

Research Article

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First Archaeological Record of the Torture and Mutilation of Indigenous Mapuche During the “War of Arauco,” Sixteenth Century

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Abstract: Newen Antug is a multicomponent (residential and funerary) archaeological site located in the Lácar basin south of Neuquén, Argentina, in the east Andean section of the binational basin of the Valdivia River. Two human skeletons were discovered during the excavation of the site. Based on radiocarbon dating and associated material contexts, the burials can be associated with the period of first contact between the indigenous people of the region with the Spanish. Based on the analysis of historical sources, bioanthropological studies, and forensic data, we postulate that these individuals were tortured victims of the war waged by the Spaniards against the indigenous inhabitants. The skeletal remains present various perimortem trauma. The left hand and distal end of the left forearm was absented *in situ* and which are discussed as being possible form of mutilations of the upper limbs. Individual 1_o had a horse (*Equus caballus*) leg replacing or symbolising the missing left limb. The mutilation practice is recorded as part of the power devices characteristic of the Warfare Phase (1536–1655) of the conquest, when the Spanish were attempting to establish a pre-disciplinary machinery of their “Sovereign Power” in the south-central Chile. The findings reported here extend this process to Northeastern Patagonia in Argentina.

Keywords: Northern Patagonia and La Araucanía, Warfare Phase, Hispanic-indigenous contact, hand mutilations

1 Introduction

Indigenous resistance to the advancing Spanish hosts during the conquest of the Americas created numerous permanent geographical and political frontiers. In southern Chile, the conflict between indigenous Mapuche communities and the Spanish became known as the “War of Arauco,” which lasted three centuries (1536–1810 AD) (Boccarda, 1999; Marimán, 2019). Unlike other parts of the Americas, the duration and ruthlessness of this conflict persisted due to the extraordinary adaptability of the Mapuche people, who incorporated and modified new weapons, combat formations, and cavalry (Espino López, 2012, 2014, 2019; Landa & Tapia, 2020). As per Boccarda (1999), the War of Arauco started with a Warfare Phase between 1536 and 1655, characterised by constant, bitter warfare with sporadic periods of peace.

During this period, the Spanish conqueror Pedro de Valdivia communicated to the Royal and Supreme Council of the Indies regarding the execution and mutilation (cutting off of hands, feet, noses, ears, and

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breasts) of prisoners in War of Arauco (Valdivia, 1550). This information is confirmed in the chronicles of Francisco de Villagra, Garcia Hurtado de Mendoza, and Alonso de Sotomayor y Valmediano (Álvarez, 1972; Barros Arana, 1834; Espino López, 2012; Lobera, [1528–1595] 1865). This was part of the broader tactics employed by the Spanish, which the priest Bartolomé de Las Casas (1552) repeatedly denounced, i.e. the use of such terror strategies against the indigenous people of the Caribbean and Mexico. Following the account given by de Las Casas, and other priests and Crown functionaries on the continent (e.g. Hernando de Santillán, *Oidor* of the Real Audiencia and Chancery of Lima), Espino López (2012) determined that Spanish military design acquired a basic set of principles that he called the *diabolical trinity*: first, the capture of political and religious leaders; second, forcing submission by torture (and mutilations); and finally, massacres in public places or sites of local importance (tearing to pieces by dogs, hanging, drowning, burning, and beheading).

Following the postulates of Orser (2000), we use historical archaeology to compare the information in the written sources with the material record available, in this case the vestiges of the second occupation of the Newen Antug site (Figure 1), dated to the first half of the sixteenth century AD. This was a period of increasing contact between local Mapuche and Europeans in south-central Chile and northeastern Patagonia in Argentina (Álvarez, 1972; Pérez & Reyes Sánchez, 2021; Pérez, 2014; Reyes Sánchez & Pérez, 2021). The written history of the War of Arauco – derived primarily from Spanish chronicles (Boccaro, 1999; Marimán, 2019), and in particular from the denunciations of Bartolomé de Las Casas (Espino López, 2012; Las Casas, 1552) – has never been verified locally from the available archaeological and bio-anthropological record.

These findings are unique in the study area, where taphonomic factors such as rain and humidity easily degrade the organic remains. Furthermore, collections gathered during studies in the early twentieth century are out of context or lost, and modern collections were not analysed from a bioanthropological point of view (for a more extensive discussion, see Reyes Sánchez, 2021).

