

## Chapter 2

# Socializing Violence

## *Interpersonal Violence Recidivism at Abu Fatima (Sudan)*

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Injury recidivism, or the reoccurrence of trauma, is a compelling phenomenon because it elucidates a broader social environment that either openly condones or passively allows multiple injuries to occur to an individual over their life course. This occurrence is not uncommon and has a plethora of direct and indirect causes (Alghnam, Tinkoff, & Castillo, 2016; Caufield et al., 2004). In a clinical setting, recidivistic injuries have been shown to be the result of dangerous working conditions, substance abuse, domestic violence, risky behavior, and mental illness (Claassen, Larkin, Hodges, & Field, 2007; Field & O'Keefe, 2004; Gentilello et al., 1999; Hilton, Harris, Rice, Lang, & Cormier, 2004; Vegso et al., 2007; Wan, Morabito, Khaw, Knudson, & Dicker, 2006). These direct causation factors are certainly influenced by broader and indirect social issues including socioeconomic status, race, and gender.

As this book addresses, the topic of injury recidivism has largely been avoided in the osteological literature (with the exception of Judd, 2002). This can be partially attributed to the methodological constraints associated with multiple injuries; if the traumatic events occurred antemortem, determining a timeline of when the injuries took place can be difficult, if not impossible. However, in scenarios where accumulated trauma can be established, important anthropological questions arise. Are these multiple injuries due to accidents that might occur in a risky job or are they intentional reflecting deliberate harm? Do they only occur in select age/sex categories? How common are instances of multiple injuries and can we draw broader social conclusions from this patterning? Following the two-step process purposed by Lovell (1997:139), it is the task of the osteologist to address (1) the proximate cause of the injury and (2) the extrinsic environmental factors that give rise

to the injury. In this way, bioarchaeology is uniquely situated to examine the complexly interwoven biosocial facets of injury recidivism.

In this chapter we present bioarchaeological data from the recently excavated site Abu Fatima (Sudan). Skeletal remains from the 2015 excavation season were analyzed for instances of traumatic injury. While the sample size is relatively small ( $n = 9$ ), we are able to draw tentative conclusions about the lifeways of this ancient Nubian community. Of particular note, the frequency of recidivistic trauma attributed to interpersonal violence is striking. We contextualize these findings with an examination of Nubian weaponry, a comparison of interpersonal violence recidivism between Nubian communities, and a discussion of bioarchaeological research relating to various forms of intentional harm.

## BIOARCHAEOLOGICAL CONTEXT

Abu Fatima, located at the Third Cataract of the Nile River, is associated with the ancient Nubian Kerma culture (figure 2.1). The cemetery was in use throughout the Ancient Kerma (2500–2050 BCE), Middle Kerma (2050–1750 BCE), and Classic Kerma (1750–1500 BCE) periods. There are hundreds of graves in the approximately 500 m<sup>2</sup> cemetery; however, a large portion of these have been damaged by modern development. Excavations at Abu Fatima began in 2015 and are ongoing. Archaeological research was initiated as a salvage effort when we discovered that the cemetery had been mined for alluvium (soil). We estimate that between 2002 and 2010, bulldozers stripped alluvial soil from approximately half of the cemetery (250 m<sup>2</sup>); the soil taken from Abu Fatima was used to construct a canal, which now transports water from the Nile to inland farms. Despite this damage, we have found a large portion of the cemetery had not been affected by the mining.

Abu Fatima is approximately 10 km north of the city of Kerma, which was the capital city of the ancient Nubian Kushite state (Edwards, 2004). The city of Kerma was a densely populated urban space, complete with storage facilities, ritual buildings, breweries, bakeries, and defensive enclosure walls (Bonnet, 1990; Bonnet & Valbelle, 2006). Kerma was equipped with a port, which facilitated trade, communication, and population movement (Bonnet, 1992). East of the city (~4 km) lies the large royal and civic cemetery of Kerma. It is estimated that there are 20,000 graves in this 90-hectare cemetery (Edwards, 2004; O'Connor, 1993). Large and small tumuli (mounded burial structures) dotted the landscape. The cemetery provides evidence for increasing social complexity. By the Middle Kerma phase, large tumuli surrounded by bucrania (cattle skulls) likely held royal burials. As many as 4,000 bucrania were placed outside one tumulus and were likely associated with a

