimu sample from the Chicama Valley. The Chimu sample from El Brujo can also be compared with the Moche example from El Brujo, the Lady of Cao (Figure 5.8). All tattoos are black in color and show a range of designs from complex patterns to simple lines. While the Moche Lady of Cao, like the Chimu samples, shows that forearms, hands, and fingers were important body parts to tattoo, certain aspects of her designs are unique. Her zoomorphs include a row of spiders and several long, zigzagging snake-like figures that extend down her forearm and end on the back of her hand in heads with many jagged teeth. Given her very elite ritual status, the uniqueness of her tattoo designs may reflect her individual identity as a ritual leader as well as more general Moche cultural motifs.

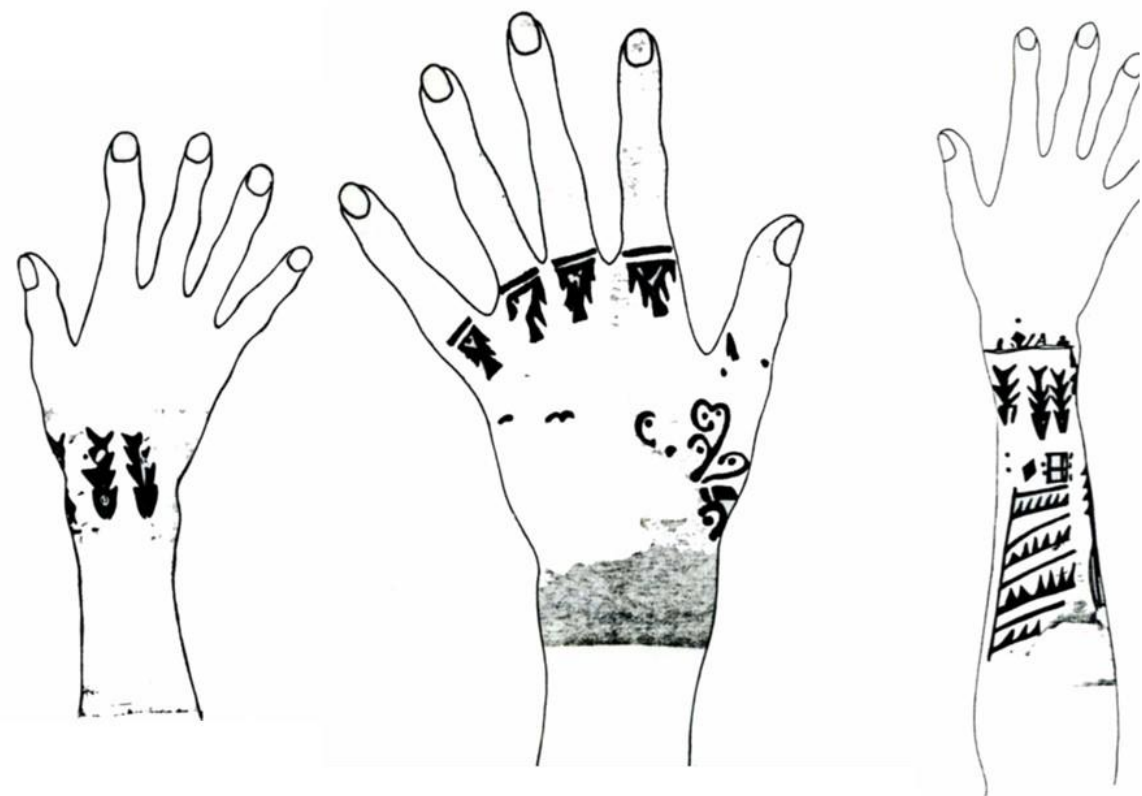


Figure 5.6. Illustrations from Allison et al. (1981: Figures 4, 8, and 11). Note fish motifs. Chimu individuals from Casma Valley.

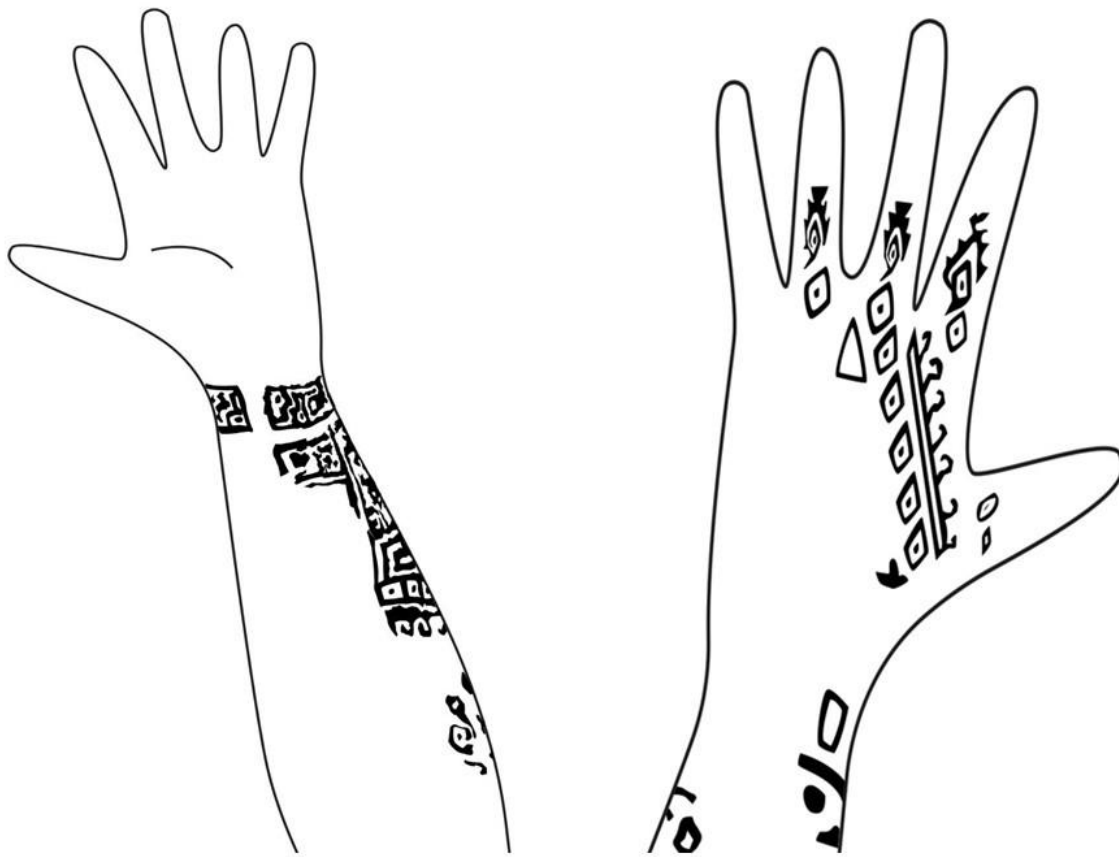


Figure 5.7. Tattoo details for specimen A56903/23045 from the Milwaukee Public Museum. Palmar and dorsal view of left hand, Chimu individual, El Brujo complex, Chicama Valley.



Figure 5.8. Illustration from Mujica (2007). Tattooed arm of Senora de Cao. Moche individual, El Brujo complex, Chicama Valley.

These comparisons between sites and cultures show that while ancient Andean tattoos are diverse in their designs, there are also some recurring motifs and patterns. Geometric shapes such as circles, bands, waves, and zig-zag patterns were identified in multiple cultures and regions, as were zoomorphic figures resembling fish and birds. These design elements appear to span the coast from the Chicama Valley to the Rimac Valley. Culturally these represent the Chimú, the people of Ancon, and perhaps the Yschma. As noted above, such coastal motifs have also been seen among Chancay and Paracas burials.

Directions for Future Research

As part of my early thesis work I reached out to museums around the United States to identify collections that contained tattooed mummies from Peru. During this effort I learned that there is no easy way to identify these collections. There may well be more collections in the United States that contain tattooed Peru mummies. Future work should include additional outreach to the Smithsonian and the American Museum of Natural History. For many items collected for museums in the United States and around the world during the 1800s and 1900s, comprehensive and digitally accessible databases do not yet exist. Building such databases for archaeologically preserved examples of tattoos would help move this research area forward.

Museum collections are crucial for the preservation of material remains of past cultures. Yet even under the best conditions, we cannot stop the inevitable deterioration of our organic collections. There is a critical need to document details while they are still

observable, included ancient tattoo designs. Digital photographs provide an essential way to document fragile museum collections so they can be preserved in a form that will allow additional research in the future. There is a special urgency to building detailed photographic archives.

I believe another promising next step would be collaboration with Latin American scholars and an extensive review of both relevant Spanish language publications and museum collections in Peru and Northern Chile. Given the ways in which archaeological materials dispersed to become part of museum collections around the world, an inventory of Andean mummies in European or Asian museums would also be useful.

During this research I also learned a few methods that I believe could be useful for standardizing recording practices for tattoos. This, in turn, could facilitate analysis across collections. These include providing photographs that include color cards and a standardized unit of measurement and the use of what I have termed body stencils, standardized outlines of bodies and body parts that can be used to illustrate the location, size, and design of tattoos.

When I traveled to museums I took photographic evidence of tattooing. It should be noted that access to and photographs of human remains in museum collections often requires specific protocols and permissions. After I collected photographic data on the tattooed individuals, I worked with a scientific illustrator to create a human body stencil. These stencils in addition to the photographs aided me in analyzing the tattoos. While photographing remains is certainly crucial to preserving quality and accurate recreation of these tattoos, including documentation of color, it also takes some time to understand and visually picture where these tattoos would have been when the

individual was alive. This is especially true given the mummified state of the remains, which leaves a desiccated version of the original reality, and the frequency with which body parts, rather than whole bodies, were received by the museum. The stencils are useful to understand where the tattoo is located and how other individuals may have viewed the tattoo in life, and to facilitate comparisons between specimens.

More research also needs to be done in how we can accurately compare preserved tattoos to other forms of media that depict tattoos or share motifs with tattoos. For example, there may be ceramics or textiles that appear to share iconographic conventions with tattoos (Figures 5.9 and 5.10). Alternatively, tattooing itself may be depicted in other media, such ceramic vessels depicting a tattooed person or anthropomorphic figure (Figure 5.11 and Figure 5.12). A systematic review of shared imagery on other media, per cultural context, could provide a good starting point for eventual analysis of potential shared meanings or messages.

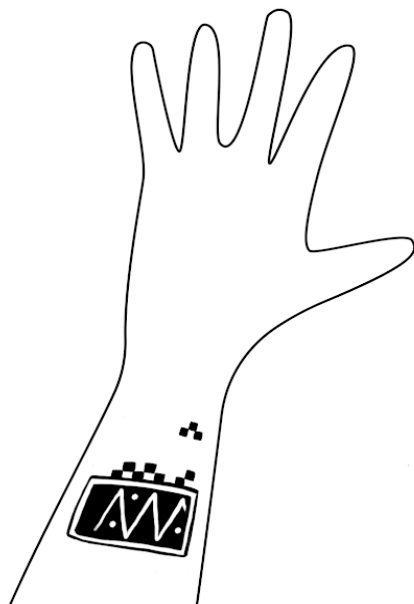


Figure 5.9. Individual 183593 from the Field Museum collection, excavated from the Necropolis of Ancon, Peru. Note zigzag pattern with alternating dots.



Figure 5.10. Narrow band with zigzag pattern with alternating dots on ceramic vessel, specimen 29686, Pachacamac, Peru, (VanStan 1967).



Figure 5.11. Fish motifs on the individual A22-117-6, Arizona State Museum Collection, originally from the Rimac Valley.



Figure 5.12. Fish motif, Chancay textile (1955.1688, Art Institute of Chicago).

This type of cross-media study has only recently been addressed by scholars interested in ancient tattooing (Deter-Wolf and Krutak 2018). For example, researchers examining tattooed mummies from the sites of Gebelein and Hierakonpolis in Nubia and Egypt respectively, noticed striking similarities in design and location of the tattoos on the human remains recovered and the representation of tattoos seen on figurines excavated in graves at the same site (Freidman in Krutak and Deter-Wolf 2018:11-36). Other researchers in Europe examined ancient artwork to study the markings depicted on human bodies to determine the possibility of the artist depicting tattoos/body paint (Renaut in Krutak and Deter-Wolf 2018:243-261). Researchers examining dolls from the Bering Strait have also attempted to discuss the markings on the dolls and how they are very similar to depictions of tattoos (Krutak and Deter-Wolf 2018:262-285).

By incorporating the study of other, contemporary media in combination with the study of tattoos preserved on ancient human remains, we may be able to better address a number of social hypotheses, such as shared social identity, for example by ethnic

group or special status group (e.g., elite, warriors, weavers, fishers). The archaeological contexts of finds in other media, as well as research on the physical remains of tattooed individuals, including evaluation of genetic relationships via ancient DNA, offer exciting future avenues of research. Other media and analytic approaches may help us answer questions that are difficult to fully address based on preserved tattooed skin alone.

Tattoos may also represent ideas about physical and/or spiritual health in the past. For example, researchers believe that Ötzi's tattoos, because of their size, frequency and location along acupuncture points, could have used to treat arthritis (Deter-Wolf et al. 2016). Pabst et al. (2010) discusses the substances found in the tattoos of a Peruvian mummy excavated in southern Peru at Chiribaya Alta. The researchers looked at two areas of this mummy that were tattooed and found that decorative tattoos found on the hands, arms and lower left leg, identifying them as zoomorphic figures. The tattoos used for therapeutic purposes were found in overlapping circles on the neck and upper back of the individual due to their location along ancient acupuncture points (Pabst et al. 2010). This again is a promising area for future research. For example, radiographs or other non-destructive studies of mummified remains might allow researchers to test hypotheses about the alignment of tattoos with injured areas of the body.

Conclusion

Archaeological research on tattooing is an understudied field. The act of marking one's skin permanently with designs can tell a story about an individual and their culture

at specific times in history. Ancient tattooing practices have potential to inform archaeologists on topics of visual communication, status, identity, societal value, knowledge transmission, iconography and body modification, as well as therapeutic treatments and life history events. However, more comprehensive databases of tattoos, better control of original cultural contexts, and better integration of cross-media design studies are needed to achieve that potential.

This thesis sheds light on ancient Andean tattooing practices. My data contributes new documentation of tattoos from three locations, El Brujo in the Chicama Valley, the Necropolis of Ancon, and an unnamed site in the Rimac valley. Together with previously reported cases these data indicate that tattooing was practiced along the Andean coast from at least as far north as the Jequetepeque Valley in Peru and as far south as the Loa Valley in Chile. Currently, the cultures with the highest documented number of cases of tattooing are the Chimú, the people of Ancon, the Chancay, the Paracas, and the Ica. The Ancon, Chancay, Paracas, and Ica all cluster along the central region of the Peruvian coast, near Lima, so tattooing traditions may have been particularly strong there.

My samples also add further support to three general trends in Andean tattooing noted by previous researchers. First, adult women appear to be the individuals most often tattooed. Second, forearms, hands, and fingers appear to be the body parts most frequently tattooed. And third, the most ubiquitous design motifs are geometric patterns such as waves and zigzags, and zoomorphic figures, such as birds and fish.

In closing, I would like to note that existing documentation about ancient Andean tattoos, and about archaeological examples of tattooing in general, tends to be scattered, appearing as brief mentions in larger studies of other topics and thus difficult to locate in a literature review. This type of research would be greatly aided by a centralized database of archaeological tattoos where researchers can access the data collected by others in order to gain a larger view of ancient tattoos in a specific area as well as around the world. Currently the Center for Tattooing History and Culture (<https://centerfortattoo.org/the-cft-tattoo-knowledge-databases/>) is working on creating such a database for tattooing research that breaks down into three variables text, image and oral history.

I hope to contribute to this database the data I collected for this thesis, specifically the museum collections I have identified as having tattooed mummies. In addition to adding images/scientific illustrations of tattoos, other researchers can continue to build this database by adding publications, conference presentations, excavation data, museum collection records that relate to ancient tattooing. Creating a list of known tattooed human remains, where they were found, where they are currently held and any directly related publications on those samples will aid researchers by collating our current knowledge for their reference and further study of ancient tattooing practices in Peru and around the world.

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Appendix A: Milwaukee Public Museum

Sample A56903/23045 Data Collection Sheet

Author: Madison Auten

Museum Name:

Milwaukee Public Museum located at 800 W Wells St, Milwaukee, WI 53233

Dates Visited:

Monday May 22nd, 2017 and Wednesday August 16th, 2017

Museum Contact Personnel:

Dawn Scher Thomae- Curator of Anthropology

Examined:

Left arm

Provenance information on the arm:

Date Collected by Museum- 1968

Location excavated- "From the North Coast of Peru Near the Site of Huaca Prieta mound called Huaca de la Bruja near mouth of Chicama Valley collected on the surface of a looted Chimu Cemetery".

Head excavator or donor- Museum excavation led by Lee A. Parsons Assistant Curator of Anthropology at the Milwaukee Public Museum in 1958- 1968, 1972-1973.

Related culture- Chimu Culture

Gender identification-n/a

Directly related artifacts found with or donated with- "Part of a larger accession with a goard bowl, corn cobs and many archaeological textiles".

Additional relevant information- The arm's museum ID is A56903/23045. Located (as of May 22nd 2017) on the third floor of the museum in the Pre- Columbian American (Mezzanine) section in the Chimu Culture display case.

Sample A56903/23045 (Lower left arm- the radius, ulna and hand of the left arm):

Description- Sample A56903/23045 is of a lower left arm consisting of the radius, ulna and hand of an individual from the Chimu culture. Skin is still preserved on the hand with the exception of decay on the fingertips, between the ulna and radius and at the more proximal end where the ulna and radius would connect to the humerus.

Location- Tattooing can be seen on the skin of the wrist, proximal side of the ulna and on the posterior of the hand.

Color- Tattooing appears to be black in color

Supplies Used: Notebook, Pen, Nikon D5300 DSLR Camera, sheet to lay on the floor, measurement scales and cloth gloves.

