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## RESEARCH ARTICLE

# Deposition of modified human remains as evidence for complex mortuary treatment in East Africa during the first millennium AD

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### Abstract

In 2019 partial, disarticulated human remains with evidence of perimortem fractures and tool marks were excavated from the site of Kabusanza in southern Rwanda (first millennium AD). The nature and location of these modifications demonstrate that some elements were subject to intentional dismemberment and defleshing, whereas the arrangement of the remains in the burial feature indicates that natural skeletonization had also occurred before final deposition. Human remains with similar patterns of modification and deposition have previously been recovered from the same site, and here we consider the potential behaviours that may have produced this suite of evidence. By comparing the remains with assemblages that have been produced through violence and through ritual activity, we demonstrate that the evidence from Kabusanza is more consistent with complex, multistage mortuary practices than other forms of processing. This may have involved some initial reduction of the body, followed by the retention or circulation of the disarticulated remains before their eventual deposition.

### KEYWORDS

anthropogenic modification, defleshing, dismemberment, Rwanda, Urewe

## 1 | INTRODUCTION

Throughout human history, cultures around the globe have carried out a variety of complex mortuary practices that involve the manipulation and display of human remains, whether to venerate the dead, protect the living or fulfil religious or ritual purposes (Conneller, 2006; King, 2003; Mays, Fryer, Pike, Cooper, & Marshall, 2017; Pérez, 2012; Ramble, 1982; Weiss-Krejci, 2013). These practices can leave marks on the bones that appear to be remarkably similar to those caused by

violence or capital punishment, and, as such, deciphering the intent behind modified bone assemblages can be challenging, particularly when cultural or ethnographic information is lacking (Pérez, 2012). Here, we provide the first osteoarchaeological evidence for culturally modified bone from Rwanda that dates to a period that has typically, but not unproblematically, been termed the “Early Iron Age” (c. 500 BC to AD 800; Ashley, 2010; Clist, 1987; Van Grunderbeek, 1992) and attempt to interpret its significance in conjunction with archaeological and ethnohistoric sources.

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## 1.1 | Background to site

The Urewe ceramic culture dominated the Great Lakes region of Africa from at least 500 BC to AD 800 (Ashley, 2010; Clist, 1987; Giblin, 2013; Giblin, Clement, & Humphris, 2010; Van Grunderbeek, 1992). Consisting of small, settled communities, the people who made and used Urewe ceramics are believed to have been amongst the first farmers in the region, practicing a subsistence agriculture based on millet, cowpea and sorghum with livestock rearing that likely included cattle, goats and sheep (Crowther, Prendergast, Fuller, & Boivin, 2018; Giblin & Fuller, 2011; Van Grunderbeek & Roche, 2007). Although archaeological evidence from this period is scant, the remains of elaborately decorated iron smelting furnaces suggest that these were technologically advanced people who shared a similar material culture over much of modern-day Rwanda, Burundi, southern Uganda, western Kenya, northern Tanzania and eastern Democratic Republic of Congo, with further trade links that extended to the Indian ocean (Childs, 1991; Giblin et al., 2010; Killick, 2009; MacLean, 1998).

In 2007, excavations at the site of Kabusanza in southern Rwanda (Figure 1) revealed several pit features that contained Urewe ceramics and the burial of a partially disarticulated adult individual, overlain by the complete burial of a neonate (Giblin et al., 2010). Grave goods associated with the adult included a highly decorated ceramic vessel that contained iron beads, and further items of iron jewellery including two bracelets and a necklet (Giblin et al., 2010). These two burials have been radiocarbon-dated with associated wood charcoal to c. AD 400 (Giblin et al., 2010). Although the neonate did not display any osteological signs of trauma or ill health, analysis of the adult revealed a perimortem