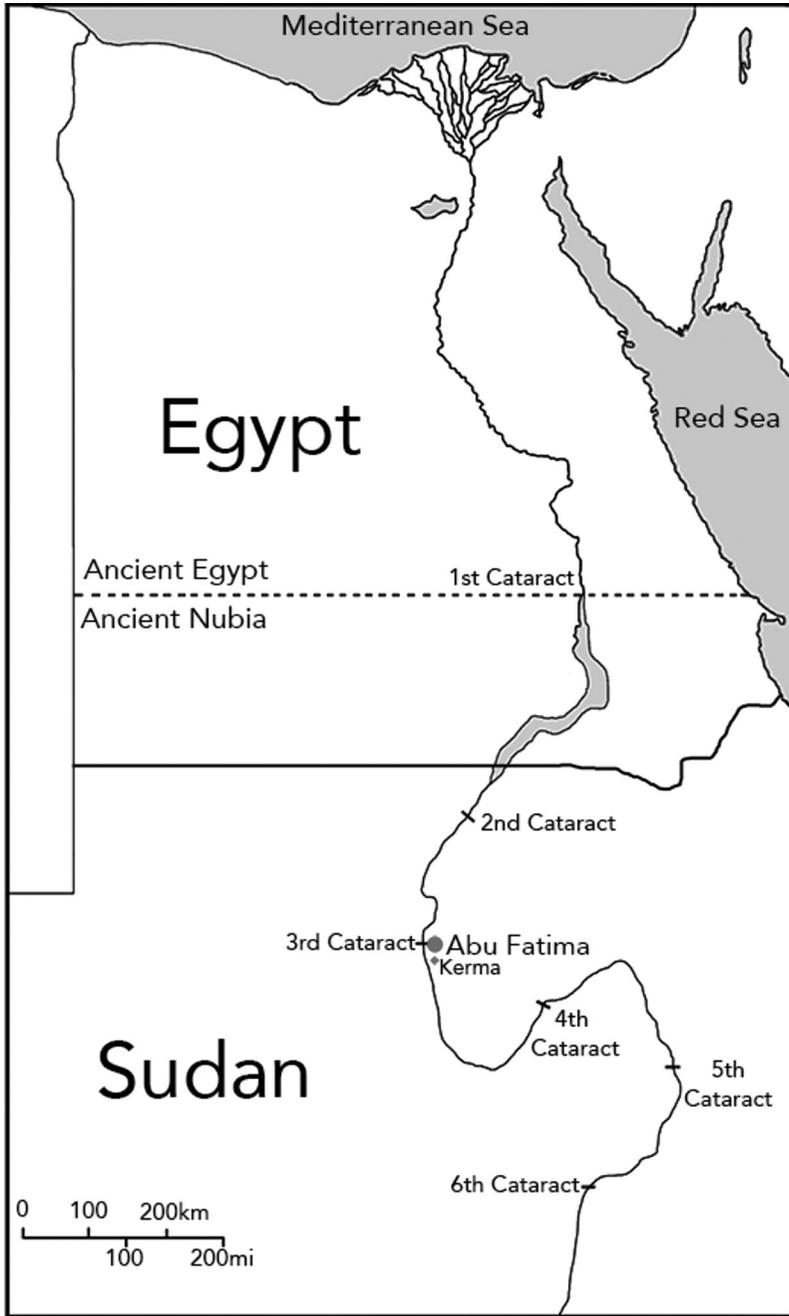


Figure 2.1 Map Showing Location of Abu Fatima. Created by the author.

feasting event connected to a royal funeral (Chaix, Dubosson, & Honegger, 2012). During the Classic Period, massive tumuli up to 90 meters in diameter held the burials of the ruler of Kush, his/her high-ranking officials, and up to 300 human sacrifices (Reisner, 1923a; 1923b). Also during the Classic Kerma Period, the large urban center and wealthy royal necropolis had all the hallmarks of a sociopolitically complex state and a hierarchical society.