Below are 9 photos of the left arm A56903/23045 from the Milwaukee Public Museum



Sample A56903/23045



Sample A56903/23045



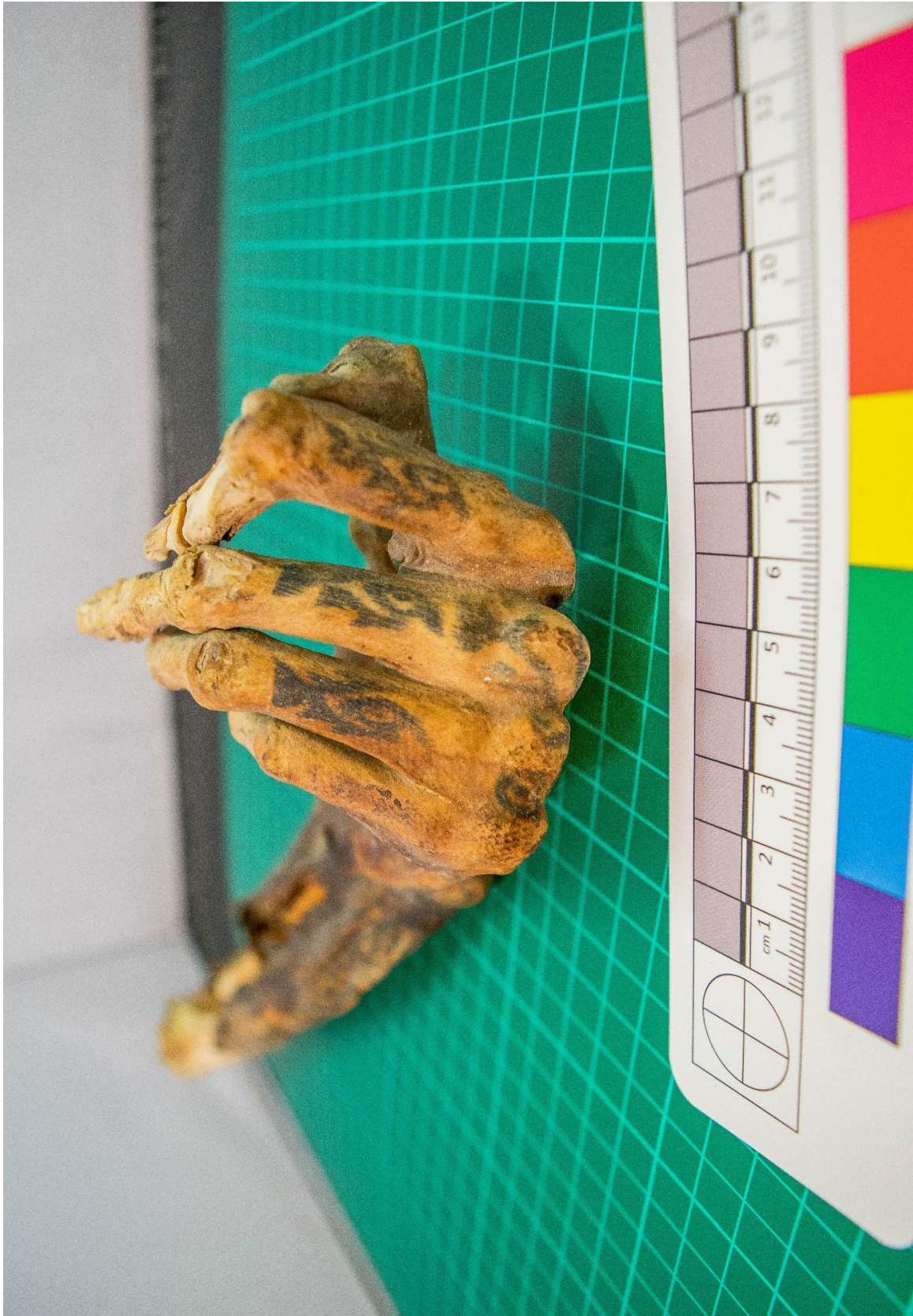
Sample A56903/23045



Sample A56903/23045



Sample A56903/23045



Sample A56903/23045



Sample A56903/23045



Sample A56903/23045



Sample A56903/23045

Below are the contents of the MPM accession file for sample A56903/23045

Scher Thomae, Dawn

From: Lupton, Carter
Sent: Friday, November 22, 2013 11:29 AM
To: Scher Thomae, Dawn; Franklin Lotter
Subject: RE: chimu arm and peruvian mummies- response 2

I don't really have much more. We have a third Peruvian mummy, in Anthropology storage, that was acquired in 1902 as I recall from the estate of a man in Philadelphia. We CT-scanned it a few years ago but have not done any serious study of the scans, other than to note that it appears to have no viscera.

From: Scher Thomae, Dawn
Sent: Friday, November 22, 2013 10:46 AM
To: Franklin Lotter
Cc: Lupton, Carter
Subject: RE: chimu arm and peruvian mummies- response 2

Frank:
Information on the mummies on exhibit:
The woman mummy (the one on the right side of the case, #34067) was purchased by the MPM in 1928 from J.A. Gayosa along with over 120 other items most likely looted from a burial or burials. The other mummy (#49788) was a donation from Mrs. J.A. Gayosa of Lima, Peru in 1949. There is no provenience other than Peru for these mummies.

At this point, we just know he worked for the American Consulate in Lima, Peru. I have written to them for more information on this gentleman so we can add it to our documentation.

I believe Carter may have more information on these mummies so I have copied this message to him.
Dawn

From: Scher Thomae, Dawn
Sent: Friday, November 08, 2013 1:57 PM
To: 'Franklin Lotter'
Subject: RE: chimu arm and peruvian mummies- response

Frank,
Here is the information on the arm. Will get information on the mummies to you soon.
Perhaps we should make a day in January when you are in to go over your presentation? I would love to hear it.
Dawn

The arm (A56903/23045) is Chimu (which you already knew) and came to the museum in 1968 from a Museum Expedition to Peru led by Lee A. Parsons, MPM Assistant Curator of Anthropology from 1958-1968 and again from 1972-1973. The catalog books states the arm is "from the North Coast of Peru near the site of Huaca Prieta mound called Huaca de la Bruja near mouth of Chicama Valley collected on the surface of a looted Chimu cemetery". It is part of a larger accession with a gourd bowl, corn cobs and many archaeological textiles.
http://en.wikipedia.org/wiki/Huaca_Prieta

MPM accession file for sample A56903/23045

34067/ 9402--- Front mummy in exhibit case, 3CM26

Catalog book- "mummy"

- "Wrapped in wrapping of cotton and cotton pads and cloth. Dried body of a woman, hair graying, body is in flexed position, arms drawn up, hands to the cheek, pigment."
- American Indian, Peru, South America.
- Collected 1928 & received by J.A. Gayosa. Purchase.
- Valued \$95

Folder

- Received Dec 18, 1928, Cataloged Feb. 26, 1929. Came in with a collection of 125 items.

KE EMU- "mummy and wrappings"

- Desiccated body of woman in flexed position with arms drawn up, hands to cheeks, and wrappings.

CURRENT LOCATION: 3CM26

E2835----- Mummy in basement

Catalog book

- "Peruvian mummy in sitting position"
- May 14, 1902. Original #413
- Collected in Peru S.A.
- Auction of estate of Arthur H Little.
- Purchased \$16

KE EMU

- Peruvian mummy. Peru, S. America.

CURRENT LOCATION: Basement

49788/ 16870--- Back mummy in exhibit case, 3CM26

Catalog book

- "An inner wrapping of quilt-like material & an outer wrap of textile with dyed figures. Mummy wrapped in several layers of textiles. Burial includes small pottery bowl, ornaments hanging from hero-band. Entire unit is assembled by riveting."
- South America, Peru.
- Mrs. Jose Gayosa, Tacua 690, Dept # 703, Lima, Peru, S. America, % American Consulate.
- Gift. \$25

Folder

- Came in with a collection of 29 specimens. Received Jan 13, 1949. Cataloged Jan 18, 1949

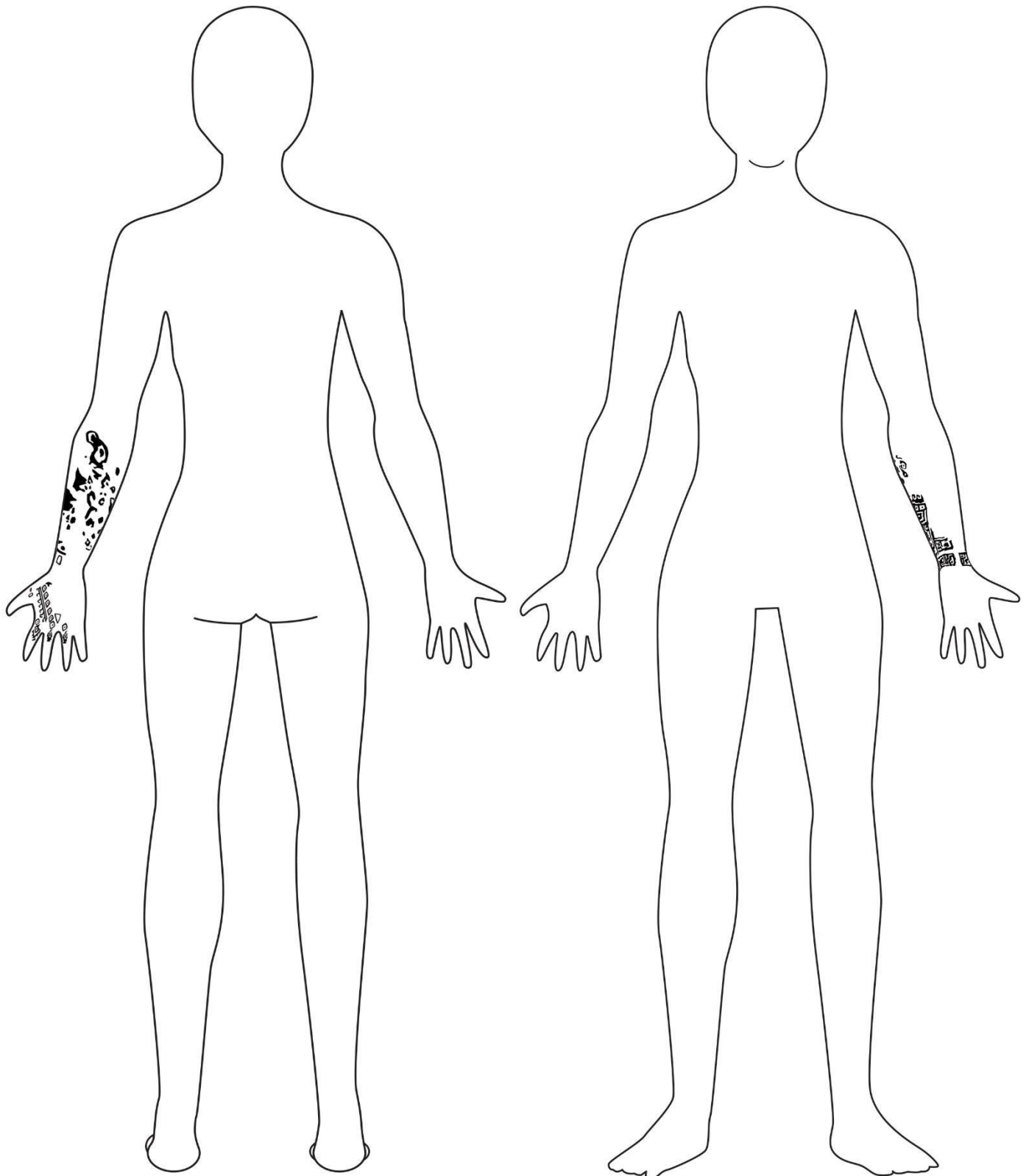
KE

- "Mummy burial, includes small bowl and textiles"

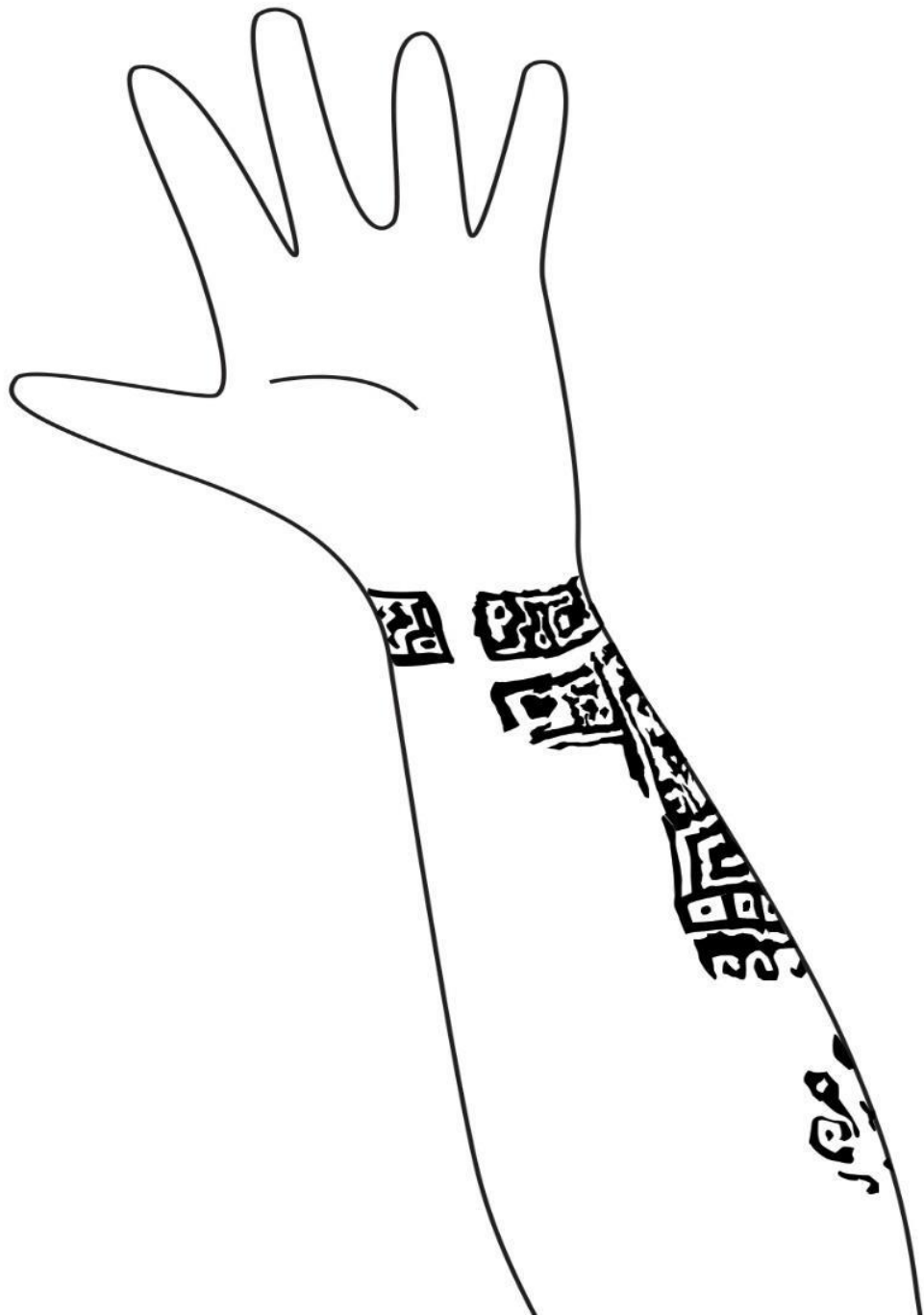
CURRENT LOCATION: 3CM26

MPM accession file for sample A56903/23045

Below are the scientific illustrations of A56903/23045 from the Milwaukee Public Museum



Sample A56903/23045



Sample A56903/23045

Appendix B: Arizona State Museum

Sample A22-117-6 Left Arm Data Collection Sheet

Author: Madison Auten

Museum Name:

The Arizona State Museum located at 1013 E University Blvd, Tucson, AZ, 85721

Dates Visited:

Thursday July 20th, 2017

Museum Contact Personnel:

James T. Watson, Ph.D.- Associate Curator Bioarchaeology, Arizona State Museum, Associate Professor of Anthropology, School of Anthropology. Email-watsonjt@email.arizona.edu

Examined:

Left arm

Provenance information:

Date Collected by Museum- 1943

Location excavated- "Country: Peru, Site Name: Sand Valley, Location: 12 to 13 kilometers outside of Lima".

Head excavator or donor- "Dr. Arthur A. Woodward, Arizona Pioneers and Historical Society Museum?"

Related culture- n/a

Gender identification-n/a

Directly related artifacts found with or donated with- Sample A22-117-6 Left arm is a pair with sample A22-117-6 right arm which has its own data collection sheet.

"other portion of the collection at the Burke Museum; remains consist of 2 lower arms which are tattooed. JM: the number A22-117-6 is on the left arm."

Additional relevant information- Date received: November 25, 1961

A22-117-6 left arm (Lower left arm- the radius, ulna and hand of the left arm):

Description- Sample A22-117-6 is of a lower left arm consisting of the radius, ulna and hand of an individual. Skin is still preserved on the hand with the exception of decay of the skin covering the metacarpals, between the ulna and radius and at the more proximal end where the ulna and radius would connect to the humerus.

Location- Tattooing can be seen on the skin of the wrist, phalanges and distal end of the metacarpals, along the distal side of the 1st and 5th metacarpal, anterior and posterior side of the lower arm.

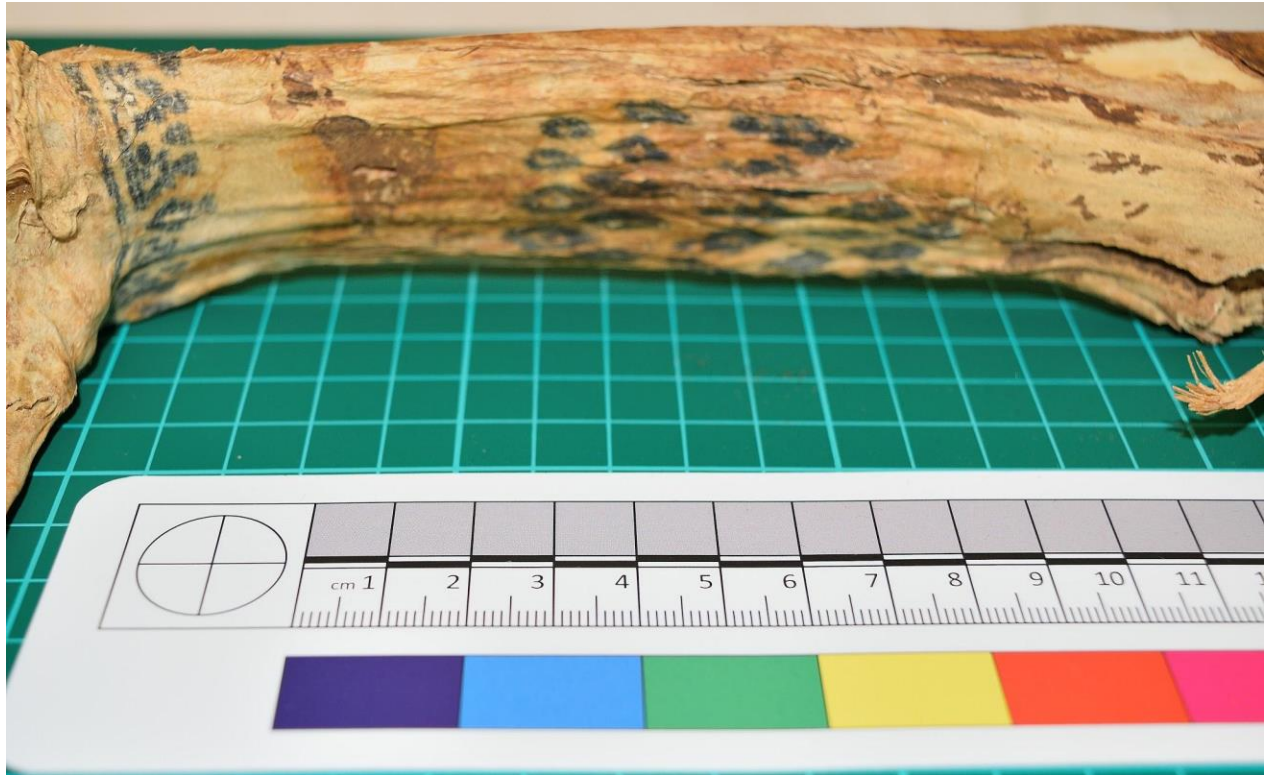
Color- Tattooing appears to be black in color

Supplies Used: Notebook, Pen, Nikon D5300 for Photography, sheet and cm pad to lay the arm on, measurement scales and cloth gloves. 3D scanner- from a PH.D Student at UC Riverside, Brianna Herndo.