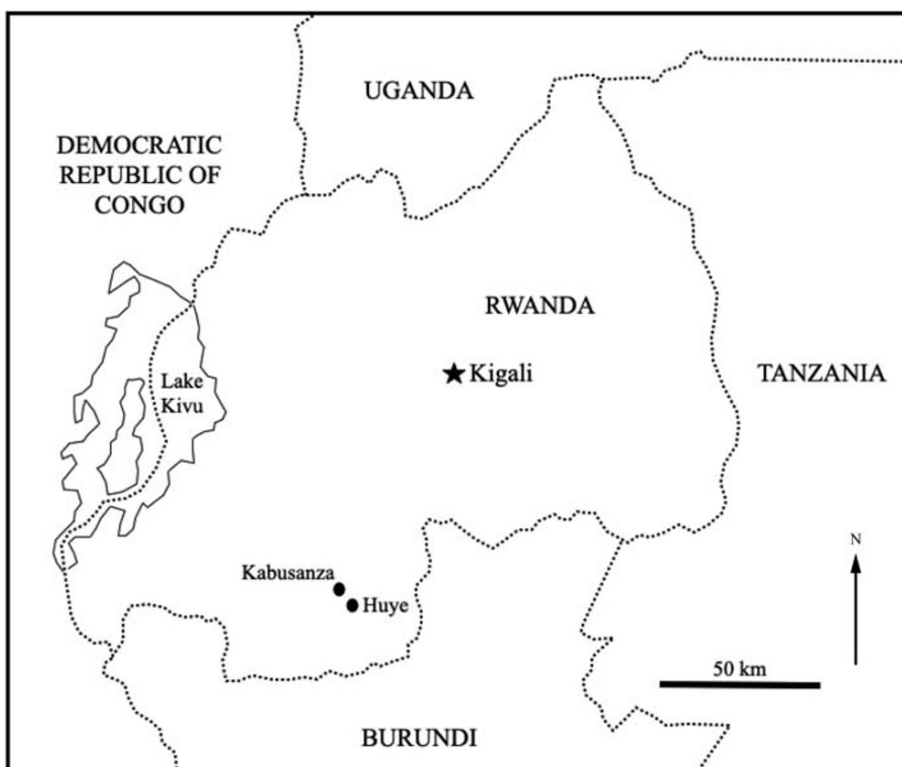
fracture to the midshaft of the right humerus with tool marks around the distal joint and further tool marks to the posterior left ramus of the mandible (Giblin et al., 2010). These were interpreted as evidence for anthropogenic modification followed by the selective burial of certain skeletal elements (Giblin et al., 2010). To date, these are the only known examples of Urewe burials in East Africa. In the late 20th century, it was reported that Urewe pottery and “more than 60 skeletons” were discovered during road works in eastern Democratic Republic of Congo (Misago & Shumbusho, 1992, p.70), but these were apparently destroyed before osteological analyses could take place. The lack of comparative Urewe material means that the lifeways and traditions of these people are poorly understood, despite their contribution to the technological and economic development of the region.

The present study focuses on an additional deposit of human remains that were excavated during a more recent field season at Kabusanza, which demonstrates that the patterns of modification and deposition identified in 2007 were not an isolated occurrence. These findings are compared with ethnographic sources, and other assemblages of modified human bone that have been produced either through violence or ritual activity, in order to provide context-specific data which may establish a motivation for this form of burial treatment.

## 2 | MATERIALS AND METHODS

### 2.1 | Materials

In 2019, a further season of fieldwork was undertaken to re-excavate the original pit features at Kabusanza and extend the site from 6 to



**FIGURE 1** Map of Rwanda with location of site

42 m<sup>2</sup>. This revealed a further four large (>1 m in diameter) subcircular pits, all of which contained Urewe pottery, and one that also contained human remains. This new burial feature was located 2 m south of the original burial feature excavated in 2007, and due to the presence of comparable Urewe ceramics is believed to be roughly contemporaneous (a programme of radiocarbon dating is being undertaken to establish the age of the remains). The remains were recovered by hand and appeared to represent a single deposit of disarticulated human bones, with the highest concentration scattered around the southern edge of the pit (Figure 2). The extent of this scatter and the mingling of various skeletal elements indicated that the bones were already skeletonized when they were deposited in the feature. The fill was hand-sieved on-site, and three bulk samples were recovered for processing. This produced a single find of one circular bead, believed to be carved from bone or eggshell.

## 2.2 | Methods

All osteological analyses were carried out at the Ethnographic Museum of Rwanda in Huye. Age and sex estimations were carried out according to standard osteological criteria (Brooks & Suchey, 1990; Buikstra & Ubelaker, 1994; İşcan, Loth, & Wright, 1984, 1985; Phenice, 1969; Scheuer & Black, 2000). During excavation, it became clear that several fragments of bone exhibited signs of sharp force trauma and perimortem fracturing. To characterize the nature and extent of these features, each bone and fragment of bone was examined macroscopically under raking light for evidence of fractures and tool marks.