The proximity of Abu Fatima to Kerma would have made it a peri-urban space where access to the city center by foot would have been possible, but since the journey would take about 2 to 3 hours at a normal walking pace, it may not have been an everyday endeavor. The community at Abu Fatima may have been engaged in manual labor, agropastoralism, craft production, and/or baking/brewing. These products would then have been filtered into the larger Kerma trading network. Burials at Abu Fatima are similar to those found at Kerma and other contemporary Nubian sites, such as Sai (Gratien, 1978, 1985). Tombs were small tumulus structures (~1–2 m in diameter), which were originally adorned with quartz pebbles and small black pieces of rhyolite. The body was placed on a cowhide, which was sometimes on or below a burial bed, and positioned on the left side with head to the east, feet to the west, facing north, and in a flexed position. Oftentimes a cowhide was placed over the burial. Common grave goods include: leather clothing, sandals, ostrich-feather fans, cuts of meat/animal offerings, pottery, and jewelry. These funerary offerings indicate that some of the population was not poor, as similar items were also found in the royal cemetery. However, many of the tombs discussed here were looted in antiquity. This disturbance and the common Nubian practice of placing pottery on the surface of graves, making it hard to associate vessels to specific tombs, impacts our ability to assess grave goods, status, and chronology via seriation. The one exception is burial 2C1 (discussed further below), which was undisturbed by looters and can be securely dated to the Classic Kerma Period. Nevertheless, this peri-urban and non-royal context is a particularly interesting one; the focal point of most Kerma-period archaeology has been either larger cities, including Kerma and Sai, and rural areas (as addressed in the Northern Dongola Reach Survey Expedition; Edwards, 2004; Gratien, 1998; Welsby, 2001). The community at Abu Fatima reflects a segment of the Kerma population, integral to food production, trade, and society, that has yet to be thoroughly examined.

## EVIDENCE FOR INJURY RECIDIVISM AT ABU FATIMA

In order to address injury recidivism at Abu Fatima, osteological analysis of trauma and age/sex estimation were conducted. Trauma was defined as fracture or dislocation and assessed through the visual observation of all

available skeletal material (Lovell, 1997); when in doubt, a radiograph was performed to confirm or refute the presence of trauma. If trauma was present, it was classified as either perimortem or antemortem. For the latter, the presence and degree of healing was noted. When possible, type of fracture (e.g., crush, spiral, comminuted, transverse, etc. per Lovell, 1997) was determined. Lastly, an injury was considered to be the result of intentional or direct hurt if it: occurred above the hat brim line, involved the distal third of the ulna (i.e., parry fracture), included broken metacarpals (i.e., boxer's fractures), broken nasal bones, or other indicators of interpersonal violence (e.g., imbedded weapons). Broken ribs have been attributed to direct injury (e.g., the result of domestic abuse or fighting; Tung, 2012; Walker et al., 1997) as well as accidents (Brickley, 2006; Larsen, 2015). Here, rib fractures are considered indicators of direct violence if they co-occur with other incidents of direct trauma. All other injuries were considered accidental. While this osteological classification of intentional versus accidental continues to be debated, the methods described above have been widely used (Brickley & Smith, 2006; de la Cova, 2012; Judd, 2008; Martin, Harrod, & Fields, 2010; Tung 2007; 2012; Walker, 1989; 1997, 2001).

Sex was estimated using accepted cranial and pelvic morphological characteristics (Buikstra & Ubelaker, 1994). Age was estimated through epiphyseal union and dental eruption in subadults; in adults, cranial suture closure, auricular and pubic symphysis degeneration, as well as transition analysis were employed (Boldsen, Milner, & Konigsberg, 2002; Buikstra & Ubelaker, 1994). From the cranial and pubic observations of adult skeletons, the following age categories were adopted: young adult (18–29), middle adult (30–45), and old adult (45+). Age categories and the results of transition analysis are presented in Appendix A.

## RESULTS AND INTERPRETATIONS

The osteological analysis of trauma at Abu Fatima indicates that injury was relatively common. Furthermore, according to the classification of direct versus indirect trauma described above, the majority of injuries can be attributed to interpersonal violence. Of the nine individuals included in this study, two are subadults (1C1, 2D2; aged 1.5–3 years); these individuals have no evidence of traumatic injury. All seven adult individuals exhibit some indication of injury, most of which occurred antemortem. Five of the seven adults (71%) have injuries that indicate intent. Furthermore, these five individuals have multiple injuries in which more than one instance of direct violence could be discerned; in other words, 71% of this initial sample from Abu Fatima exhibits signs of intentional injury recidivism.