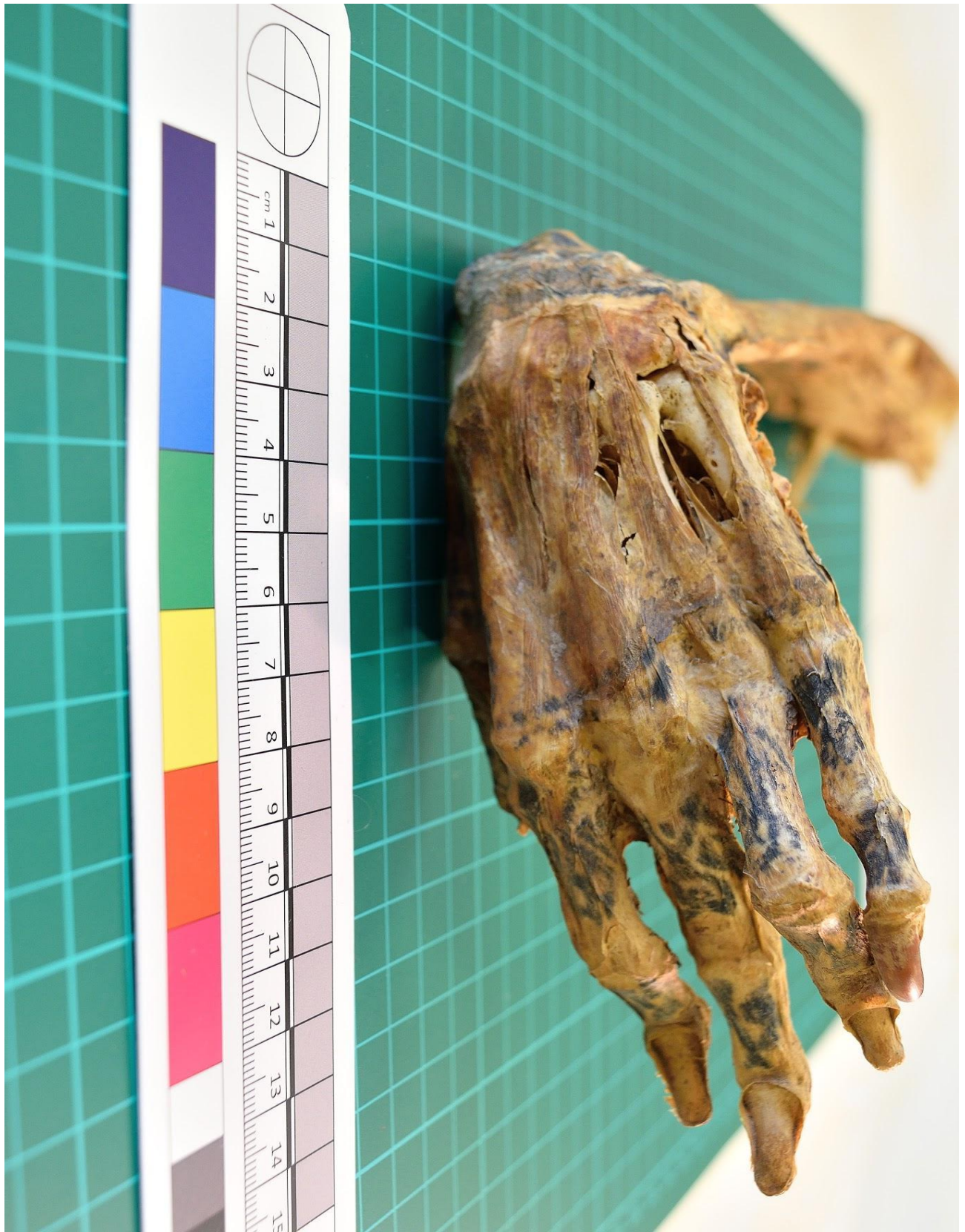
Photos Taken: 15 Photos located below



Sample A22-117-6 Left Arm



Sample A22-117-6 Left Arm



Sample A22-117-6 Left Arm



Sample A22-117-6 Left Arm



Sample A22-117-6 Left Arm



Sample A22-117-6 Left Arm



Sample A22-117-6 Left Arm



Sample A22-117-6 Left Arm



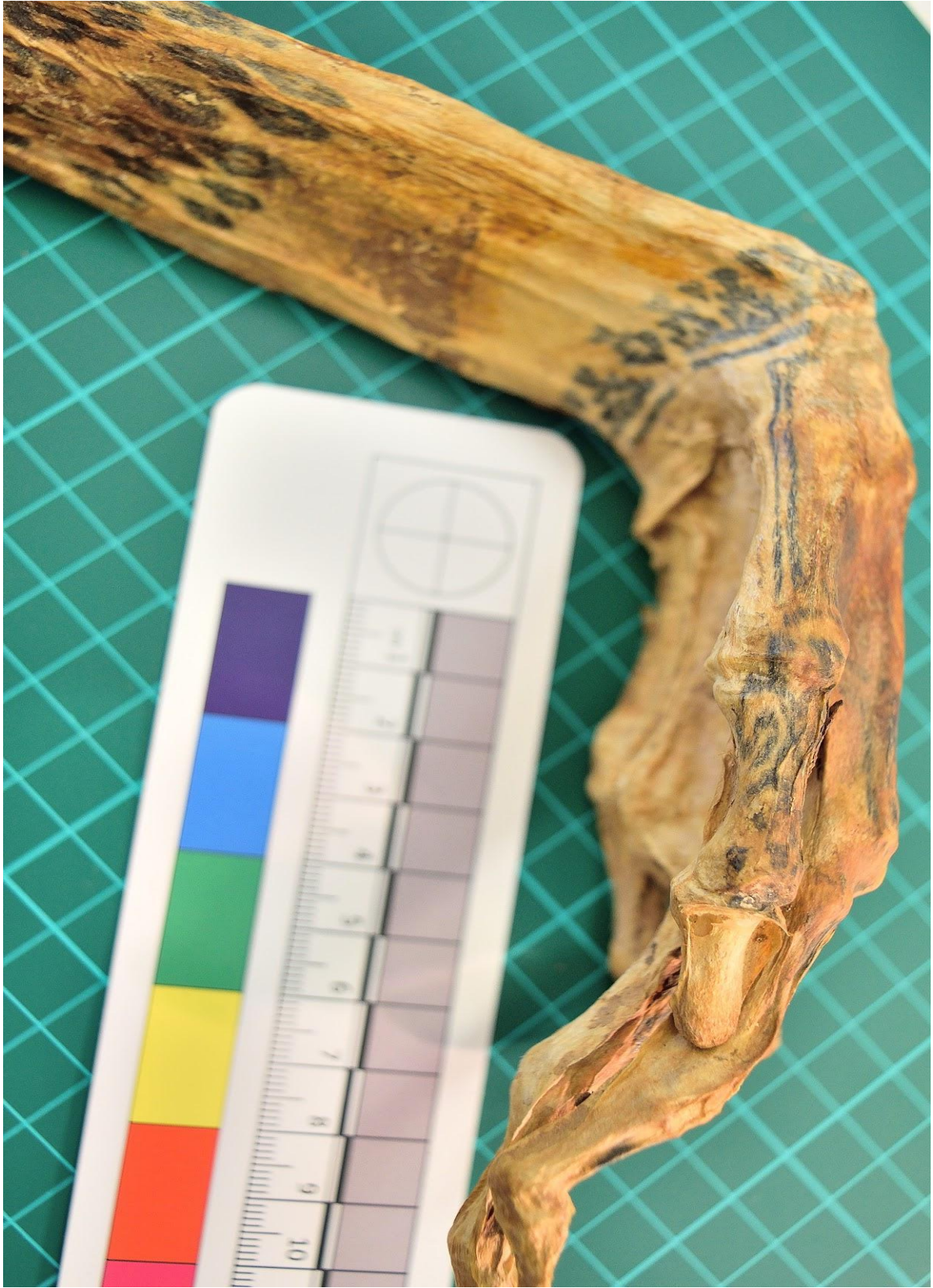
Sample A22-117-6 Left Arm



Sample A22-117-6 Left Arm



Sample A22-117-6 Left Arm



Sample A22-117-6 Left Arm



Sample A22-117-6 Left Arm

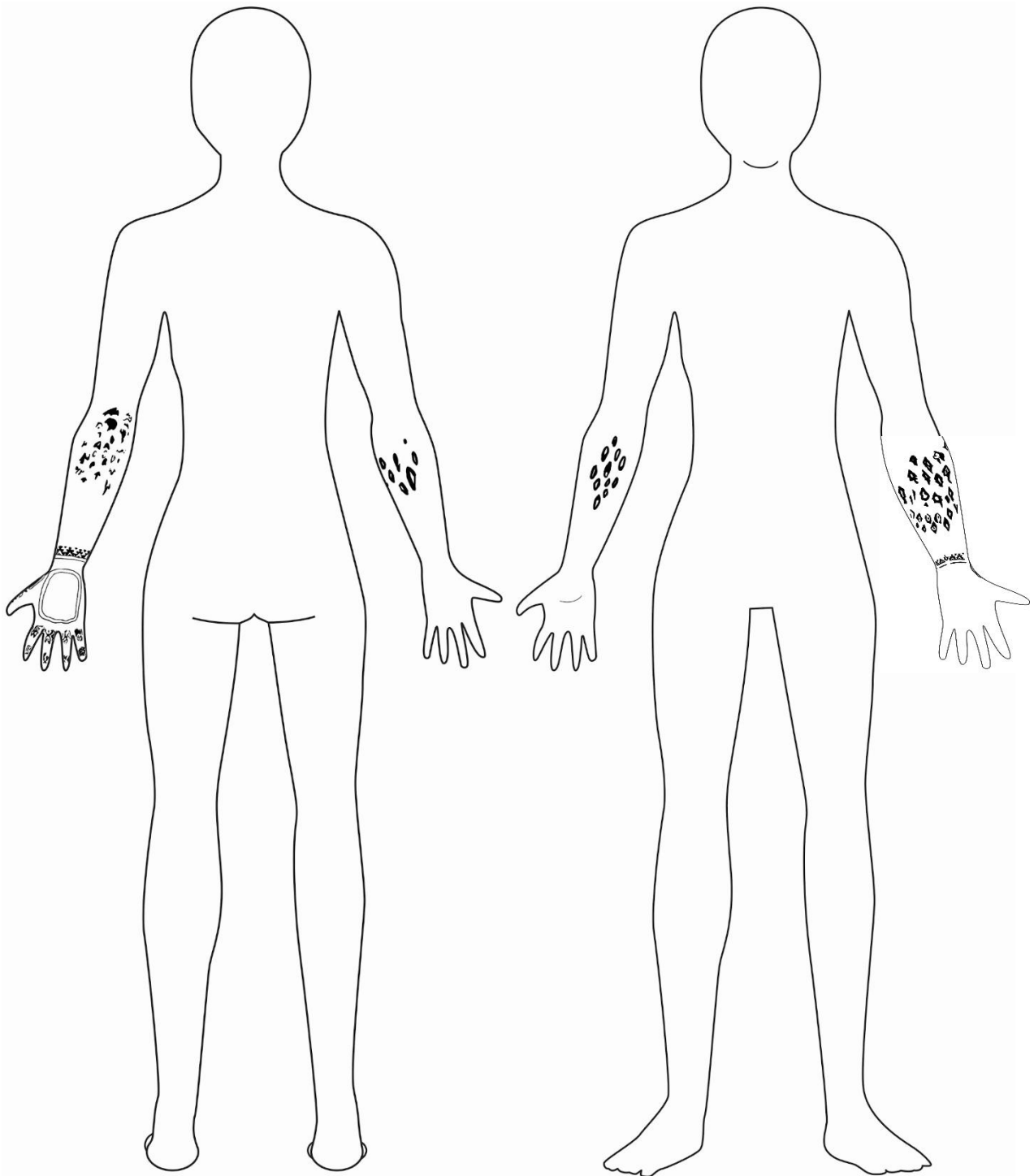


Sample A22-117-6 Left Arm

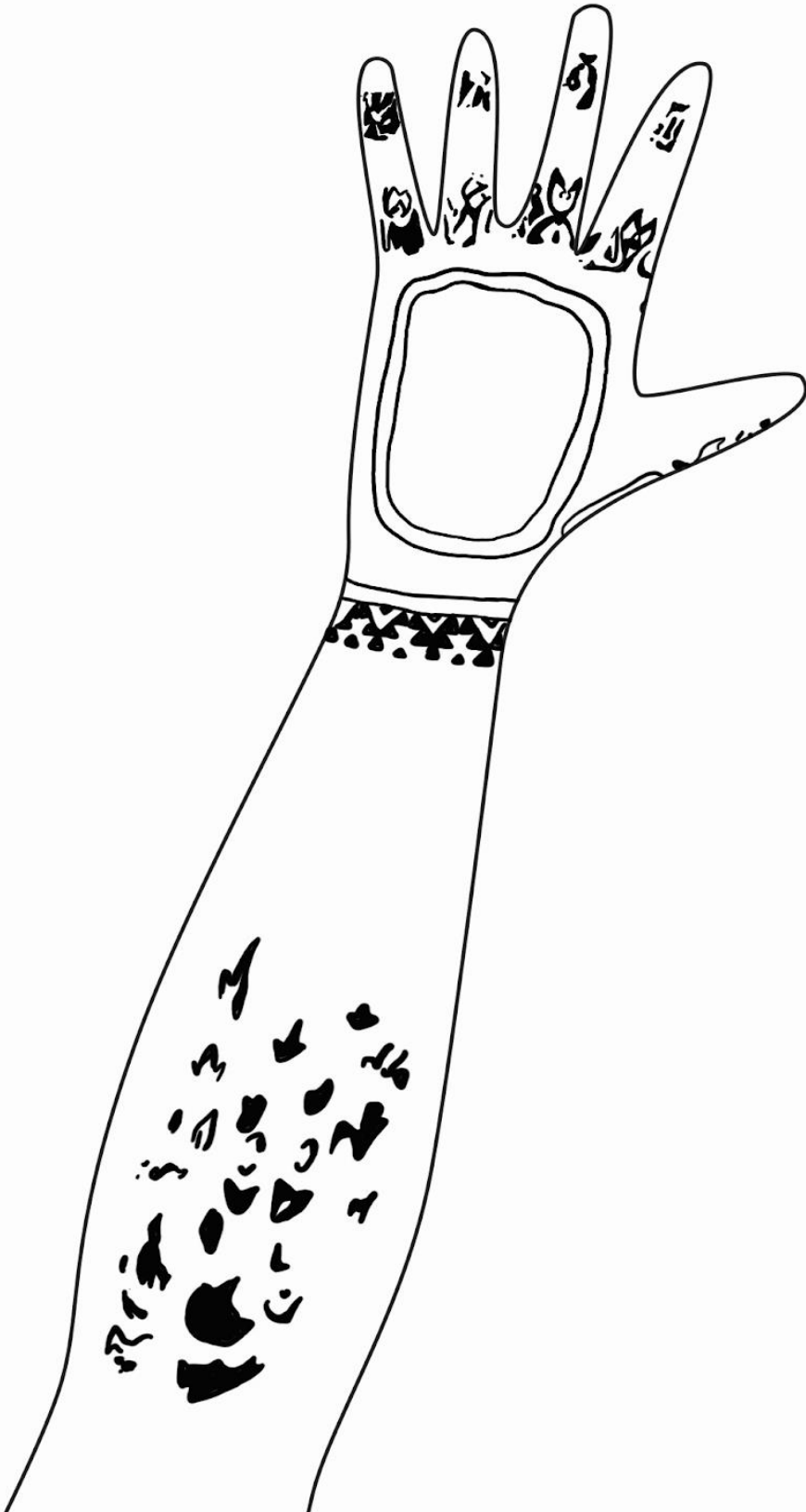


Sample A22-117-6 Left Arm

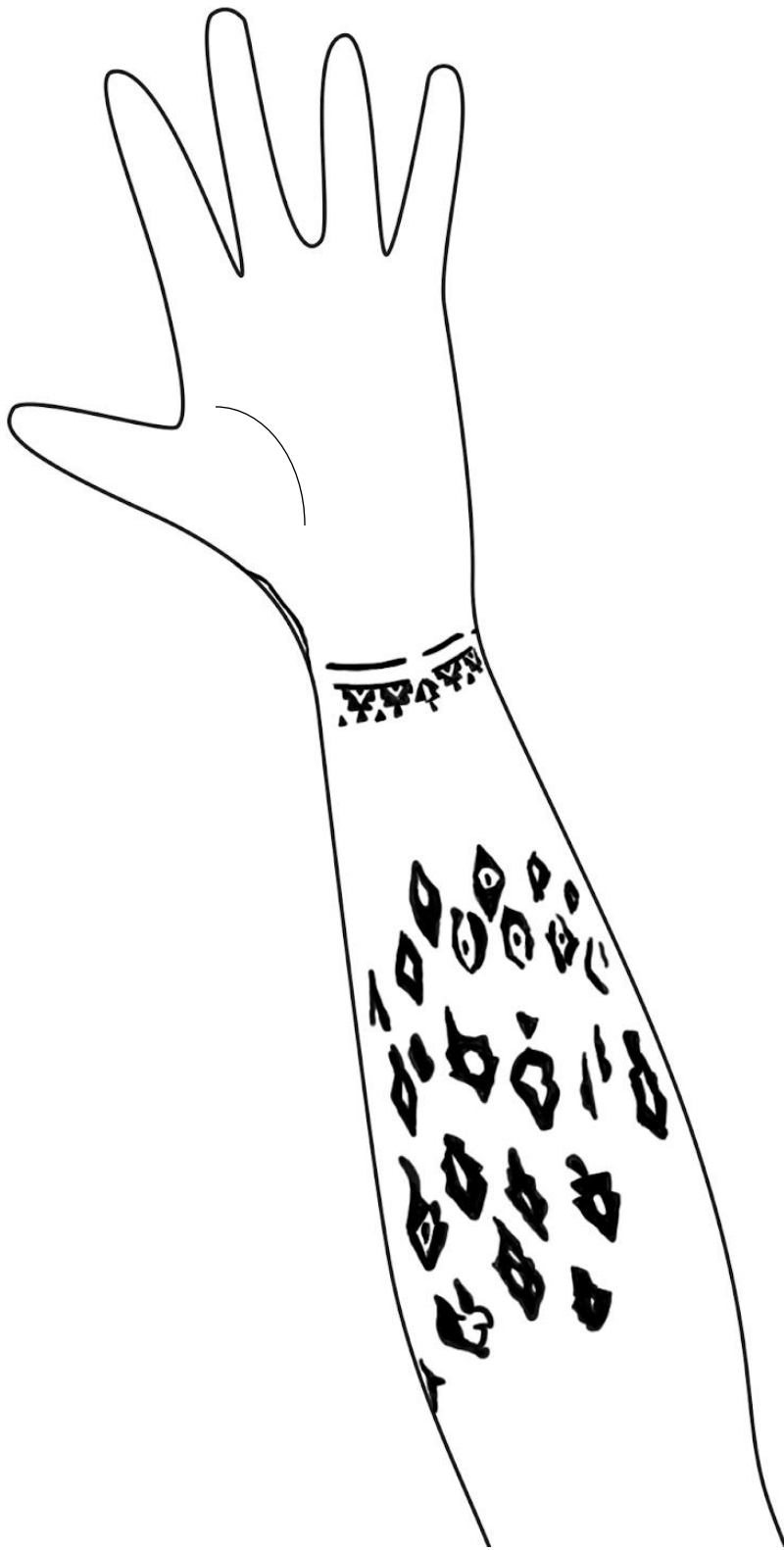
Below are the scientific Illustrations of A22-117-6 Left Arm from the Arizona State Museum



Sample A22-117-6



Sample A22-117-6 Left Arm



Sample A22-117-6 Left Arm

Sample A22-117-6 Right Arm Data Collection Sheet

Author: Madison Auten

Museum Name:

The Arizona State Museum located at 1013 E University Blvd, Tucson, AZ, 85721

Dates Visited:

Thursday July 20th, 2017

Museum Contact Personnel:

James T. Watson, Ph.D.- Associate Curator Bioarchaeology, Arizona State Museum, Associate Professor of Anthropology, School of Anthropology. Email-watsonjt@email.arizona.edu

Examined:

Right Arm

Provenance information on the arms:

Date Collected by Museum- 1943

Location excavated- "Country: Peru, Site Name: Sand Valley, Location: 12 to 13 kilometers outside of Lima".