**FIGURE 2** Remains in situ. None of the bones are in anatomical position, with the foot bones in particular appearing to be scattered haphazardly across the southern, northwestern and central areas of the feature [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

Marks produced by bladed instruments can be recognized as clean, deep incisions in the cortical surface that have a V-shaped, or flat-bottomed, U-shaped profile (Greenfield, 1999; Lewis, 2008; Raemsch, 1993). Larger, heavier blades may also produce additional blunt force damage in the form of crushing or conchoidal flaking at the edges of the incision (Lewis, 2008). In cases where the blade passes through the full width of the bone, the cut surface will appear smooth and clean with well-defined edges (Mays et al., 2017).

Fractures that occur in the perimortem period typically appear helical or butterfly in shape, with smooth edges that are obliquely angled or curved relative to the cortical surface. This distinguishes them from post-mortem breakage of dry bone, which produces rough fracture edges that are right-angled in relation to the cortical surface (Outram, 2002). Additionally, the edges of perimortem modifications, whether they be tool marks or fractures, will be the same colour as the surrounding cortical bone, whereas more recent damage is much lighter in colour (Ubelaker & Adams, 1995).

## 3 | RESULTS

### 3.1 | Inventory and minimum number of individuals

A total of 42 fragments, representing 35 bones, were recovered from the burial feature (Table 1). These were remarkably well-preserved, displaying only slight post-mortem damage in the form of minor levels of cortical erosion and the fragmentation of some articular surfaces. Some of the bones, particularly the ribs and metatarsals, exhibited post-mortem breakages which were clearly recognizable due to their right-angled edges which were much lighter in colour than the surrounding bone. All available epiphyses were fully fused and along with the large size of other skeletal elements, indicated that the bones had reached maturity and could be considered as belonging to an adult. None of the surviving elements exhibited any sign of pathological change. The bones of the left and right feet were consistent in size and form with having belonged to the same individual, and as there

**TABLE 1** Inventory of bones

Element and side	Number	Notes
Humerus (right)	1	Perimortem modification
Scapula (right)	1	Perimortem modification
Clavicle (right)	1	
Ribs (right)	3	
Tibia (left)	1	Represented by anterior fragment of medial malleolus
Foot (left)	14	Missing calcaneus, two PPs and all IPs and DPs
Foot (right)	14	Missing lateral cuneiform, two PPs and all IPs and DPs

Abbreviations: IPs, intermediate phalanges; DPs, distal phalanges; PPs, proximal phalanges.

were no duplicate elements, the minimum number of individuals is given as one. No further estimates of age or sex could be made due to the lack of appropriate elements.

### 3.2 | Perimortem modifications

Five of the 42 fragments of bone (11.9%) presented obvious signs of perimortem modification in the form of tool marks and fractures. These were concentrated on the scapula and humerus (5.7% of the 35 bones recovered) and appeared consistent with signs of dismemberment and defleshing.

#### 3.2.1 | Scapula

There were four chop marks to the scapula: three in the vicinity of the glenohumeral joint and one located posteriorly on the inferior side of the spine. The first of these represented a blow through the neck that had separated the glenoid fossa from the rest of the scapula, leaving a straight, smooth surface with some exposed trabecular bone where the joint had been (Figure 3). The margins were sharp and well-defined with no evidence of an inflammatory response. A second chop had produced a deep notch with a wide V-shaped profile in the antero-inferior side of the acromion process (Figure 3). The force of the blow had caused a thin rectangular flake of bone to detach from the cortical surface. This appeared to represent the termination point of the chop that had removed the glenoid fossa, indicating that both marks had been caused by a single blow, delivered in an antero-inferior to supero-posterior direction. This would not have completely severed the arm from the shoulder as the *deltoid*, *infraspinatus* and *teres minor* would have maintained a soft tissue connection. A shallow chop mark, located parallel and 9 mm lateral to the deep notched chop

(Figure 4), may have been made during the removal of some of this residual tissue. A wide, V-shaped chop mark on the posterior side of the scapula, on the inferior side of the spine, was almost certainly an attempt to sever the posterior head of the *deltoid* from its origin. This had caused slight crushing of the surrounding cortical bone at its most inferior point (Figure 5).