Individuals 1A1 and 2D1 each have three broken ribs, all of which are well healed. Owing to the fact that broken ribs can be the result of accidents and falls, these were not considered to be indicators of intentional trauma. Further, because all ribs are well healed, it is impossible to determine if these fractures occurred at one time or reflect multiple events. However, it is important to note that these were the only individuals in this collection where crania were not observable. Both tombs were looted in antiquity and the skulls were either cast outside the tomb (1A1) or crushed (2D1). Thus, the lack of direct trauma and recidivism in these individuals might be the product of preservation and an incomplete bioarchaeological record.

Individual 1B1, an old adult female, exhibited seven cranial depressions. Three of these depressions are on the left parietal (near boss), three are on the right parietal (near and below boss), and one is located centrally on the frontal, just left of the midline. All injuries are antemortem; however, one depression on the right parietal was actively healing at the time of death (discoloration and fiberbone at the point of depression). All other cranial depressions are completely remodeled with lamellar bone and effectively healed over (Ortner, 2003).

A middle adult female, Burial 2A1 also has multiple cranial depressions. Two cranial depressions are located on the left parietal (just below boss), one depression is at midline (bridging the sagittal suture) between the two parietal bosses, and another depression is on the right parietal (just below boss). Two of these, one on the left parietal and the midline depression were both healing (the former had not yet developed an ossified closure, the latter is notably porous). The other two depressions are well healed. Furthermore, three metacarpals and three ribs are also fractured. Coupled with the cranial data, we suggest that the hand and rib injuries may be indicative of interpersonal violence.

The remaining three adult males (2A2, 2B1, and 2C1) all have signs of recidivistic, intentional injury. 2A2, a middle adult male, exhibits two cranial depressions (both on the left parietal, at boss), two broken nasal bones, a parry fracture to the distal right ulna, eight fractured metacarpals, and a distal fibular trauma that likely contributed to the observed atrophy. The two broken nasal bones were still actively healing at the time of death; all other fractures are healed and calloused. We interpret the injury to the distal fibula to be accidental, but all other trauma is likely intentional. Individual 2B1 (middle adult male) exhibits the only indication of perimortem trauma in the Abu Fatima sample. A blunt trauma, causing a crush fracture of the right temporal, has no indications of healing. This injury is coupled with a partially healed left temporal fracture (on the zygomatic process), a well healed cranial depression (left frontal superior surface), as well as fractures to the left zygomatic, left nasal, mandible, left ulna (parry fracture), and one rib. Lastly, a young

adult male, 2C1, has a sharp force trauma wound to the sternum. A thin layer of fiberbone is present, suggesting the individual survived the event but probably not for an extended period of time. The wound is approximately 2mm wide and 6mm long, suggesting it may have been caused by a blade. This, in conjunction with healed broken ribs, demonstrates that this individual encountered multiple instances of trauma.

## DISCUSSION

Despite the limited sample size from this initial season of excavation at Abu Fatima, it is clear that individuals in this community were exposed to injury risk. Osteological analysis suggests that many of these injuries may have been products of intentional trauma or interpersonal violence. Further, in five of the seven adults, these instances of intentional harm were recidivistic. Both male and female adults experienced direct violence. However, the two sub-adults in the sample were not subject to violent trauma. Owing to the prevalence of injury at Abu Fatima, it is unlikely that these traumas only reflect accidents or a single episode of violence. Instead, the people of Abu Fatima were likely engaging in physically harmful behavior throughout adulthood.

### Nubian Weaponry

Owing to the fact that many of the injuries observed at Abu Fatima can be characterized as intentional, an exploration into Nile Valley weaponry is worthwhile. Throughout Nile Valley history the most common weapons were made of stone, in particular pear-shaped disk maces, and battle axes. These were affixed to wooden handles and used as striking weapons (Petrie, 1916). Chipped stone was also used well into the Bronze Age and beyond for spear points and arrowheads. Slings and throwing stones are also known throughout Nubian history (Wernick, 2014). Bronze began to be used around 2000 BCE, and iron around 1500 BCE (Lucas & Harris, 1962). Initially, these materials would have been very costly and were only employed by the elite and the military as swords, axes, spear points, and daggers. Nubians were known for being skilled archers and were depicted in rock art and wooden models as early as the Neolithic Period (c. 5000 BCE; Gatto, Hendrickx, Roma, & Zampetti, 2009; Storemyr, 2009). At several points in Egyptian history, Nubian archers were hired by Egypt as mercenaries (Fischer, 1961; Spalinger, 2005); their weapon of choice was flint microlith-tipped arrowheads. Continued use of stone arrowheads by Nubian peoples throughout the Napatan and Meroitic periods (750 BCE–400 CE), despite the availability of metals such as iron, attests to their effectiveness and lethality (Shinnie, 1967; Smith, 2006).