Head excavator or donor- "Dr. Arthur A. Woodward, Arizona Pioneers and Historical Society Museum?"

Related culture- n/a

Gender identification-n/a

Directly related artifacts found with or donated with- Sample A22-117-6 right arm with pair with sample A22-117-6 left arm which has its own data collection sheet.

"other portion of the collection at the Burke Museum; remains consist of 2 lower arms which are tattooed. JM: the number A22-117-6 is on the left arm."

Additional relevant information- Date received: November 25, 1961

A22-117-6 right arm (Lower right arm- the radius, ulna and hand of the right arm):

Description: Sample A22-117-6 is of a lower right arm consisting of the radius, ulna and hand of an individual. This arm also has a cloth bracelet located on the proximal end of the lower arm. Skin is still preserved on the hand with the exception of decay of the skin on the palm covering the 1st metacarpal, between the ulna and radius and at the more proximal end where the ulna and radius would connect to the humerus.

Location- Tattooing can be seen on the skin of the wrist, phalanges and distal end of the metacarpals, along the distal side of the 1st and 5th metacarpal, anterior and posterior side of the lower arm.

Supplies Used: Notebook, Pen, Nikon D5300 for Photography, sheet and cm pad to lay the arm on, measurement scales and cloth gloves. 3D scanner- from a PH.D Student at UC Riverside, Brianna

Herndo.

Photos Taken: 19 Photos located below



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm

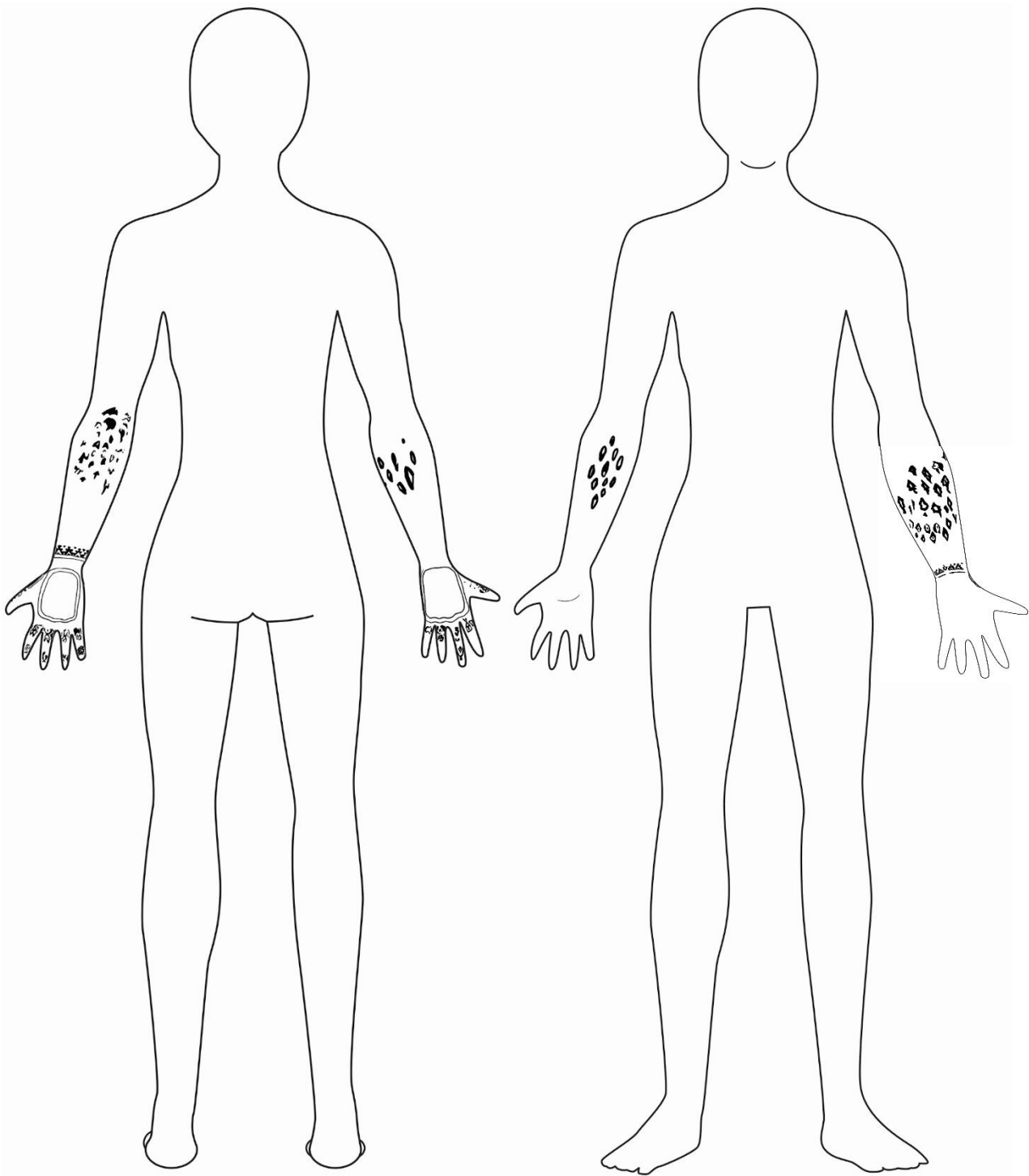


Sample A22-117-6 Right Arm

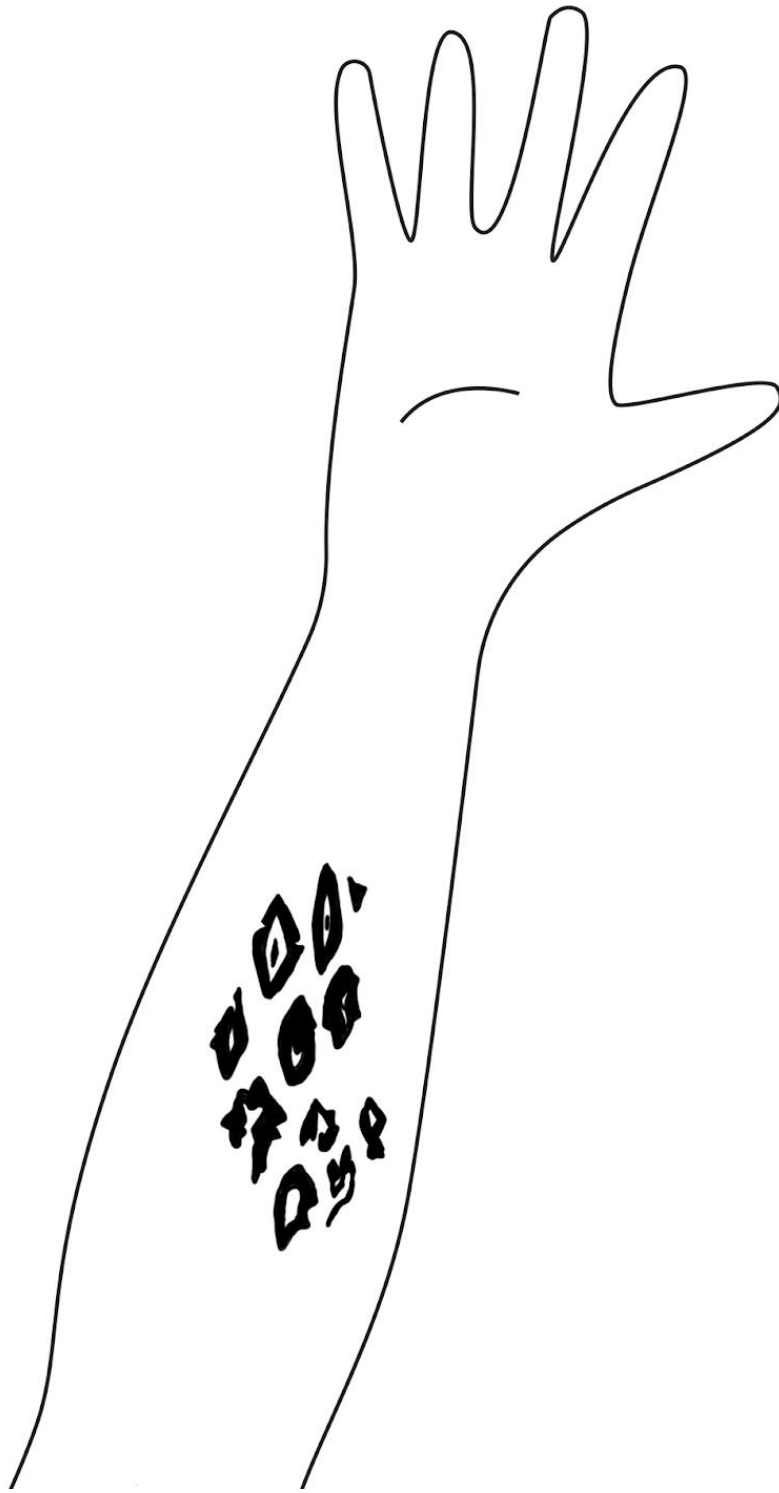


Sample A22-117-6 Right Arm

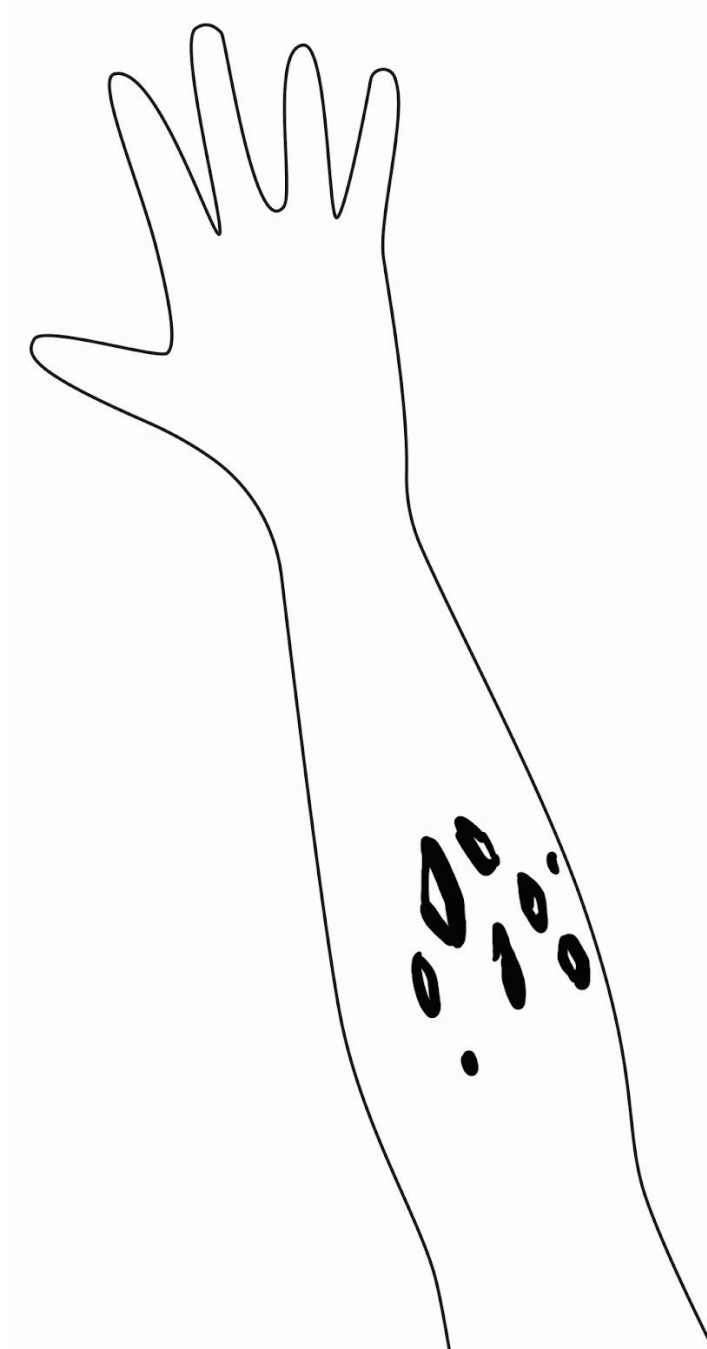
Below are the scientific Illustrations of A22-117-6 Right Arm from the Arizona State Museum



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm



Sample A22-117-6 Right Arm

Key 4260

GAC#: Pen-;--;--

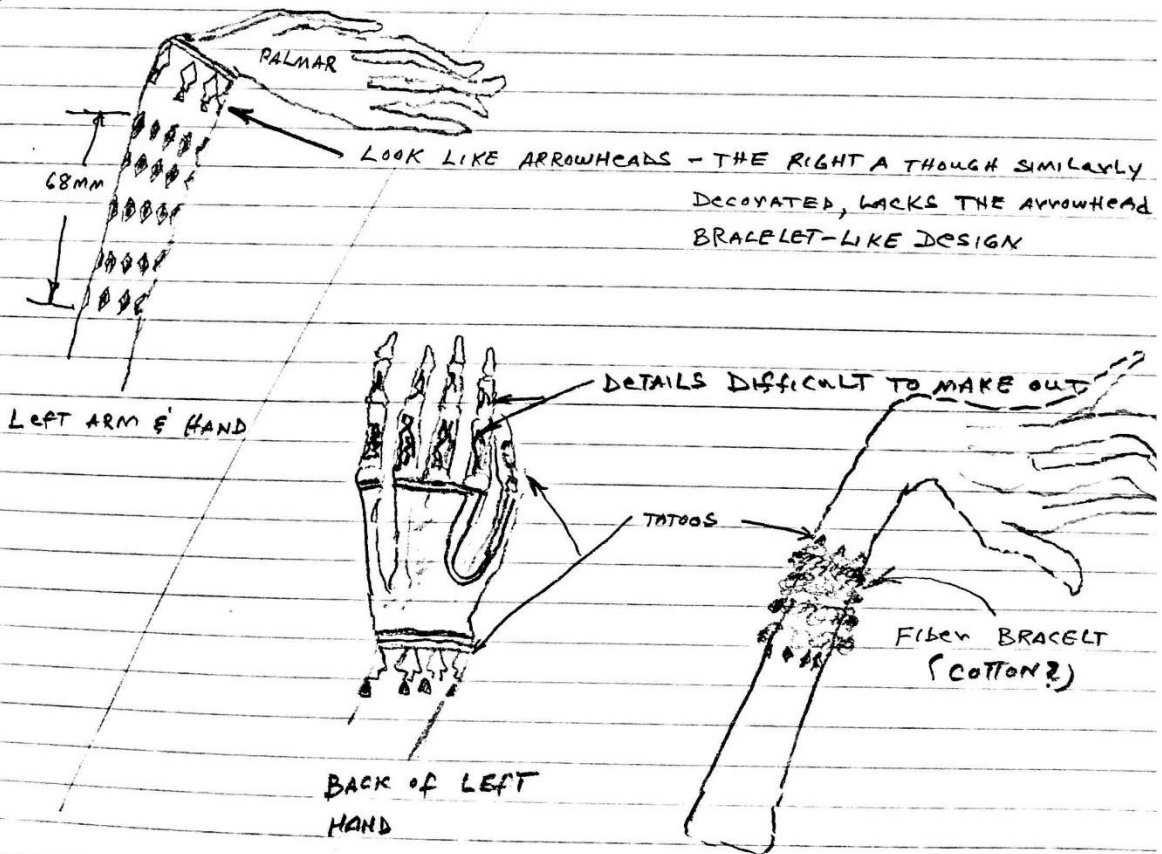
BP
5/25/01

A22-117 NO OTHER PROVENIENCE DATA
(A22-117-6 ON left arm)

LOCATION NER-1
mummified lower arms w/ hands.

This individual is represented by both lower arms and fully articulated hands. The skeletal elements present would include the right and left ulna and radius, as well as all carpal, Metacarpal and Carpal phalanges (unless they are Congenitally absent)

The mummified arms and hands are tattooed and the right forearm is adorned w/ 4 bundles of cotton fiber. Each bundle is comprised of 25 or so single single strands probably loosely woven and the bundles are woven - (connected) to form a bracelet-like arm adornment



Art Woodward Coll.

WASHINGTON STATE MUSEUM
UNIVERSITY OF WASHINGTON

CASE LIST

Textile material

Page 1
1959-36
3934

DEPARTMENT _____ GROUP _____ EXHIBIT _____ STUDY _____ STORAGE _____

SECTION NUMBER _____ CASE NUMBER _____ NUMBER OF SPECIMENS _____

DESCRIPTION OF CONTENTS _____ DATE 23 Oct 54 _____

MUSEUM CATALOG No.	ORIGINAL NUMBER	NAME	LOCALITY
3-12418	AW 83	(acc 3934/1) Hank of manny fiber (?) for cordage	12 Km E of Juma unroad etc. P. mac vally
3-12419	AW 62	(12) batch of cotton seeds w/ fiber	
3-12420	33	13 cotton text, plain weave w/ simple warp pattern border - long	
3-12421	30	14 small alpaca bag, mutilated. plain weave.	
3-12422	52	15) bag, w/ft pattern, alpaca, straps of tubular double cloth.	
3-12423	8	16) gauze cotton plain weave crepe sheer, cotton, red ochre dyed	
3-12424	39 B, C, D	17) cotton plain weave w/ warp pattern borders. fragmentary sections, three breadths shipped together.	
3-12425	45	18) portion of cotton shaped beach cloth freecaded - single face + double face	
3-12426	60	19) belt, alpaca, tubular double cloth, fragmentary	
3-12427	55	10) bag, alpaca, warp pattern, w/ warp pattern strip Sunac embroidery for top edge	
3-12428	40 A, C	11 a, b fringed cotton spaced weaving w/ loop ends	
3-12429	5	112 cotton, crepe sheer, tie dyed dyed mutilated	

(2)

Arthur Woodward gift. Coll.

WASHINGTON STATE MUSEUM
UNIVERSITY OF WASHINGTON

CASE LIST

from 12 Km E of fine, unexcavated site

DEPARTMENT 3934 1954-36 GROUP _____ EXHIBIT _____ STUDY _____ STORAGE _____
SECTION NUMBER _____ CASE NUMBER _____ NUMBER OF SPECIMENS _____
DESCRIPTION OF CONTENTS _____ DATE _____

MUSEUM CATALOG No.	ORIGINAL NUMBER	NAME	LOCALITY
3-12430	AW 46 35 ³ / ₁₃	shaped breechcloth, cotton, reciprocal double faced brocade, worn.	
3-12431	" 47 1/14	shaped breechcloth, cotton, 2 breadths single face brocading at 1 end.	
3-12432	36 1/15	shirt, cotton, double face, small pattern brocading in alpaca, gauze bands between rows of brocading.	
3-12433	44 1/16	shirt, cotton, w/ appliqued feathers plain weave.	
3-12434	18 1/17	cotton, plain weave, spaced warps, loose twist uneven filling yarns. narrow width cotton cloth, shows little wear, possibly many washings wadding.	
3-12435	15 1/18	bag, cotton w/ 1 alpaca warp stripe, plain weave warp face.	
3-12436	16 1/19	cotton, fragment, blue + white plaid, plain weave.	
3-12437	84 1/20	Hanks of spun cotton (in matchbox)	
3-12438	85 1/21	raw alpaca fiber, reddish brown (in matchbox)	
3-12439	26 1/22	cotton plain weave cloth, 2 breadths, warp face, large piece.	
3-12440	11 1/23	cotton plain weave fragment.	