In addition to the chop marks visible on the scapula, there was also a fracture through the blade which had separated the inferior part and lateral border from the superior border, spine and acromion process. Although much of the subscapular area had been lost to post-mortem damage, the most lateral part of the fracture could be visualized in the centre of where the glenoid fossa should have been and ran medially across the blade in a slight superior to inferior direction. The surfaces of the fracture were smooth, obliquely angled and the same colour as the surrounding external cortical surfaces, whereas the edges were sharp. This indicates that the fracture occurred when the bone was fresh and may have been sustained in an attempt to break the scapulothoracic joint. Alternatively, the scapula may have been snapped after it was removed from the torso.

#### 3.2.2 | Humerus

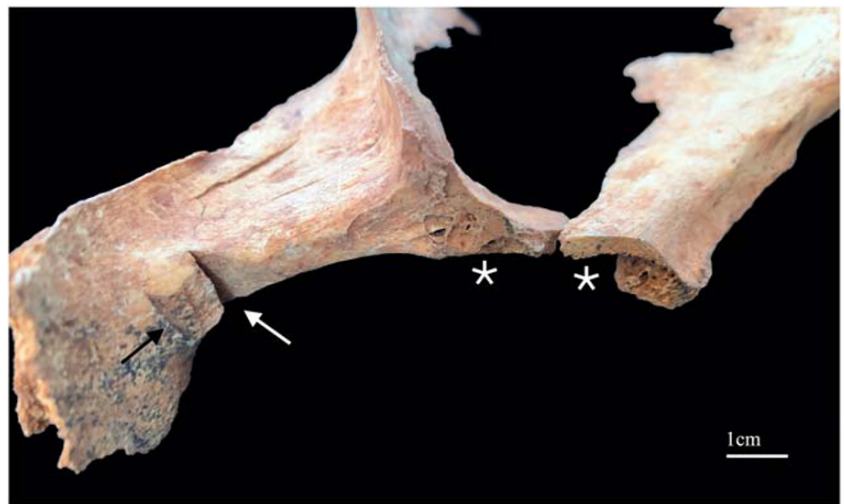
The humerus was represented by the middle and distal thirds of the bone, in three separate fragments which could be refitted with one another (Figure 6). The smallest of these fragments was the anterior portion of the distal joint surface, comprised of the trochlear and capitulum. This had been detached from the rest of the humerus in what appeared to be a single blow, travelling in a distal to proximal direction as indicated by a small breakaway spur on the proximal portion of the fragment. The cut surface was smooth with sharp, well-defined margins (Figure 7a,b). These changes were mostly mirrored on the distal humerus, although the exposed trabecular bone in this area



**FIGURE 3** Refitted fragments of right scapula: (a) anterior view and (b) medial view [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]



**FIGURE 4** Medial view of scapula showing smooth well-defined margins and exposed trabecular bone in place of glenoid fossa (white stars). The termination point of this blow is represented by the deep V-shaped notch in the antero-inferior side of the acromion process (white arrow) and the thin flake of bone that has spalled off from its lateral edge. A much more shallow chop mark lies roughly parallel to the lateral side of the deep V-shaped notch (black arrow) [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]



**FIGURE 5** Posterior view of scapula showing a wide V-shaped chop mark to the inferior side of the spine (circled in white). The external cortical surface has become crushed into the central portion of the chop, with further crushing visible at the medio-inferior edge [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]



had suffered some taphonomic damage. It is unlikely that the joint surface had been removed while the forearm was still articulated, as the margins are too neat for a blow that would have also had to pass through the full width of the proximal ulna in flexion. Similarly, as a joint surface with no soft tissue attachments, it is unlikely that the fragment was extricated due to defleshing. The circumstances of its removal are therefore unclear.

The humerus had been fractured at the midshaft, leaving curved, obliquely angled fracture surfaces that were the same colour as the external surfaces of the shaft. The margins of the fracture were sharp, and the shape was irregular (Figure 8). A shallow percussion scar was located immediately distal to the fracture edge on the posterior side of the shaft. On the anterior and lateral sides of the shaft, there were four broad, flat scrape marks of approximately 50 mm in length that ran parallel to the long axis of the bone (Figure 9a,b). Each scrape had removed part of the external cortical surface and would have also removed any overlying soft tissue, including the origin of the *brachialis* and the insertion of the *deltoid*. It was not possible to determine if these scrapes extended further up the bone, or were made after it was fractured, as the proximal part of the anterior shaft was not