It is difficult to determine conclusively whether the violent injuries sustained by these individuals were caused by any of these weapons. However, several of the injuries described in this chapter are analogous to known Nubian weapons. For example, the cranial fracture on the frontal bone of individual 2B1, measuring 6cm x 4cm (~1.5cm deep), fits the description of a stone axe head. The sharp force trauma to individual 2C1 could have been inflicted by a metal dagger, sword, spear, or arrowhead. The cranial depressions, most of which are circular or oval shaped, are difficult to attribute to a specific weapon. Sling stones, clubs, maces, or any blunt object could have been responsible for these injuries.

### **Injury Recidivism in Ancient Nubia**

Judd (2002) has conducted research on Nubian injury at Kerma, the capital city of ancient Nubia, and O16/P37, a rural cemetery 70km south of Kerma—both of which are concurrent with Abu Fatima. Other studies of trauma in Nubia have also been published; however, because the samples used in this study do not chronologically overlap with Abu Fatima, we do not discuss them here (Alvrus, 1999; Bourke, 1972; Burrell, Maas, & Van Gerven, 1986; Buzon & Richman, 2007; Kilgore, Jurmain, & Gurven, 1997; Strouhal & Jungwirth, 1980). At urban Kerma, 39.5% of the population exhibited at least one injury and 18% had two or more injuries (Judd, 2002:93). At the rural site of O16/P37, 80% of the sample had at least one injury and 61.8% had two or more injuries (Judd, 2002:100). When these two samples were pooled, Judd found that 38% of individuals with violence-related injuries also had other forms of trauma. This is higher than individuals with accident-related injuries having other forms of trauma (22%; Judd, 2002:103). Furthermore, most individuals who exhibited multiple injuries were males and were younger than 35 years. There were no significant differences in rates of violent or accidental injury between the urban and rural samples. In short, those individuals who had experienced interpersonal violence were more likely to be injured again than those with accident injury, and this pattern may have contributed to early death (<35 years). In a comparison of injury patterns at Kerma versus modern Nigerian and Indian samples, the Kerma populace was found to have higher rates of skull and ulnar injuries suggesting an interpersonal violence origin (Judd, 2004).

If we compare our results to Judd's, the sample from Abu Fatima has higher rates of injury than both Kerma and O16/P37. Furthermore, the rate of recidivism at Abu Fatima is also higher with 100% of the adult sample exhibiting at least one injury and 71% of those individuals having more than one injury. The injuries sustained in this sample were much more likely to be interpersonal and violent as opposed to accidental. When the injuries

are tabulated, there are seven accidental injuries (14.9% of all trauma) and 40 intentional injuries (85.1% of all trauma). While the sample size is not large enough to draw definitive conclusions about sex or age distribution of traumatic injury in the Abu Fatima population, this initial study suggests that both men and women from multiple age cohorts were participating in or were subject to physically dangerous activities. Like Kerma and O16/P37, the Abu Fatima individuals who had experienced direct trauma were likely to be recidivists. Unlike Kerma and O16/P37, there is only one adult (2C1) that fits the demographic profile of injury (male, <35) that Judd and others have found to be most common (see also Redfern et al., in press). The other individuals that exhibited violent, recidivistic trauma included two females (one middle adult and one old adult), and two males (both middle adult). This may be a byproduct of the small sample size at Abu Fatima. Alternatively, these preliminary results may indicate that vulnerability associated with direct and reoccurring physical violence extended later in life at Abu Fatima than at comparative samples. A larger sample size is needed to make definitive interpretations.

### **Bioarchaeological Interpretations**

Recent bioarchaeological analyses of violent injury, alongside burial context and social theoretical frameworks, have been employed to understand the cultural environment in which the injury occurred (Knüsel & Smith 2014; Martin & Frayer, 1997; Martin et al., 2012; Martin & Harrod, 2015; Tung, 2012). Here, we discuss contexts that may have facilitated or encouraged the patterned recidivistic violence present at Abu Fatima. We organize this discussion into two categories: intragroup and intergroup violence. However, we also acknowledge that these are difficult to differentiate, given the complex nature of violent encounters (Martin & Harrod, 2015:124).