Appendix C: Field Museum

Sample 40121-Data Collection Sheet

Author: Madison Auten

Museum Name:

Field Museum of Natural History located at 1400 S Lake Shore Dr, Chicago, IL 60605.

Dates Visited:

Monday August 28th, 2017

Museum Contact Personnel:

Christopher Philipp- Collections Manager in the Anthropology Department at the Field Museum. Email cphilipp@fieldmuseum.org

Examined:

Right Ulna

Provenance information:

Found in Peru at the Necropolis of Ancon by George Arthur Dorsey. Collected by the Department of Ethnology at the Field Museum. Collector George Arthur Dorsey.

Date Collected by Museum- Official Date unknown

Location excavated- Peru, Necropolis of Ancon

Head excavator or donor- George Arthur Dorsey

Related culture- N/A

Gender identification-Female- Per George Arthur Dorset (40121 Field Museum of Natural History, Acc. 355 Document).

Description: This sample will be called sample 40121, which is what remains of an ulna, from a female excavated from the necropolis of Ancon in Peru. Records also indicate this ulna, along with other elements of this individual were collected by George Arthur Dorsey in Peru at the Necropolis of Ancon. Soft tissue on the ulna is still intact on the lower part of the arm except for on certain areas covering the metacarpals.

General Description of 40121: 40121, also known as “grave 33, mummy 57. Skull has unbroken stylized. (Unreadable) wormian (unreadable) in (unreadable) suture”(40121 Field Museum of Natural History, Acc. 355 document).

Color- Tattooing appears to be black in color.

Location- Tattooing can be seen as what appears to be a band on the head of the radius of approximately 1.5 centimeters total. If more soft tissue were still intact more tattooing may have been visible.

Supplies Used: Notebook, Pen, Nikon D5300 for Photography, sheet and cm pad to lay the arm on, measurement scales, styrofoam cushions and latex gloves.

Photos Taken: 3 shown below.



Sample 40121

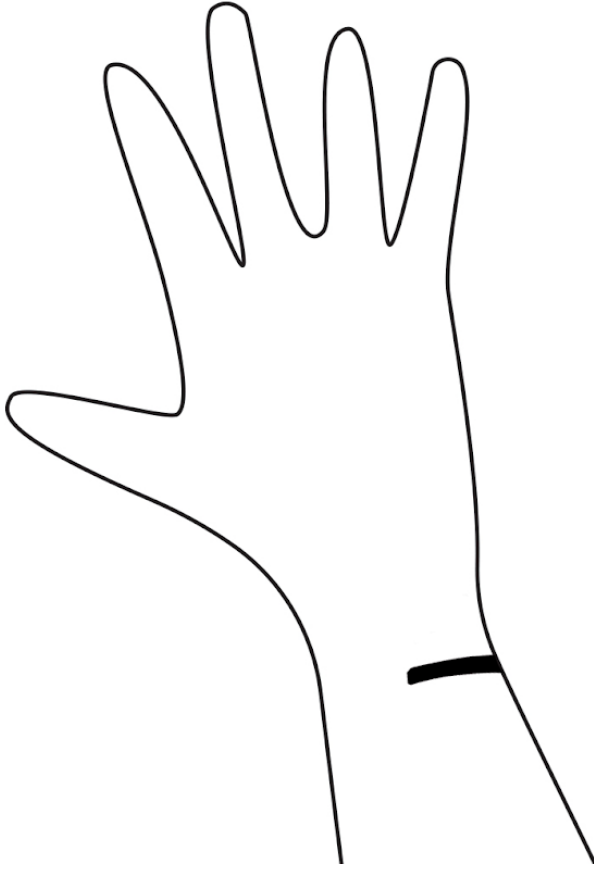


Sample 40121



Sample 40121

Below are the scientific illustrations of 40121 from the Field Museum



Sample 40121

Sample 40169-Left Arm Data Collection Sheet

Author: Madison Auten

Museum Name:

Field Museum of Natural History located at 1400 S Lake Shore Dr, Chicago, IL 60605.

Dates Visited:

Monday August 28th, 2017

Museum Contact Personnel:

Christopher Philipp- Collections Manager in the Anthropology Department at the Field Museum. Email cphilipp@fieldmuseum.org

Examined:

Left arm

Provenance information:

Found in Peru at the Necropolis of Ancon by George Arthur Dorsey. Collected by the Department of Ethnology at the Field Museum. Collector George Arthur Dorsey.

Date Collected by Museum- Official Date unknown

Location excavated- Peru, Necropolis of Ancon

Head excavator or donor- George Arthur Dorsey

Related culture- N/A

Gender identification-Female- Per George Arthur Dorset (40169 Field Museum of Natural History, Acc. 355 Document). Female- per L. Konigsberg based on pubic morphology (40169 human skeletal worksheet in 1986)

Directly related artifacts found with or donated with- four different elements from 40169 have tattooing shown. Each element has its own data sheet. This sheet is specific to the left arm.

Description: This sample will be called sample 40169-left arm, which is what remains of a left arm, from 35+ year old female excavated from the necropolis of Ancon in Peru. Age estimation of 35+ years comes from a human skeletal worksheet in Field Museum records on 40169, completed by L. Konigsberg in 1986. Records also indicate this left arm, along with other elements of this individual were collected by

George Arthur Dorsey in Peru at the Necropolis of Ancon. Soft tissue on the left arm is still intact on the lower part of the arm. One piece of soft tissue lying on top of the arm was detached, and is included in the photo next to the arm.

General Description of 40169: 40169, also known as "grave 87, mummy 120. Skeleton with flesh still adhering to some bones. Part of skin, also on (word illegible), shows tattooing. High bones (acetabulum) show (word illegible), also head & femur. Skin of (word illegible) skill ok"(40169 Field Museum of Natural History, Acc. 355 document).

Color- Tattooing appears to be black in color.

Location- Tattooing can be seen as what appears to be two bands just below the wrist for a length of approximately 4 centimeters total. (As well as on the soft tissue covering the sternum, right ulna, and ribs. These elements have individual data sheets)

Supplies Used: Notebook, Pen, Nikon D5300 for Photography, sheet and cm pad to lay the arm on, measurement scales, styrofoam cushions and latex gloves.

Photos Taken: 3 shown below.



Sample 40169-Left Arm



Sample 40169-Left Arm



Sample 40169

Sample 40169-Rib Area Data Collection Sheet

Author: Madison Auten

Museum Name:

Field Museum of Natural History located at 1400 S Lake Shore Dr, Chicago, IL 60605.

Dates Visited:

Monday August 28th, 2017

Museum Contact Personnel:

Christopher Philipp- Collections Manager in the Anthropology Department at the Field Museum. Email cphilipp@fieldmuseum.org

Examined:

Rib area

Provenance information:

Found in Peru at the Necropolis of Ancon by George Arthur Dorsey. Collected by the Department of Ethnology at the Field Museum. Collector George Arthur Dorsey.

Date Collected by Museum- Official Date unknown

Location excavated- Peru, Necropolis of Ancon

Head excavator or donor- George Arthur Dorsey

Related culture- N/A

Gender identification-Female- Per George Arthur Dorset (40169 Field Museum of Natural History, Acc. 355 Document). Female- per L. Konigsberg based on pubic morphology (40169 human skeletal worksheet in 1986)

Directly related artifacts found with or donated with- four different elements from 40169 have tattooing shown. Each element has its own data sheet. This sheet is specific to the left arm.

Description: This sample will be called sample 40169-rib area, which is what remains of the rib area, from 35+ year old female excavated from the necropolis of Ancon in Peru. Age estimation of 35+ years comes from a human skeletal worksheet in Field Museum records on 40169, completed by L. Konigsberg in 1986. Records also indicate this left arm, along with other elements of this individual were collected

by George Arthur Dorsey in Peru at the Necropolis of Ancon. Soft tissue covering the rib area is still intact which is where some tattooing is visible.

General Description of 40169: 40169, also known as “grave 87, mummy 120. Skeleton with flesh still adhering to some bones. Part of skin, also on (word illegible), shows tattooing. High bones (acetabulum) show (word illegible), also head & femur. Skin of (word illegible) skill ok”(40169 Field Museum of Natural History, Acc. 355 document).

Color- Tattooing appears to be black in color.

Location- Tattooing can be seen on the soft tissue covering the ribs for a length of approximately 3.5 centimeters. If there were more soft tissue left, more of the tattoo may have been visible.

Supplies Used: Notebook, Pen, Nikon D5300 for Photography, sheet and cm pad to lay the arm on, measurement scales, styrofoam cushions and latex gloves.

Photos Taken: 3 shown below.



Sample 40169-Rib Area



Sample 40169-Rib Area



Sample 40169-Rib Area

Sample 40169-Right Ulna Data Collection Sheet

Author: Madison Auten

Museum Name:

Field Museum of Natural History located at 1400 S Lake Shore Dr, Chicago, IL 60605.

Dates Visited:

Monday August 28th, 2017

Museum Contact Personnel:

Christopher Philipp- Collections Manager in the Anthropology Department at the Field Museum. Email cphilipp@fieldmuseum.org

Examined:

Right Ulna

Provenance information:

Found in Peru at the Necropolis of Ancon by George Arthur Dorsey. Collected by the Department of Ethnology at the Field Museum. Collector George Arthur Dorsey.

Date Collected by Museum- Official Date unknown

Location excavated- Peru, Necropolis of Ancon

Head excavator or donor- George Arthur Dorsey

Related culture- N/A

Gender identification-Female- Per George Arthur Dorset (40169 Field Museum of Natural History, Acc. 355 Document). Female- per L. Konigsberg based on pubic morphology (40169 human skeletal worksheet in 1986)

Directly related artifacts found with or donated with- four different elements from 40169 have tattooing shown. Each element has its own data sheet. This sheet is specific to the right ulna.

Description: This sample will be called sample 40169-right ulna, which is what remains of a right arm, from 35+ year old female excavated from the necropolis of Ancon in Peru. Age estimation of 35+ years comes from a human skeletal worksheet in Field Museum records on 40169, completed by L. Konigsberg in 1986. Records also indicate this right ulna, along with other elements of this individual were collected

by George Arthur Dorsey in Peru at the Necropolis of Ancon. Soft tissue is still intact on the head of the right ulna, which is where the tattooing is still visible.

General Description of 40169: 40169, also known as "grave 87, mummy 120. Skeleton with flesh still adhering to some bones. Part of skin, also on (word illegible), shows tattooing. High bones (acetabulum) show (word illegible), also head & femur. Skin of (word illegible) skill ok"(40169 Field Museum of Natural History, Acc. 355 document).

Color- Tattooing appears to be black in color.

Location- Tattooing can be seen on the soft tissue covering the head of the right Ulna for a total length of approximately 2.5 centimeters. If there were more soft tissue left, more tattooing may have been visible.

Supplies Used: Notebook, Pen, Nikon D5300 for Photography, sheet and cm pad to lay the arm on, measurement scales, styrofoam cushions and latex gloves.

Photos Taken: 2 shown below.



Sample 40169-Right Ulna



Sample 40169-Right Ulna

Sample 40169-Sternum Data Collection Sheet

Author: Madison Auten

Museum Name:

Field Museum of Natural History located at 1400 S Lake Shore Dr, Chicago, IL 60605.

Dates Visited:

Monday August 28th, 2017

Museum Contact Personnel:

Christopher Philipp- Collections Manager in the Anthropology Department at the Field Museum. Email cphilipp@fieldmuseum.org

Examined:

Sternum

Provenance information:

Found in Peru at the Necropolis of Ancon by George Arthur Dorsey. Collected by the Department of Ethnology at the Field Museum. Collector George Arthur Dorsey.

Date Collected by Museum- Official Date unknown

Location excavated- Peru, Necropolis of Ancon

Head excavator or donor- George Arthur Dorsey

Related culture- N/A

Gender identification-Female- Per George Arthur Dorset (40169 Field Museum of Natural History, Acc. 355 Document). Female- per L. Konigsberg based on pubic morphology (40169 human skeletal worksheet in 1986)

Directly related artifacts found with or donated with- four different elements from 40169 have tattooing shown. Each element has its own data sheet. This sheet is specific to the sternum.

Description: This sample will be called sample 40169-sternum , which is what remains of a sternum from 35+ year old female excavated from the necropolis of Ancon in Peru. Age estimation of 35+ years comes from a human skeletal worksheet in Field Museum records on 40169, completed by L. Konigsberg in 1986. Records also indicate this sternum, along with other elements of this individual were collected by

George Arthur Dorsey in Peru at the Necropolis of Ancon. Soft tissue on sternum is still intact, although bent, which is where some of the observed tattooing is located. Tattooing located on multiple areas on the soft tissue still attached to the sternum.

General Description of 40169: 40169, also known as “grave 87, mummy 120. Skeleton with flesh still adhering to some bones. Part of skin, also on (word illegible), shows tattooing. High bones (acetabulum) show (word illegible), also head & femur. Skin of (word illegible) skill ok”(40169 Field Museum of Natural History, Acc. 355 document).

Color- Tattooing appears to be black in color

Location- Tattooing can be seen on the soft tissue of the sternum. (As well as on the soft tissue covering the wrist of left arm, right ulna, and ribs. These elements have individual data sheets)

Supplies Used: Notebook, Pen, Nikon D5300 for Photography, sheet and cm pad to lay the arm on, measurement scales, styrofoam cushions and latex gloves.

Photos Taken: 5 shown below.