recovered. Overlying the scrape marks on the lateral surface were two V-shaped chop marks that almost intersected with one another (Figure 9a). These were located 15 mm below the edge of the fracture and were perpendicular to the long axis of the shaft. A further two chop marks were located approximately 20 mm distal to the first pair and ran directly parallel to one another on the antero-lateral side of the shaft. These were in an oblique orientation to the shaft, running in an infero-lateral to supero-medial direction (Figure 9a). All chop marks were positioned on top of the scrape marks, indicating that the blows had been delivered to an already defleshed shaft. It is possible that the blows were struck in an attempt to fracture the shaft (where it is still intact at this stage) or represent a levering point where the bone was held down with a blade in order to perform additional manipulations.

A fragment of the medio-posterior side of the humeral shaft displayed evidence of multiple fractures. The distal fracture edge refitted with the proximal edge of the fracture at the midshaft (Figure 9b). There were longitudinal fractures running down both sides of the fragment, exposing the medullary cavity. On the lateral side, this has resulted in stepping of the fracture surface. All fracture surfaces were

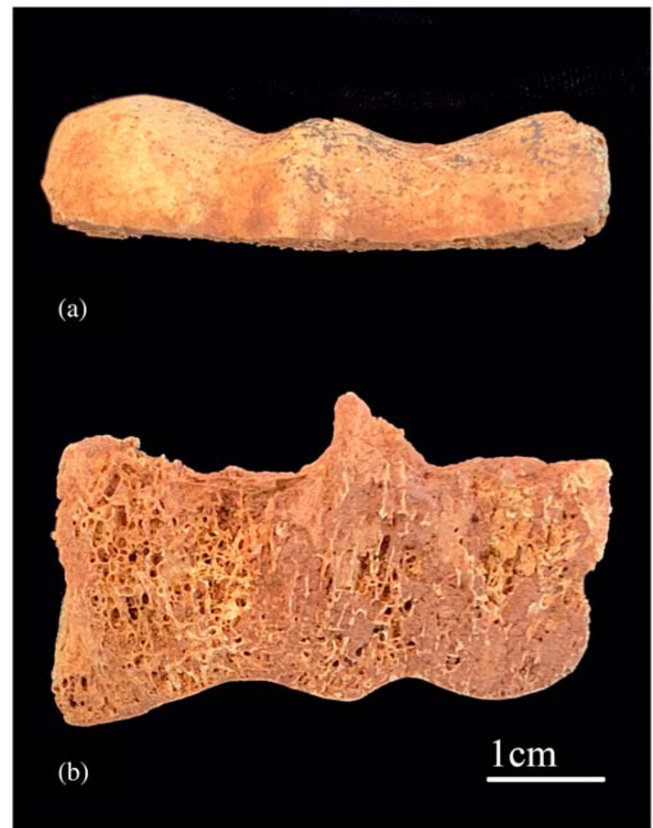


**FIGURE 6** Anterior view of right humerus fragments [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

obliquely angled and the same colour as the external surfaces of the shaft. On the endosteal surface of this fragment, there was a thin cut mark of approximately 15 mm in length (Figure 9b).

#### 4 | DISCUSSION

The human remains identified at Kabusanza in 2007 and 2019 are the first Urewe burials to have been archaeologically excavated; the only other examples having been significantly disturbed and largely destroyed by road works in eastern Democratic Republic of Congo (Misago & Shumbusho, 1992). In the absence of other Urewe burials, comparisons are limited to temporally and/or geographically distinct examples from the wider region and further afield. For example, some "Later Iron Age" (c. AD 800–1,600) sites have been identified in what is now Zambia and Democratic Republic of Congo (Huffman, 1989). Here, burials are located at the edge of settlement areas and are comprised of single inhumations, with each individual laid out in an



**FIGURE 7** Articular fragment of humerus showing the exposed subchondral trabecular bone and sharp, smooth margins: (a) distal view and (b) posterior view [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