#### *Intragroup Conflict*

One possibility is that the people of Abu Fatima were engaging in violent behaviors among themselves, which is less likely to have resulted in permanent injury or death (Walker, 1997:163). This could have taken multiple forms such as domestic abuse, ritualized fighting, and sport. Walker reports that the face is frequently the target of domestic abuse and assaults, which is likely associated with strategic and symbolic significance (Walker, 1997:160). Nasal, zygomatic, and mandibular fractures can result from these encounters. Intragroup ritualized fighting, which is a socially sanctioned form of aggression or dispute resolution, can result in a similar injury pattern to domestic abuse and can intensify during periods of environmental stress and

limited resources (Walker, 1989, 1997). This type of ritualized fighting can also include sport. Egyptian written records claim that Nubians were known for participating in combat sports, particularly wrestling and stick fighting (Carroll, 1988; Poliakoff, 1987). In short, intragroup aggression frequently involves sublethal wounds, which are oftentimes focused on the craniofacial region and associated with hand-to-hand violence.

It is difficult to tease these types of intragroup conflict apart considering they can cause similar skeletal injury. Facial fractures to the nasals, zygomatics, and mandible, consistent with intragroup conflict, are present in two males from Abu Fatima (2A2, 2B1). Further, female 2A1 and male 2A2 have fractured metacarpals, characteristic of boxing fractures, in addition to craniofacial fractures (Greer & Williams, 1999). This combination of injuries suggests these individuals may have been victims and perpetrators of violent acts. Some of the cranial depressions present on multiple individuals from Abu Fatima could also be explained by stick fighting, although there is no direct evidence of this. Taken together, injuries to the face, hands, and ribs may have been the result of abuse, ritual violence, or sport. However, intragroup conflict does not account for all traumas in the Abu Fatima sample.

### *Intergroup Conflict*

Conflict between groups can cause serious injury and is frequently fatal (Lambert, 1994; Tung, 2012). Orchestrated raids or outright warfare can wreak havoc on entire populations. Raids, typically involving a surprise attack, aim to steal goods and sometimes people (typically women and children), while simultaneously weakening an enemy (Keeley, 1996). Injuries associated with raids frequently include cranial trauma, as they can confuse, disorient, and potentially incapacitate people. Cattle raiding is well documented historically and ethnographically among Sudanese Nilotic groups for whom cattle were an important economic and symbolic resources, in particular the Nuer, Dinka, and Shilluk (Burton, 1981; Evans-Pritchard, 1940; Johnson, 1982). Cattle clearly played an analogous role in Kerma society and a similar cycle of raiding and revenge may have prevailed in Nubia, particularly earlier in the history of Kerma when central control was weaker. The act of abducting females and children in raids conducted by males is also well documented in both modern as well as ancient societies (Cameron, 2008; Kohler & Turner, 2006; Martin & Harrod, 2015). The multiple depression fractures found on the females of Abu Fatima (1B1, 2A1), might be a product of raiding for women. The numerous cranial depressions found on the back of the head of these two women might indicate that they were running away when they were hit (Tung, 2012). However, these women were not simply victims of violence; there is evidence to suggest that they also engaged in it. For

example, one of the depression fractures of 1B1 was located on the anterior aspect of the cranium, suggesting she was engaged in face-to-face violent encounters (Lambert, 1997). Individual 2A1 also had several metacarpal fractures, indicative of hand-to-hand combat. It is impossible to determine if these events were directly associated with a raid; however, osteological evidence suggests that women at Abu Fatima were on both the inflicted and inflictor ends of direct violence. This speaks to the notion that Redfern (2008:11) recently raised, that “archaeological interpretation should not be limited by stereotypical notions of female frailty.” There are multiple reasons why women engage in violent behavior (Martin et al., 2010); future research on this skeletal collection will attempt to address how the function of violence may have differed between men and women in Ancient Kerma.