Sample 40169-Sternum



Sample 40169-Sternum



Sample 40169-Sternum

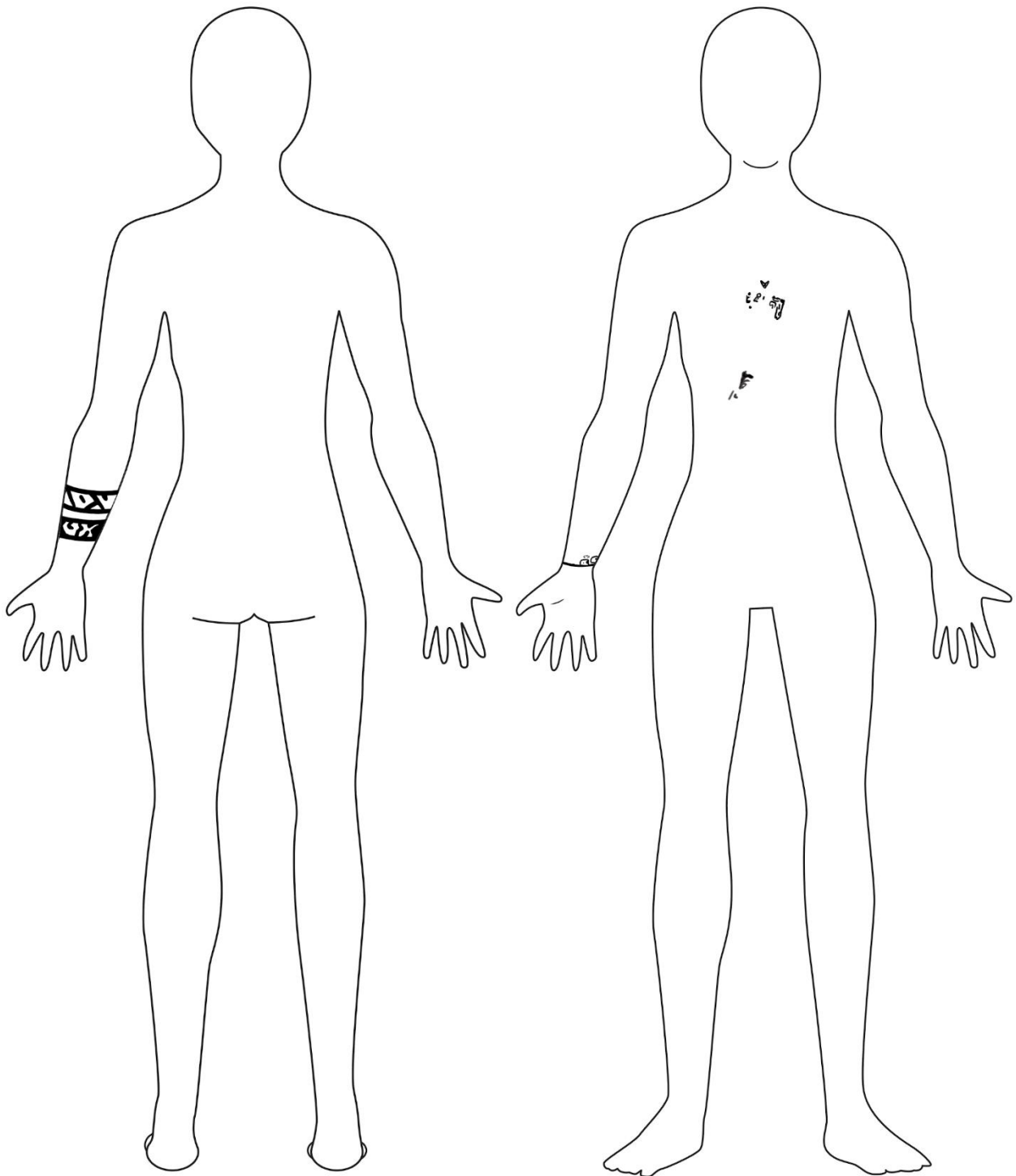


Sample 40169-Sternum

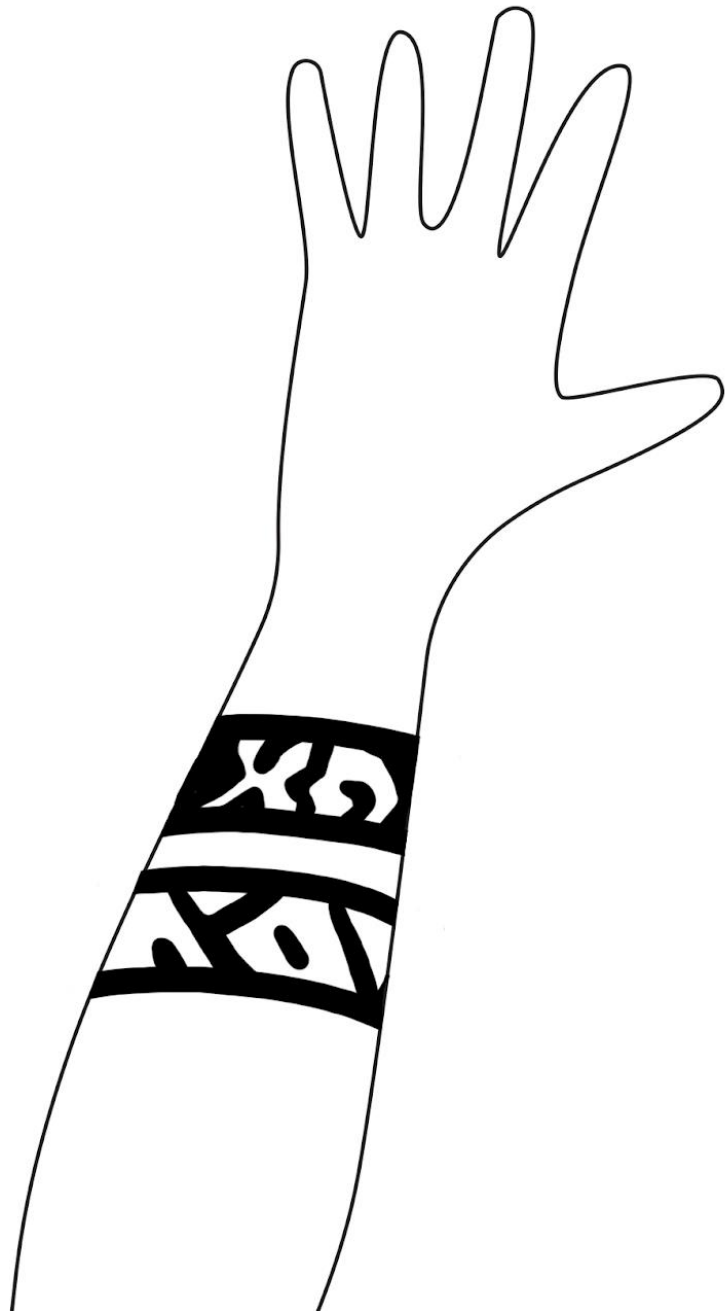


Sample 40169-Sternum

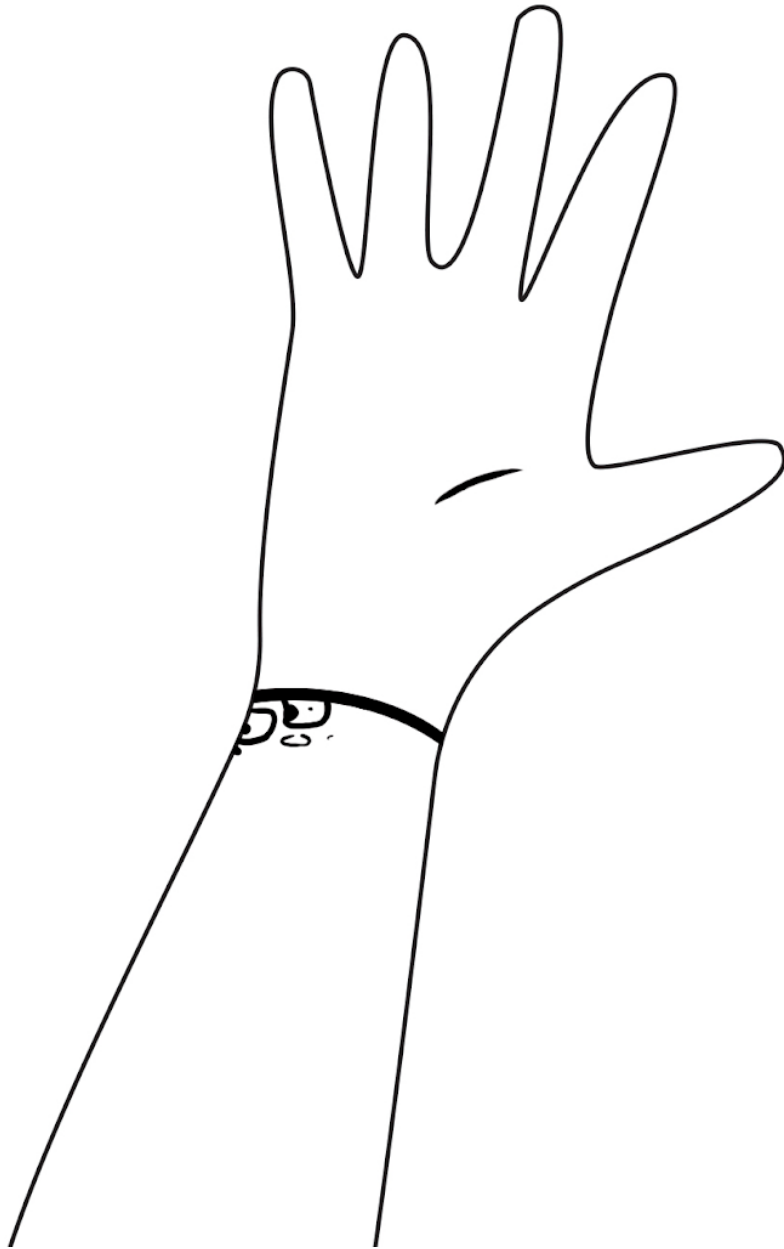
Below are the scientific illustrations of 40169 from the Field Museum drawn



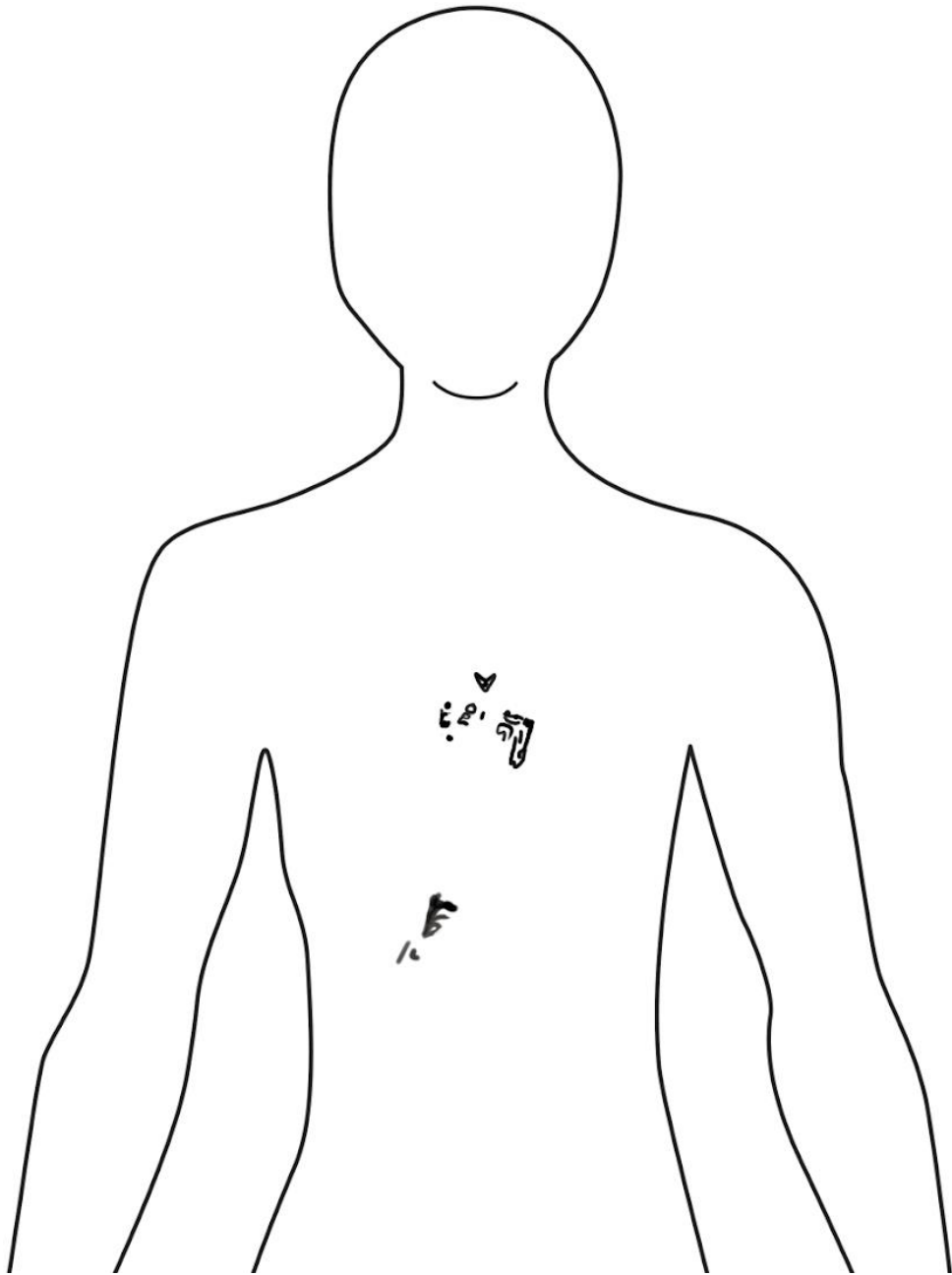
Sample 40169



Sample 40169



Sample 40169



Sample 40169

Sample 40246- Right Arm Data Collection Sheet

Author: Madison Auten

Museum Name:

Field Museum of Natural History located at 1400 S Lake Shore Dr, Chicago, IL 60605.

Dates Visited:

Monday August 28th, 2017

Museum Contact Personnel:

Christopher Philipp- Collections Manager in the Anthropology Department at the Field Museum. Email cphilipp@fieldmuseum.org

Examined:

Right Arm

Provenance information:

Found in Peru at the Necropolis of Ancon by George Arthur Dorsey. Collected by the Department of Ethnology at the Field Museum. Collector George Arthur Dorsey.

Date Collected by Museum- Official Date unknown

Location excavated- Peru, Necropolis of Ancon

Head excavator or donor- George Arthur Dorsey

Related culture- N/A

Gender identification-Female- Per George Arthur Dorsey (40246 Field Museum of Natural History, Acc. 355 Document).

Directly related artifacts found with or donated with- Sample 40246-Right arm is a pair to sample 40246-Left Arm which will have its own data collection sheet.

Description: This sample will be called sample 40246-Right arm, which is what remains of a right arm, from 35+ year old female excavated from the necropolis of Ancon in Peru. Records also indicate this right arm, along with other elements of this individual were collected by George Arthur Dorsey in Peru at the Necropolis of Ancon. Soft tissue on the right arm is still intact on the lower part of the arm except for on certain areas covering the metacarpals.

General Description of 40246: 40246, also known as “grave 8, mummy 23. Skeleton with flesh still adhering. Hair on head.”(40246 Field Museum of Natural History, Acc. 35501 document).

Color- Tattooing appears to be black in color.

Location- Tattooing can be seen a what appears to be a small dot and line on the far left metacarpal. (As well as on the soft tissue on the left arm. This element has its own individual data sheet) If more soft tissue were still intact more tattooing may have been visible.

Supplies Used: Notebook, Pen, Nikon D5300 for Photography, sheet and cm pad to lay the arm on, measurement scales, styrofoam cushions and latex gloves.

Photos Taken: 2 shown below.



Sample 40246- Right Arm



Sample 40246- Right Arm

Sample 40246-Left Arm Data Collection Sheet

Author: Madison Auten

Museum Name:

Field Museum of Natural History located at 1400 S Lake Shore Dr, Chicago, IL 60605.

Dates Visited:

Monday August 28th, 2017

Museum Contact Personnel:

Christopher Philipp- Collections Manager in the Anthropology Department at the Field Museum. Email cphilipp@fieldmuseum.org

Examined:

Left arm

Provenance information:

Found in Peru at the Necropolis of Ancon by George Arthur Dorsey. Collected by the Department of Ethnology at the Field Museum. Collector George Arthur Dorsey.

Date Collected by Museum- Official Date unknown

Location excavated- Peru, Necropolis of Ancon

Head excavator or donor- George Arthur Dorsey

Related culture- N/A

Gender identification-Female- Per George Arthur Dorset (40246 Field Museum of Natural History, Acc. 355 Document).

Directly related artifacts found with or donated with- Sample 40246-left arm is a pair to sample 40246-Right Arm which will have its own data collection sheet.

Description: This sample will be called sample 40246-left arm, which is what remains of a left arm, from 35+ year old female excavated from the necropolis of Ancon in Peru. Records also indicate this left arm, along with other elements of this individual were collected by George Arthur Dorsey in Peru at the Necropolis of Ancon. Soft tissue on the left arm is still intact on the lower part of the arm except for on certain areas covering the metacarpals.

General Description of 40246: 40246, also known as “grave 8, mummy 23. Skeleton with flesh still adhering. Hair on head.”(40246 Field Museum of Natural History, Acc. 35501 document).

Color- Tattooing appears to be black in color.

Location- Tattooing can be seen as what appears to be a band on the wrist for a length of approximately 2.4 centimeters total. (As well as on the soft tissue covering the right arm. This element has its own individual data sheet) If more soft tissue were still intact more tattooing may have been visible.

Supplies Used: Notebook, Pen, Nikon D5300 for Photography, sheet and cm pad to lay the arm on, measurement scales, styrofoam cushions and latex gloves.

Photos Taken: 2 shown below.

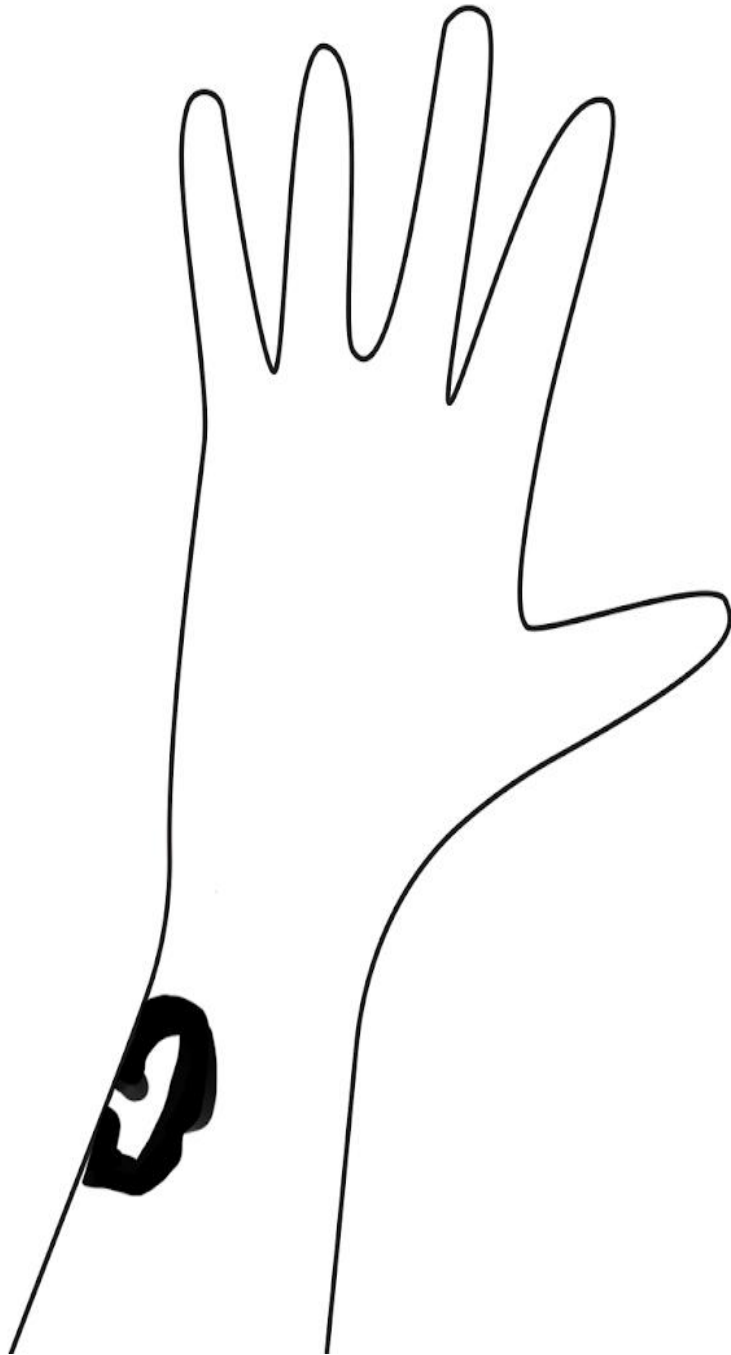


Sample 40246-Left Arm



Sample 40246-Left Arm

Below are the scientific Illustrations of 40246 from the Field Museum drawn



Sample 40246-Left Arm

Sample 40249 Data Collection Sheet

Author: Madison Auten

Museum Name:

Field Museum of Natural History located at 1400 S Lake Shore Dr, Chicago, IL 60605.

Dates Visited:

Monday August 28th, 2017

Museum Contact Personnel:

Christopher Philipp- Collections Manager in the Anthropology Department at the Field Museum. Email cphilipp@fieldmuseum.org

Examined:

Soft tissue pieces

Provenance information:

Found in Peru at the Necropolis of Ancon by George Arthur Dorsey. Collected by the Department of Ethnology at the Field Museum. Collector George Arthur Dorsey.

Date Collected by Museum- Official Date unknown

Location excavated- Peru, Necropolis of Ancon

Head excavator or donor- George Arthur Dorsey

Related culture- N/A

Gender identification- Female- per L. Konigsberg based on pubic morphology (40249 human skeletal worksheet, year 1986)

Directly related artifacts found with or donated with- "Corn cob, gourd fragment, fabric adhering to L. scapula" (40249 human skeletal worksheet, year 1986).

Description: This sample will be called sample 40249, which is various pieces of soft tissue that appear to have tattooing visible on them, from 35+ year old female excavated from the necropolis of Ancon in Peru. Age estimation of 35+ years comes from a human skeletal worksheet in Field Museum records on 40249, completed by L. Konigsberg in 1986. Records also indicate these soft tissue pieces, along with

other elements of this individual were collected by George Arthur Dorsey in Peru at the Necropolis of Ancon. There is no way to determine where these soft tissue pieces came from on the body.

General Description of 40249: 40249, also known as “grave 73, mummy 103. Skeleton with flesh still adhering” (40249 Field Museum of Natural History, Acc. 355 document).

Color- Tattooing appears to be black in color.

Location- Tattooing can be seen on these three soft tissue pieces, although the location of where these pieces once adhered to is undeterminable.

Supplies Used: Notebook, Pen, Nikon D5300 for Photography, sheet and cm pad to lay the arm on, measurement scales, styrofoam cushions and latex gloves.

Photos Taken: 2 shown below.



Sample 40249



Sample 40249

Sample 40252- Left Arm Data Collection Sheet

Author: Madison Auten

Museum Name:

Field Museum of Natural History located at 1400 S Lake Shore Dr, Chicago, IL 60605.

Dates Visited:

Monday August 28th, 2017

Museum Contact Personnel:

Christopher Philipp- Collections Manager in the Anthropology Department at the Field Museum. Email cphilipp@fieldmuseum.org

Examined:

Left Arm

Provenance information:

Found in Peru at the Necropolis of Ancon by George Arthur Dorsey. Collected by the Department of Ethnology at the Field Museum. Collector George Arthur Dorsey.

Date Collected by Museum- Official Date unknown

Location excavated- Peru, Necropolis of Ancon

Head excavator or donor- George Arthur Dorsey

Related culture- N/A

Gender identification- N/A

Directly related artifacts found with or donated with- Sample 40252-left arm is a pair to sample 40252-right Arm which will have its own data collection sheet.

Description: This sample will be called sample 40252- left arm, which is what remains of a left arm, from an individual excavated from the necropolis of Ancon in Peru. Records also indicate this left arm, along with other elements of this individual were collected by George Arthur Dorsey in Peru at the Necropolis of Ancon. Soft tissue on the left arm is still intact, skin shows imprintation of textiles and a rope is encircling four fingers.

General Description of 40252, "Skeleton with flesh still adhering"(40252 Field Museum of Natural History, Acc. (?) document).

Color- Tattooing appears to be black in color.

Location- Tattooing can be seen as what appears to be a band on the wrist, possibly another band 4 cm below the wrist and on the soft tissue covering the proximal and middle phalanx.

Supplies Used: Notebook, Pen, Nikon D5300 for Photography, sheet and cm pad to lay the arm on, measurement scales, styrofoam cushions and latex gloves.

Photos Taken: 5 shown below.



Sample 40252- Left Arm



Sample 40252- Left Arm



Sample 40252- Left Arm



Sample 40252- Left Arm



Sample 40252- Left Arm

Sample 40252- Right Arm Data Collection Sheet

Author: Madison Auten

Museum Name:

Field Museum of Natural History located at 1400 S Lake Shore Dr, Chicago, IL 60605.