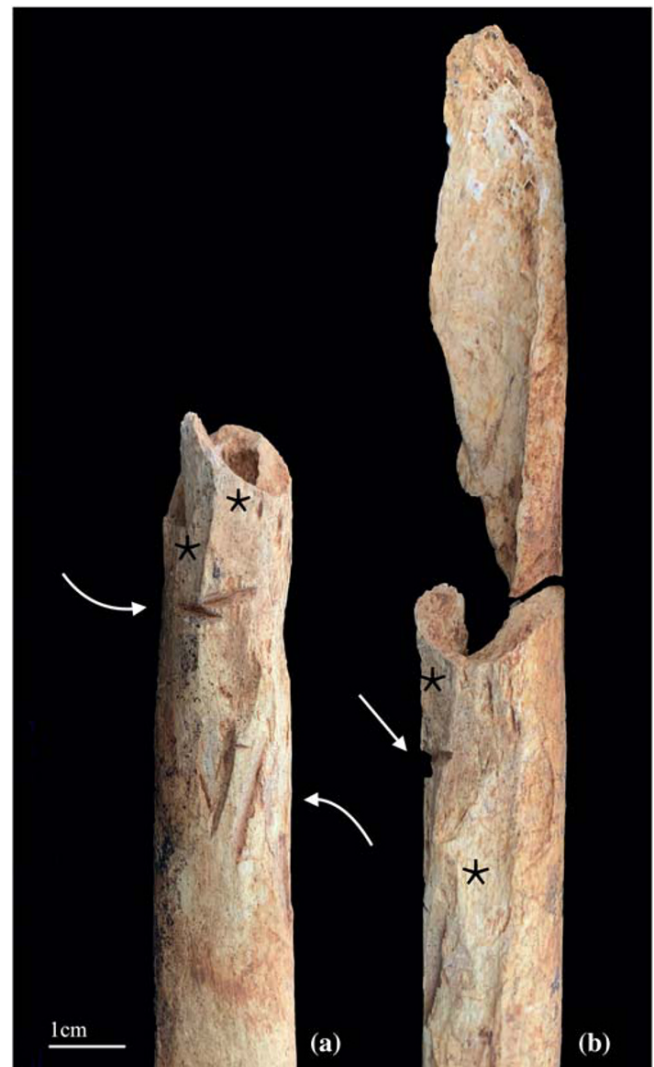
extended position (Huffman, 1989). At Mapungubwe in southern Africa (AD 600–1300), burials have been found in domestic contexts and include individuals who were placed in flexed or seated positions, as well as several infants who were buried in pots (Hattingh & Hall, 2009; Steyn & Nienaber, 2000). Steyn (1995) reported on a pot burial from the same period that contained a human skull and the first three cervical vertebrae, indicating that the head had been severed from the body before decomposition was advanced. In eastern Africa, evidence from the Pastoral Neolithic (6000–500 BC) suggests that the region had been home to a wider variety of mortuary practices, with single and collective inhumations, cremations and secondary burials all being excavated from megalithic 'pillar' complexes in north west Kenya (Koch, 1994; Sawchuk et al., 2019; Sawchuk, Goldstein, Grillo, & Hildebrand, 2018). The tightly flexed posture of many inhumations suggests that bodies were bound in place and deposited shortly after death (Sawchuk et al., 2019), whereas bundles of disarticulated crania and long bones may represent the secondary burial of individuals who died far away (Sawchuk et al., 2018, 2019). It was originally proposed that these secondary burials had been subjected to deliberate defleshing and fragmentation (Nelson, 1995), but a recent bioarchaeological analysis has been unable to provide evidence to support this theory (Sawchuk et al., 2019).



**FIGURE 8** Fracture to midshaft of humerus showing smooth, curved fracture surfaces which occur at an oblique angle to the cortical surface [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

#### 4.1 | Comparable modifications: violence and cannibalism

Despite such limited comparative material, the remains from Kabusanza are highly unusual, both in terms of their arrangement within the burial feature and due to the evidence for anthropogenic modification. Assemblages of human bone with similar modifications have been interpreted as evidence for extreme violence or cannibalism, with the latter being identified by the following criteria: tool marks consistent with butchery, burning and/or polishing of the remains from the cooking process, chewing damage, fragmentation of long bones to remove marrow and a lack of vertebrae and other trabecular-rich bones (Bello, Wallduck, Dimitrijevic, Živaljević, & Stringer, 2016; Hurlbut, 2000; Turner & Turner, 1999). To support arguments for cannibalism, human remains should also display modifications which are virtually identical to those found in animal bone assemblages (Morales-Pérez et al., 2017; Villa, Courtin, & Helmer, 1988; White, 1992). Although the remains from Kabusanza display tool marks consistent with butchery and fragmentation, these do not appear with the same frequency (11.9%) or degree of fragmentation that has been observed in 'cannibalized' assemblages, where in excess of 40% of fragments show some form of modification (Bello et al., 2016; Novak & Kollman, 2000; Turner & Turner, 1999). They also differ from modifications identified in animal bone assemblages from eastern Africa. Here, an ethnographic study noted that fractures