Warfare with another group is another possible explanation for the high frequency of injury at Abu Fatima. As discussed above, trauma due to warfare can be severe, owing to the fact that mortally wounding enemies are frequently a primary objective. Select instances of direct injury at Abu Fatima could have been acquired during warfare conflict. The perimortem blow to the temporal (2B1), the sharp force trauma to the sternum (2C1) are both critical injuries that likely contributed to the deaths of these individuals. The multiple parry fractures (2A2, 2B1) in the collection, are also serious and suggest these individuals were warding off blows to the head. There were several instances of war between Egypt and Nubia spanning the period of Abu Fatima occupation. Nubians took part in the civil wars of the Egyptian First Intermediate Period (c. 2181–2040 BCE), and while many of them settled in Egypt, others returned to their homeland. After the kingdom was reunified in the Middle Kingdom (c. 2040 BCE), Egypt invaded and colonized northern Nubia. As many as 17 fortresses were constructed between the First and Second Cataracts of the Nile (Smith, 1995; Trigger, 1976). Their function was to monitor population movement, control trade, and establish a new Egyptian southern border. Several Middle Kingdom rulers mention mounting raids southwards during this period, boasting about taking cattle and slaves, although it is not clear how far south they were able to penetrate. After the Middle Kingdom broke apart (c. 1680 BCE), the Nubian Kushite state captured the fortress system in northern Nubia and mounted their own raid(s) against Egypt (Davies 2003). During the New Kingdom (1550–1050 BCE), Egypt conquered Nubia in a series of military campaigns, retaking northern Nubia under the reign of Kamose (c. 1570 BCE), reaching the major center at Sai Island under Ahmose (c. 1550 BCE), and finally under Thutmose I defeating the ruler of Kush decisively at Kerma, sacking the city (c. 1500 BCE). Within 50 years, the region between the Second and Third Cataracts had been colonized the construction of lightly fortified towns centered on monumental temples (Smith, 2003a). Additionally, there are documented accounts

of Nubian rebellions throughout the Middle and New Kingdoms (Edwards, 2004). It is possible that the people of Abu Fatima were going elsewhere to engage in battle or were perhaps defending Kerma from Egyptian attacks. In all likelihood, intentional injury risk at Abu Fatima was multifactorial, caused by some combination of the above explanations.

Future research of the Abu Fatima skeletal collection will focus on diachronic comparisons, stable isotope analysis, and structural violence. Because Abu Fatima spans the entire Kerma period, a diachronic examination of interpersonal violence and recidivism can be traced with respect to sociopolitical and socioeconomic complexity. It has been documented that if small-scale societies engage in violent behavior, it tends to involve ritualized fighting, raiding and/or feuds; large-scale societies, on the other hand, engage in warfare, typically involving a specialized group of warriors and a system of fortifications (Martin & Harrod, 2015; Tung, 2012). With extensive Carbon-14 dating of the burials from Abu Fatima, a more nuanced analysis of how trauma changed between the Ancient, Middle, and Classic Kerma Periods could be conducted. Strontium isotope analysis will be employed to determine if the hypotheses that women were abducted during raids can be supported (see Kurin et al., 2014); recent research in the Third Cataract region has shown that strontium levels vary in region and can differentiate local versus non-local inhabitants (Buzon et al., 2016). Lastly, it is important to contextualize interpersonal violence data parallel evidence of structural violence and persistent inequality (de la Cova, 2010; 2012; Klaus, 2012; Nystrom, 2014; Torres-Rouff, 2011). Bioarchaeologists can examine pathological conditions, stature, differential workload, and demographic patterning to determine if individuals and groups were victimized in an institutional, repetitive, and ritualistic manner (Martin and Harrod, 2015). While there is much work to be done at Abu Fatima, the results of this initial season have provided a glimpse into the complex sociopolitical milieu of ancient Nubia. Developing alongside the consolidation of power at Kerma, social life in this peri-urban context appears to have involved culturally sanctioned violence at multiple scales, from interpersonal combat to intergroup conflict.

## CONCLUSION

Although recidivistic trauma is often difficult to discern in the bioarchaeological record, we present clear evidence that the people of Abu Fatima engaged in multiple physical altercations throughout adulthood that each resulted in severe skeletal trauma. These wounds may have been inflicted with clubs, maces, sling stones, daggers, swords, arrowheads, and/or axes. Compared to Kerma and O16/37, Abu Fatima preliminarily stands out as

being particularly violent. We suggest that this violence may have been associated with both intragroup and intergroup fighting, including raids and warfare. The frequency and motivating factors behind this violence may have changed through time. Future excavations will increase the sample size, address migration and warfare, compare diachronic trends of violence concurrent with state formation, and examine structural violence in this sample. This case study stands out as an example of how bioarchaeological analyses of trauma can, in some cases, detect recidivism. These findings provide the opportunity to investigate further the complex social contexts in which violence arises and is made meaningful.

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