Dates Visited:

Monday August 28th, 2017

Museum Contact Personnel:

Christopher Philipp- Collections Manager in the Anthropology Department at the Field Museum. Email cphilipp@fieldmuseum.org

Examined:

Right Arm

Provenance information:

Found in Peru at the Necropolis of Ancon by George Arthur Dorsey. Collected by the Department of Ethnology at the Field Museum. Collector George Arthur Dorsey.

Date Collected by Museum- Official Date unknown

Location excavated- Peru, Necropolis of Ancon

Head excavator or donor- George Arthur Dorsey

Related culture- N/A

Gender identification- N/A

Directly related artifacts found with or donated with- Sample 40252 right arm is a pair to sample 40252 left arm which will have its own data collection sheet.

Description: This sample will be called sample 40252 right arm, which is what remains of a right arm, from an individual excavated from the necropolis of Ancon in Peru. Records also indicate this right arm, along with other elements of this individual were collected by George Arthur Dorsey in Peru at the Necropolis of Ancon. Soft tissue on the right arm is still intact but extremely fragile. Arm could not be moved off of its white storage sheet or moved into another position that would allow for a better photograph.

General Description of 40252, "Skeleton with flesh still adhering" (40252 Field Museum of Natural History, Acc. (?) document).

Color- Tattooing appears to be black in color.

Location- Tattooing can be seen below the wrist on the forearm of the individual.

Supplies Used: Notebook, Pen, Nikon D5300 for Photography, sheet and cm pad to lay the arm on, measurement scales, styrofoam cushions and latex gloves.

Photos Taken: 3 shown below.



Sample 40252- Right Arm

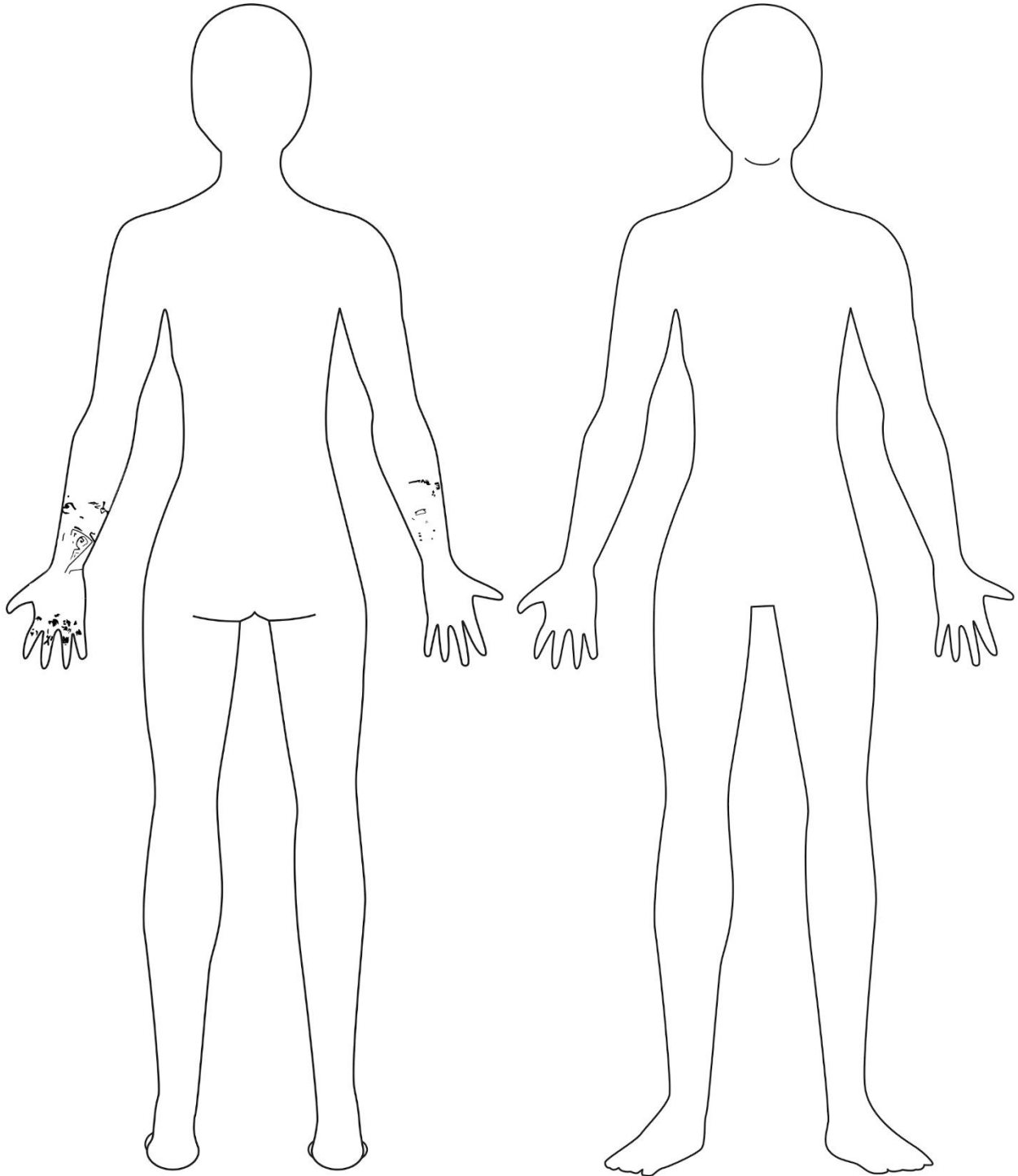


Sample 40252- Right Arm



Sample 40252- Right Arm

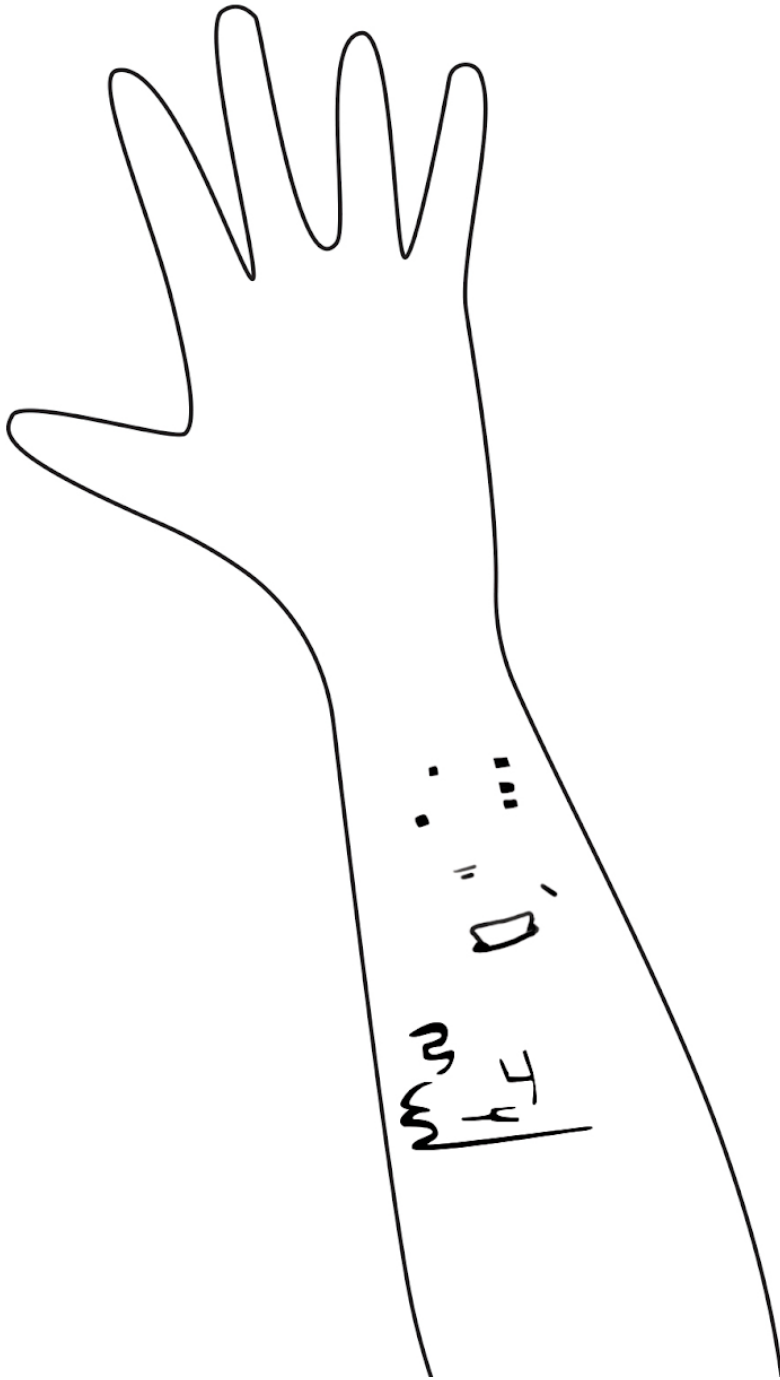
Below are the scientific illustrations of 40252 from the Field Museum



Sample 40252



Sample 40252- Left Arm



Sample 40252- Right Arm

Sample 183583 Data Collection Sheet

Author: Madison Auten

Museum Name:

Field Museum of Natural History located at 1400 S Lake Shore Dr, Chicago, IL 60605.

Dates Visited:

Monday August 28th, 2017

Museum Contact Personnel:

Christopher Philipp- Collections Manager in the Anthropology Department at the Field Museum. Email cphilipp@fieldmuseum.org

Examined:

One Right Arm

Provenance information:

Found in Peru at the Necropolis of Ancon by George Arthur Dorsey. Collected by the Department of Ethnology at the Field Museum. Collector George Arthur Dorsey.

Date Collected by Museum- Official Date unknown

Location excavated- Peru, Necropolis of Ancon

Head excavator or donor- George Arthur Dorsey

Related culture- N/A

Gender identification- N/A

Directly related artifacts found with or donated with- Sample 183583 was thought to belong to the individual 183930, however that individual is not missing any arms. Sample 183595, Sample 183583 and Sample 183930 all have the same accession number (.48).

Description: This sample will be called sample 183583, which is a right arm consisting of a radius, ulna and hand of an individual. Records indicate this arm was collected by George Arthur Dorsey in Peru at the Necropolis of Ancon. Soft tissue of arm seems to be intact with the exception of skin missing at the more proximal end of the arm where the ulna and radius would connect to the humerus and some skin missing on the metacarpals. Additionally, the lower metacarpals on this arm are also missing .

Color- Tattooing appears to be black in color

Location- “Human forearm with skin attached showing tattooing” (Field Columbian Museum accession card 183583). Tattooing is found just above wrist for a length of approximately 7 centimeters, visible on the both the anterior and posterior of the arm.

Measurement-Tattooing can be seen just above wrist for approximately 7 centimeters

Supplies Used: Notebook, Pen, Nikon D5300 for Photography, sheet and cm pad to lay the arm on, measurement scales, styrofoam cushions and latex gloves.

Photos Taken: 5 shown below.



Sample 183583



Sample 183583



Sample 183583

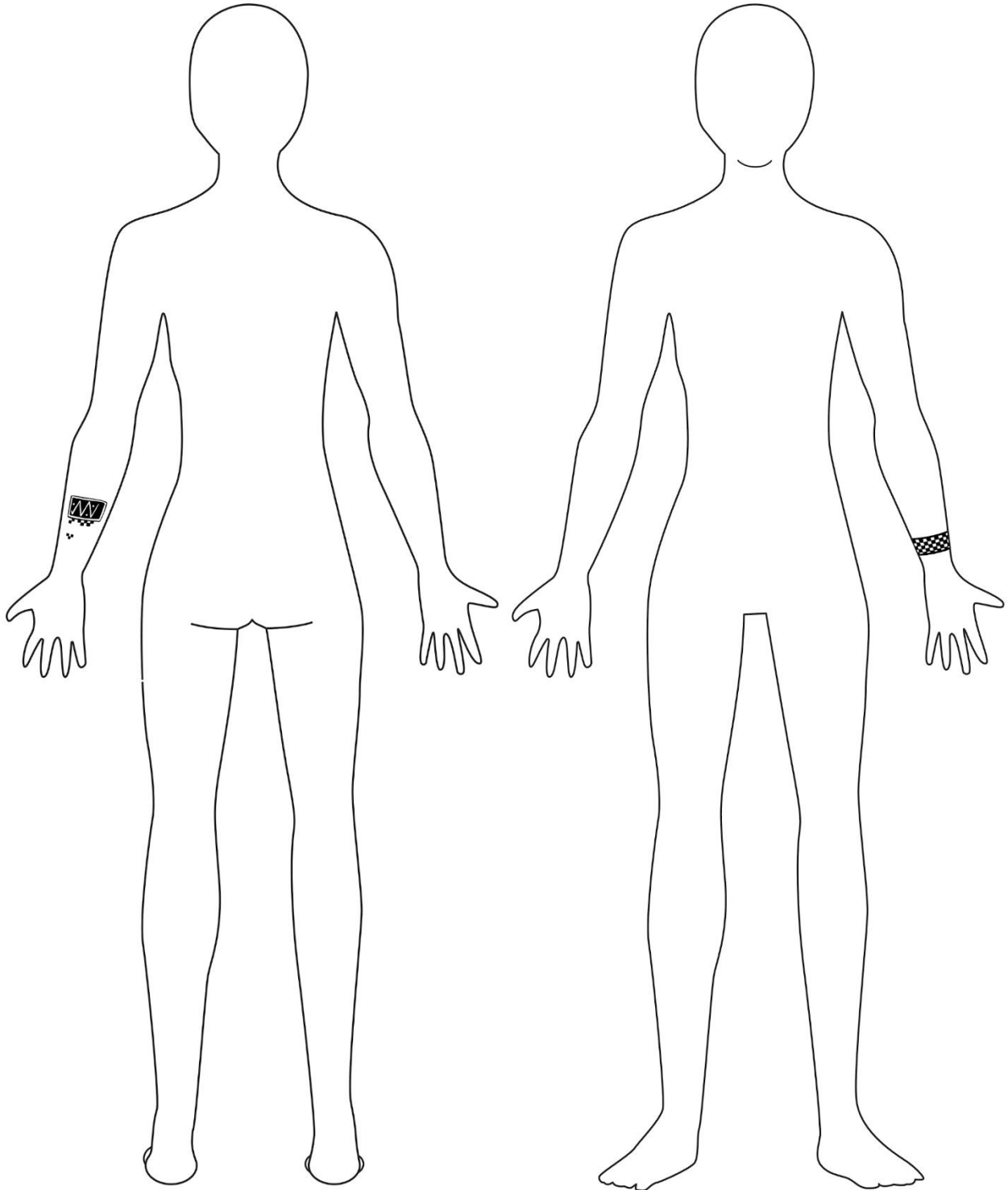


Sample 183583

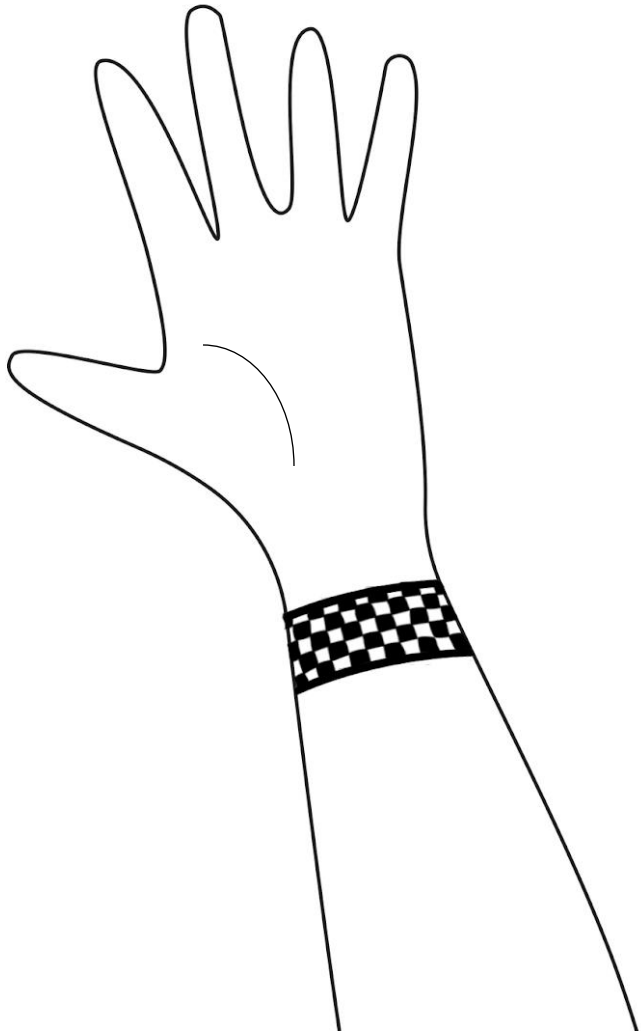


Sample 183583

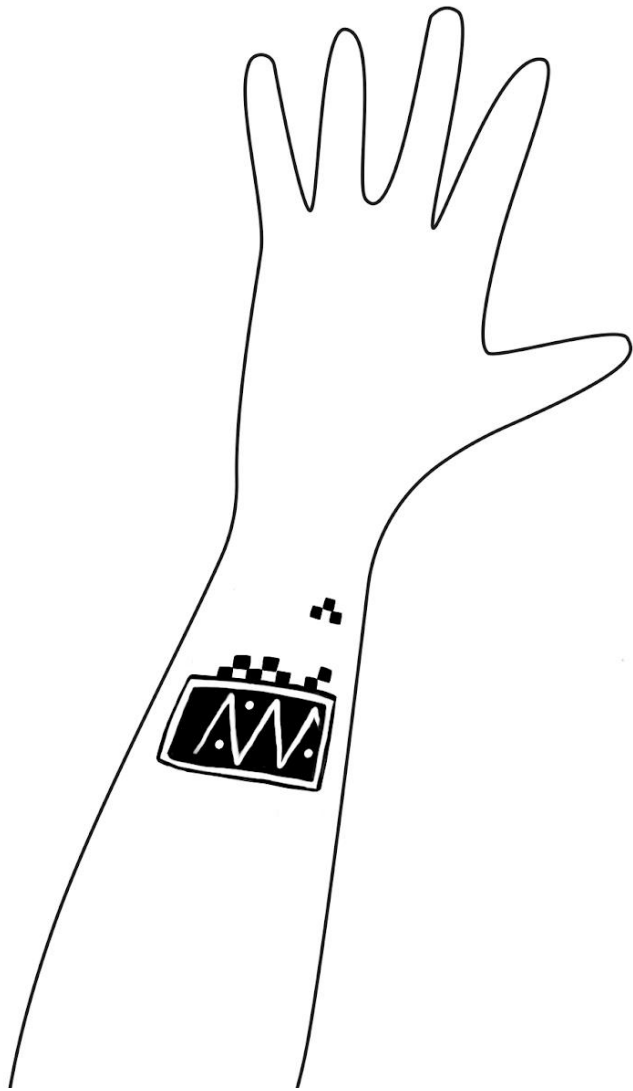
Below are the scientific illustrations of 183585 from the Field Museum drawn



Sample 183583



Sample 183583



Sample 183583

Sample 183595 Data Collection Sheet

Author: Madison Auten

Museum Name:

Field Museum of Natural History located at 1400 S Lake Shore Dr, Chicago, IL 60605.