**FIGURE 9** Medio-posterior fragment and shaft of humerus showing broad, flat scrape marks (black stars) and overlying chop marks (white arrows): (a) lateral view and (b) anterior view [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

(>30% of fragments) were much more common than tool marks (5%–8% of fragments), as meat was cooked and eaten on the bone, after which the articular ends were crushed to extract marrow (Gifford-Gonzalez, 1989). Midshaft fractures such as the one described above were found to hinder marrow extraction, particularly if the resultant fragments were not heated in any way (Gifford-Gonzalez, 1989). The absence of burning/polishing, and indeed tooth marks, combined with the presence of many intact trabecular-rich tarsals, would seem to suggest that the remains from Kabusanza were not processed for culinary purposes.

Assemblages produced by violence are characterized by varying levels of sharp and blunt force injuries that can result in dismemberment and mutilation (Hurlbut, 2000; Martin, 2016). Typically, the patterning of these injuries is concentrated on the crania of victims, or has a haphazard distribution throughout the postcranial



skeleton (Craig, Knüsel, & Carr, 2005; Hurlbut, 2000; Thorpe, 2003). At Kabusanza, the presence of tool marks around the articular portions of the scapula and the percussion scar and scrape marks on the humerus are consistent with the intentional dismemberment and defleshing of a recently deceased body rather than frenzied violence. However, it is clear from the burial context and the lack of tool marks to the foot bones and ribs that these remains were not deposited until other parts of the body (particularly the feet) had become fully skeletonized. Martin (2016) has suggested that following a violent raid or massacre, survivors may return to bury the dead. Depending on climatic conditions and the length of time remains are left exposed, it is possible that decomposition will have resulted in some degree of skeletonization. At Kabusanza, the lack of scavenging marks, and the presence of very small bone fragments and foot phalanges (often overlooked when elements are collected for secondary burial), demonstrate that the remains were not left exposed and instead may have been curated or buried elsewhere before these particular elements were deposited in the burial feature.

#### 4.2 | Comparable modifications: Ritual activity

Assemblages of human remains containing partial individuals or loose bones that have been modified by tools or the use of natural taphonomic agents have been identified in prehistoric Europe (Conneller, 2006; King, 2003), the Americas (Pérez, 2012; Raemsch, 1993), North Africa (Haverkort & Lubell, 1999; Wengrow, 2009) and eastern Africa (Koch, 1994; Sawchuk et al., 2019). These are clearly associated with ritual deposition and in varying degrees contain elaborate grave offerings (Sawchuk et al., 2019), have been stained with red ochre (Haverkort & Lubell, 1999), form part of larger cemeteries with multiple types of interment (Raemsch, 1993; Sawchuk et al., 2019) or have been buried in "sacred" areas (Pérez, 2012). Although separated by time or region, the Kabusanza material shares certain features with these ritual sites including deposition within a clearly defined burial feature, the inclusion of grave goods and the close association with a complete infant burial (Giblin et al., 2010). Differential funerary treatment of adults and children has been observed at other sites, including southeastern Michigan (AD 1000–1300), where children under 6 years of age had no evidence of tool marks despite 14% of adults in the same cemetery displaying perimortem cuts indicative of defleshing and dismemberment (Raemsch, 1993). In a group of midden burials from Algeria (6,000 BC), the adults had been manipulated into a variety of non-anatomical positions, with cut marks indicating that the skulls had been decapitated and limbs dismembered. Although the burials of children had been disturbed and some bones had been removed, there was no evidence for tool marks on any of the surviving elements (Haverkort & Lubell, 1999). This is in contrast to assemblages created through violent means where adults and children (and in some cases, animals) have all been subjected to the same types of processing (Hurlbut, 2000; Martin, 2016).

#### 4.3 | Interpretation

At Kabusanza, the adult male excavated in 2007 had similar modifications to those identified in the 2019 excavations, with tool marks on the mandibular ramus and distal humerus, which also had a perimortem fracture to the midshaft. The lack of modification around the condyles of this individual suggests that the temporomandibular joints had disarticulated naturally, after which the mandible and bones of the midface appear to have been scattered across the burial pit (Giblin et al., 2010, pp.279–280). We suggest that the patterns of modification and deposition identified in this individual, and in the 2019 excavation, are best explained as a form of mortuary treatment that involved some initial reduction of the body, followed by the retention or circulation of the disarticulated remains before their final deposition.

Similar assemblages of human remains have been interpreted as evidence of an extended funerary process, with the eventual deposition of disarticulated elements reflecting a complex relationship between the landscape, the decedent and their surviving community (Conneller, 2006). In the 19th and 20th centuries, it was reported that groups of Indigenous Australians carried out funerary rites that involved removing the limbs from the rest of the body and defleshing the bones so they could be distributed amongst family members (Pickering, 1989). Later, these bones would be broken open and rubbed with charcoal to remove the marrow. In some groups, the bones would be separated into bundles and buried in locations associated with important life events of the deceased (Pickering, 1989). Although these accounts are not an ideal comparison, there are parallels with assemblages of modified and partial remains where it has been argued that breaking up the body allows mourners to transport the individual across the landscape and create multiple sites of commemoration (Conneller, 2006; Wengrow, 2009). At Kabusanza, it would appear that care has been taken to keep the small fragments of humerus together, as well as the bones of the feet. This seems at odds with the rather heavy-handed appearance of the modifications and the haphazard scattering of fragments within the burial feature. In many ritual assemblages, the modifications were inflicted with stone tools and probably occurred after a certain amount of decomposition had taken place (Bello et al., 2016; Haverkort & Lubell, 1999; Hurlbut, 2000; Pérez, 2012; Raemsch, 1993). In the climate of sub-Saharan Africa, where the putrefaction process is still considered a vector for disease (Jindra & Noret, 2011), it may have been necessary to process bodies in the early post-mortem period, when greater force is required to break rigor mortis (Gifford-Gonzalez, 1989). Ethnographic and historic accounts from the region emphasize speedy burials, which typically occurred within 1 or 2 days of death (Jindra & Noret, 2011; Lee & Vaughan, 2008). Great emphasis is placed on the need for purification, and many traditional funeral rituals were based around cleansing ceremonies that involved both the corpse and the surviving community (Lee & Vaughan, 2008; Schumacher, 1958). A review of the literature could not find any references to ritual

dismemberment in eastern Africa, but historical sources are limited because most oral histories only cover the past several hundred years, and written records even less (Schumacher, 1958).

Another reason that human remains maybe be deliberately dismembered and separated, one that does have ethnographic associations, relates to the execution of witches, or the death of a powerful and potentially dangerous individual (Jindra & Noret, 2011; Nazaretyan, 2005). In these cases, special measures may be required to keep these individuals from returning to cause harm to the living (Lee & Vaughan, 2008). In North America (AD 700–1300), it has been suggested that assemblages containing partial, dismembered remains with evidence of cut marks and heat damage may be the result of witch killings (Hurlbut, 2000; Martin, 2016; Novak & Kollman, 2000). In the United Kingdom (AD 1200–1400), similar modifications have been interpreted as efforts to prevent the rise of revenant corpses (Mays et al., 2017). Although there are some similarities between these assemblages and the Kabusanza material, it seems unlikely that malevolent entities would be buried with ornamental grave goods, or in such close proximity to a complete neonate.

## 5 | CONCLUSION

Understandings of the lifeways and beliefs of the early farming people who lived in Great Lakes Africa during the first millennium BC and first millennium AD are slowly growing with new research. However, despite archaeological evidence to suggest that they lived during a period of considerable change to both technological and subsistence strategies, knowledge of the region is still sparse. The remains from Kabusanza therefore provide an important, albeit limited, insight into mortuary practices followed at the time. The deposition of a neonate and the two substantially incomplete adults appears deliberate, with anthropogenic modifications in the form of chop marks and perimortem fractures suggesting that the adults were initially subject to dismemberment and defleshing before being curated or buried until full skeletonisation had been achieved. The final stage in this process involved the deposition of particular elements of the skeleton, along with grave offerings to commemorate the deceased. Although the nature of the modifications is like those seen in assemblages created through violent means, the whole suite of evidence is more consistent with a complex, multistage mortuary process. It is hoped that continuing and growing interest in the archaeology of Great Lakes Africa will provide further evidence with which to examine Urewe mortuary practices in the future.

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