Dates Visited:

Monday August 28th, 2017

Museum Contact Personnel:

Christopher Philipp- Collections Manager in the Anthropology Department at the Field Museum. Email cphilipp@fieldmuseum.org

Examined:

One Right Arm

Provenance information:

Found in Peru at the Necropolis of Ancon by George Arthur Dorsey. Collected by the Department of Ethnology at the Field Museum. Collector George Arthur Dorsey.

Date Collected by Museum- Official Date unknown

Location excavated- Peru, Necropolis of Ancon

Head excavator or donor- George Arthur Dorsey

Related culture- N/A

Gender identification- N/A

Directly related artifacts found with or donated with- Sample 183595, Sample 183583 and Sample 183930 all have the same accession number (.48). Sample 183595 and Sample 183583 are thought to be a pair of arms from the same individual. However Sample 183930, is a mummy that is not missing any arms and sample 183595 and sample 183583 are both right arms.

Description: This sample will be called sample 183595, which is a right arm consisting of a radius, ulna and hand of an individual. Records indicate this arm was collected by George Arthur Dorsey in Peru at the Necropolis of Ancon. Soft tissue of arm seems to be intact with the exception of skin missing at the

more proximal end of the arm where the ulna and radius would connect to the humerus and some skin missing on the metacarpals.

Color- Tattooing appears to be black in color

Location- “Arm with skin attached showing hand of tattooing just above wrist” (Field Columbian Museum accession card 183595). Tattooing can only be seen on the posterior of the arm (if the individual was standing in the anatomical position).

Measurement-Tattooing can be seen just above wrist for approximately 8.5 centimeters

Supplies Used: Notebook, Pen, Nikon D5300 for Photography, sheet and cm pad to lay the arm on, measurement scales, styrofoam cushions and latex gloves.

Photos Taken: 4 shown below.



Sample 183595

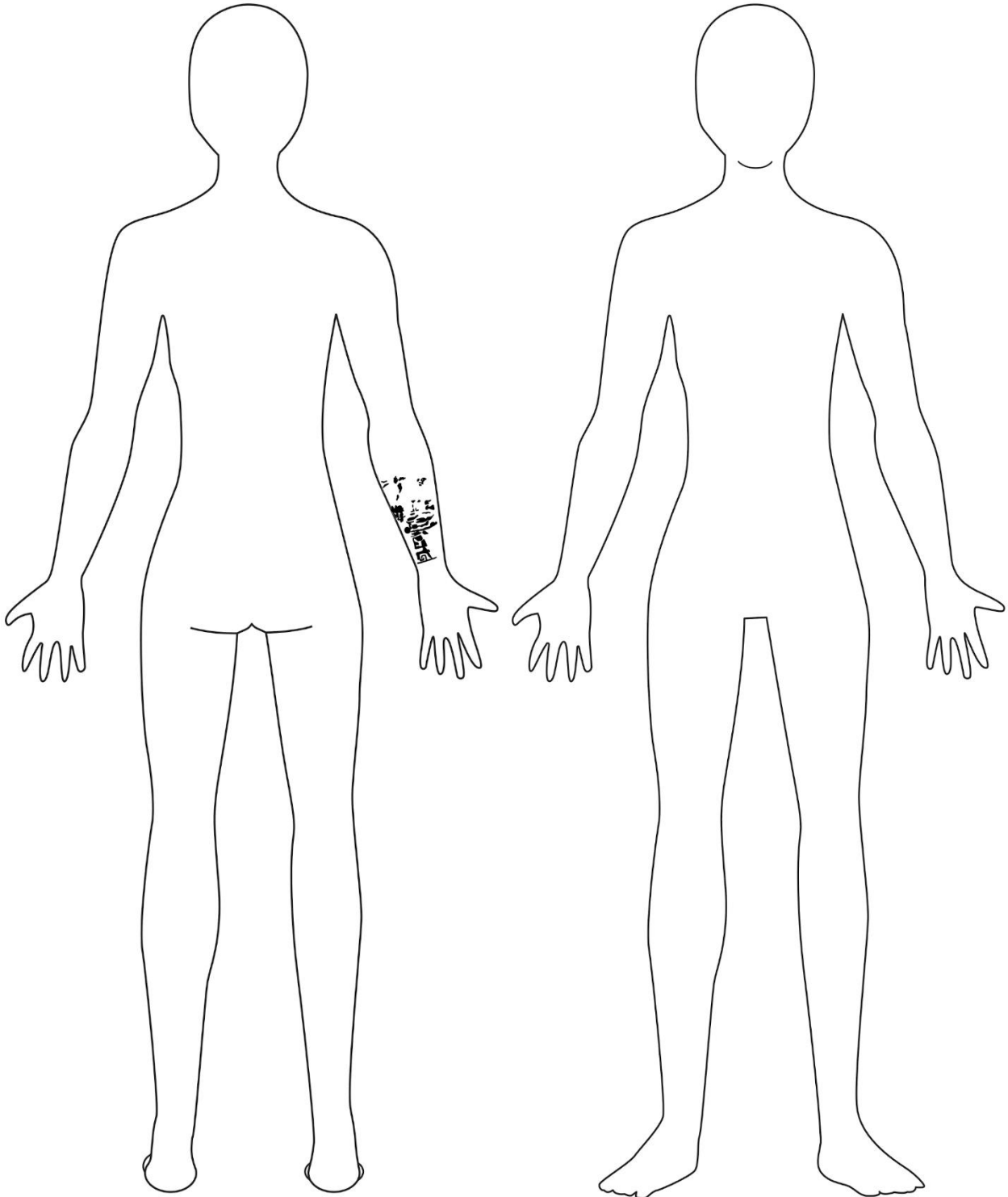


Sample 183595

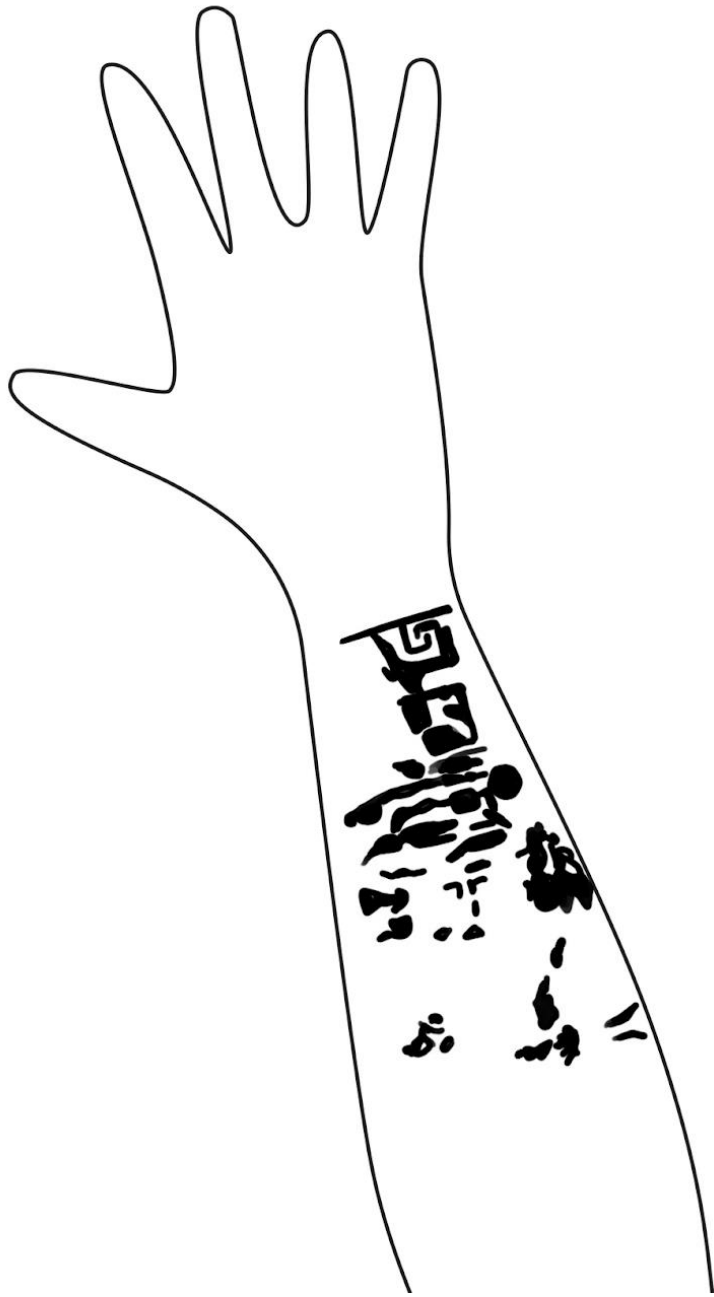


Sample 183595

Below are the scientific illustrations of 183595 from the Field Museum



Sample 183595



Sample 183595

Sample 183930 Data Collection Sheet

Author: Madison Auten

Museum Name:

Field Museum of Natural History located at 1400 S Lake Shore Dr, Chicago, IL 60605.

Dates Visited:

Monday August 28th, 2017

Museum Contact Personnel:

Christopher Philipp- Collections Manager in the Anthropology Department at the Field Museum. Email cphilipp@fieldmuseum.org

Examined:

Mummy in upright positions. Tattooing examined on wrist.

Provenance information:

Found in Peru at the Necropolis of Ancon by George Arthur Dorsey. Collected by the Department of Ethnology at the Field Museum. Collector George Arthur Dorsey.

Date Collected by Museum- Official Date unknown

Location excavated- Peru, Necropolis of Ancon

Head excavator or donor- George Arthur Dorsey

Related culture- N/A

Gender identification- N/A

Directly related artifacts found with or donated with- "inside wrappings were found several well made nets, ears of corn, pot of meal, a well made garment of beautifully crafted cloth and a large quantity of cotton (found over face)." (183930 Field Museum of Natural History, Acc. (48) document).

Description: This sample will be called sample 183930 which is what remains of an individual excavated from the necropolis of Ancon in Peru. Records also indicate this individual was collected by George Arthur Dorsey in Peru at the Necropolis of Ancon. Soft tissue is still intact in the area where the tattooing is visible, the wrist.

General Description of 183930, also known as mummy 178, grave 127. Mummy in upright position, well wrapped - Mummy has since been unwrapped in its present position and inside wrappings were found several well made nets, ears of corn, pot of meal, a well made garment of beautifully crafted cloth and a large quantity of cotton (found over face)." (183930 Field Museum of Natural History, Acc. (48) document).

Color- Tattooing appears to be black in color.

Location- Tattooing can be seen as what appears to be a band on the wrist.

Supplies Used: Notebook, Pen, Nikon D5300 for Photography, sheet and cm pad to lay the arm on, measurement scales, styrofoam cushions and latex gloves.

Photos Taken: 3 shown below



Sample 183930

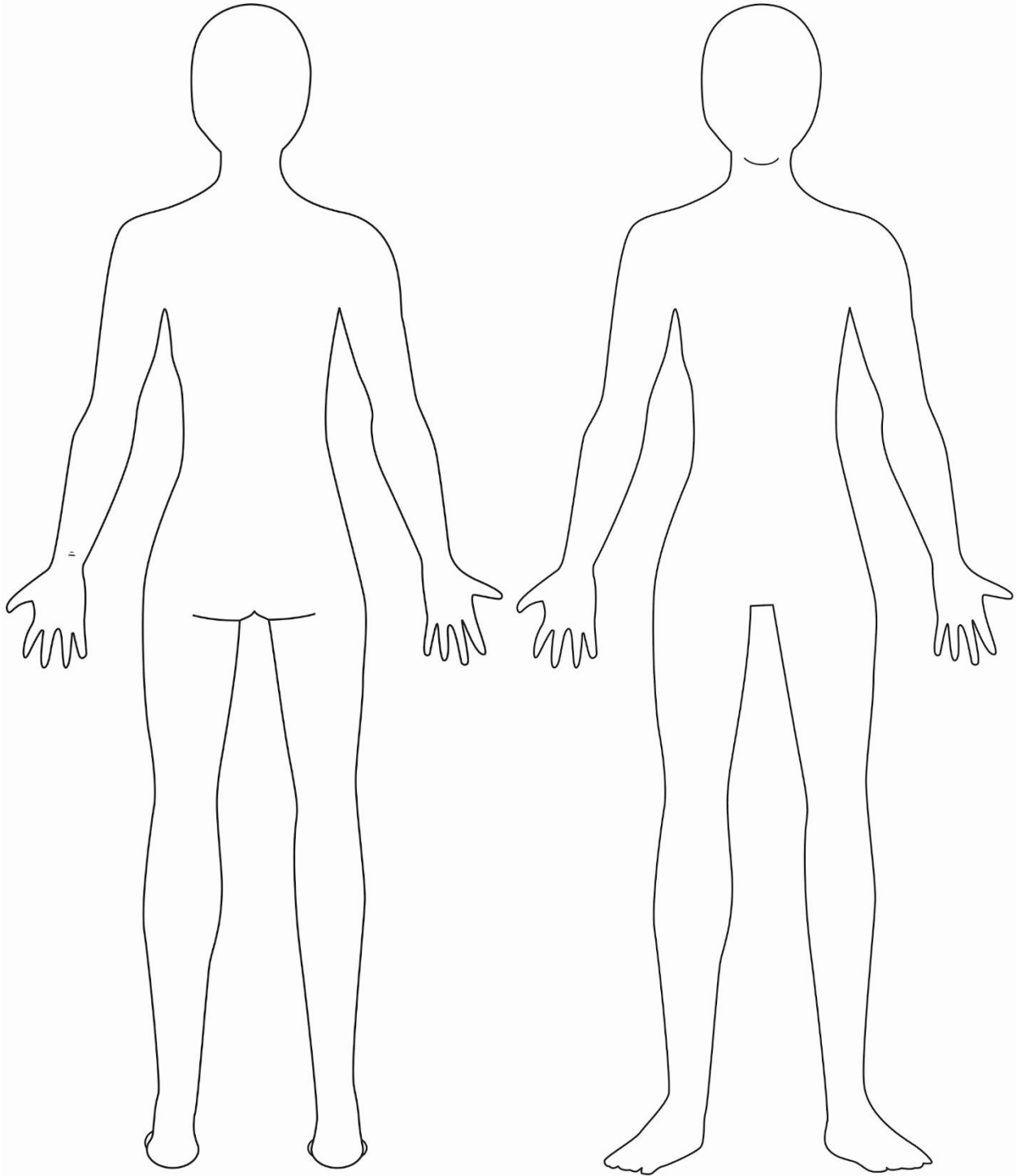


Sample 183930

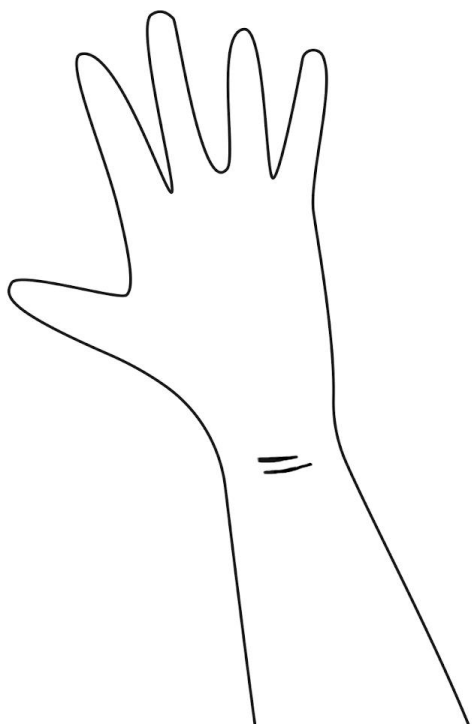


Sample 183930

Below are the scientific illustrations of 183930 from the Field Museum



Sample 183930



Sample 183930

Sample 971371 Data Collection Sheet

Author: Madison Auten

Museum Name:

Field Museum of Natural History located at 1400 S Lake Shore Dr, Chicago, IL 60605.

Dates Visited:

Monday August 28th, 2017

Museum Contact Personnel:

Christopher Philipp- Collections Manager in the Anthropology Department at the Field Museum. Email cphilipp@fieldmuseum.org

Examined:

Remains of 971371- tattooing on feet

Provenance information:

Found in Peru at the Necropolis of Ancon by George Arthur Dorsey. Collected by the Department of Ethnology at the Field Museum. Collector George Arthur Dorsey.

Date Collected by Museum- Official Date unknown

Location excavated- Peru, Necropolis of Ancon

Head excavator or donor- George Arthur Dorsey

Related culture- N/A

Gender identification- Female (As stated in Dorsey's dissertation: 69)

Directly related artifacts found with or donated with-

Description: This sample will be called sample 971371, which is what remains of an individual excavated from the necropolis of Ancon in Peru. Records also indicate this individual was collected by George Arthur Dorsey in Peru at the Necropolis of Ancon, grave 7, mummy 20. Soft tissue on the feet are mostly still intact which is where tattooing is visible. Dorsey's dissertation pg 69 indicates that tattooing may have been visible on the skin over the breasts. However after examining the soft tissue, a tattoo design was not able to be seen on that area.

Color- Tattooing appears to be black in color.

Location- Tattooing can be seen on the top of the feet more on the medial side. Tattooing just appears to be two small lines.

Supplies Used: Notebook, Pen, Nikon D5300 for Photography, sheet and cm pad to lay the arm on, measurement scales, styrofoam cushions and latex gloves.

Photos Taken: 4 shown below.



Sample 971371



Sample 971371



Sample 971371



Sample 971371

Below are the contents from Field Museum Accession records on samples listed above.

A		FIELD COLUMBIAN MUSEUM.	
No	183930 BNT 100004	Country	Peru. x123
	1-2	People	
		Locality	Necropolis of Ancon.
Grave	127?	Name	Mummy unwrapped, showing desiccated
Mummy	178		body (of woman?) and wrapping cloths.
		Collection	Department of Ethnology, W. C. E. Geo. A. Dorsey, Collector.
	3570 1	Where Placed	
		Notes	1 = body, 2 = cloths.
	Acc. 48		

A		FIELD COLUMBIAN MUSEUM.	
No	183595 FNT	Country	Peru.
		People	
		Locality	Necropolis of Ancon.
Grave		Name	Arm with skin attached showing band of
Mummy			tattooing just above wrist.
		Collection	Department of Ethnology, W. C. E. Geo. A. Dorsey, Collector.
		Where Placed	
		Notes	No Number.
	Acc. 48		

FIELD COLUMBIAN MUSEUM.

^A
183583

No _____ Country Peru.

People _____

Locality Necropolis of Ancon.

Grave _____ Name Human fore-arm with skin attached
 Mummy _____ showing tattooing

Collection Department of Ethnology, W. C. E.
Geo. A. Dorsey, Collector.

Where Placed _____

Notes 3569/1 XI.

Acc. 48

FIELD MUSEUM OF NATURAL HISTORY.

P. A.
40169

ENT

($\frac{87}{120}$)

Country Peru

Locality Ancon

Stock _____ Sex ♂

Collection Geo. A. Dorsey (W.C.E.)

General description Skeleton - with flesh
still adhering to some bones. Part of
skin, also on wrist, shows tattooing.
Hip bones (acetabulum) show disease, also
heads of femora. Skin of palate
still O.K.

Notes _____

Acc. 355

SPECIFIC DESCRIPTION

HEAD. Length 162 Breadth 148 Height 106

Os inca. Parietal fosses asymmetrical.

Sqr. L of lower jaw.

UPPER EXTREMITIES. Length of Humerus ^R 267 Ulna — Radius —

olecranon fossae perforated.

LOWER EXTREMITIES. Length of Femur ^R 372 ^L 369 Tibia ^R 320 ^L 322 Fibula ^R 308 ^L 312

Length of femur affected by disease.

PELVIS

VERTEBRAE

GENERAL