The main goal of this work is to propose a new interpretation of a primary context from the results of an osteobiographical analysis with a forensic perspective that takes the paleodemographic dimension of violence against indigenous populations into account.

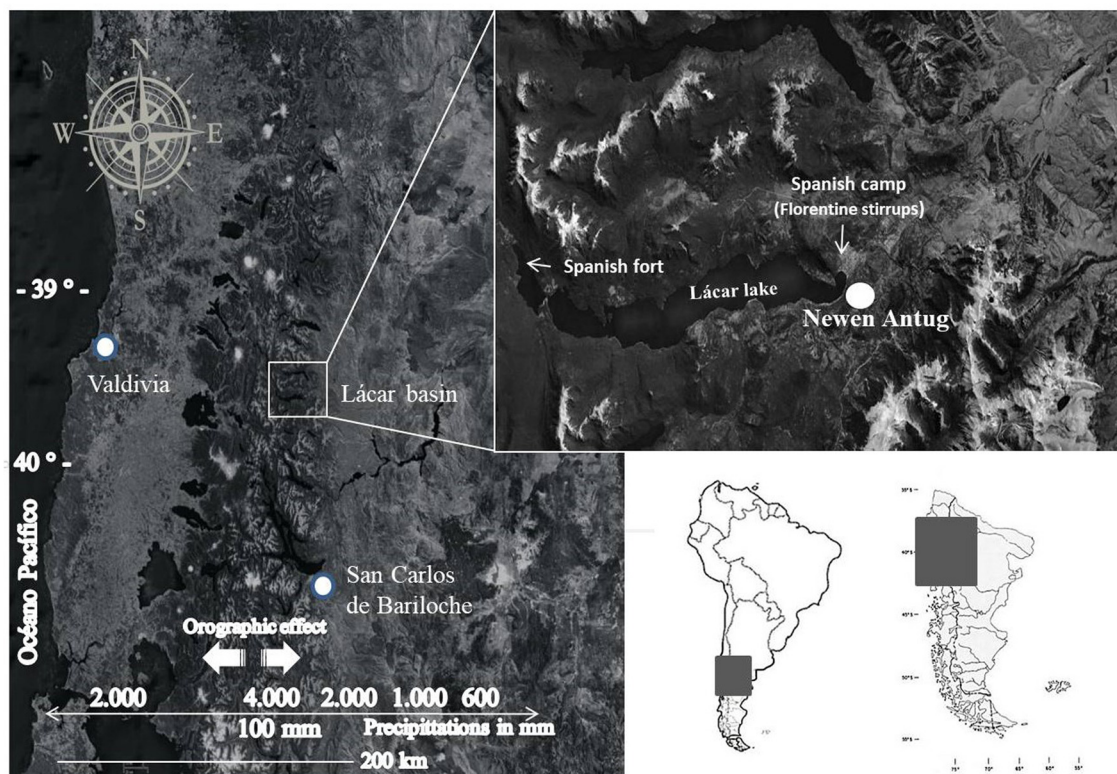


Figure 1: Newen Antug site, on the shores of Lácár Lake, which is part of a binational archaeological site in the Valdivia river basin. The inset shows the stash of Florentine stirrup location and small Spanish fort location. Source: this work.

2 Materials and Methods

The Newen Antug archaeological site is located in the Lácar and Nonthué Andean lake system (40°09'44"S – 71°20'49"W, 787 m asl), in the east Andean section of the binational basin of the Valdivia river, Province of Neuquén, Northeastern Patagonia, Argentina (Figure 1). The oldest occupation has been dated to 880 ± 40 years BP (dated by ¹⁴C, LP 3020, charcoal) and was the site of multiple activities, including the burial of Individuals 3♀, the earliest canoe burial and the southernmost example in South America (Pérez et al., 2022).

2.1 Material

Individual 1♀ and Individual 2♂, which date from the second occupation of the site, were found in burial structures with no alteration of their original components by secondary events, and are kept in a good state of preservation. They are primary, direct, individual burials (Figure 2). In both cases, the caudal cranial segment is rotated to paraventral on its axial axis as a result of the loss of thoracic volume and the resistance of the intervertebral tissues due to compaction of the grave (Duday, 1997; Mirjana, 2001).

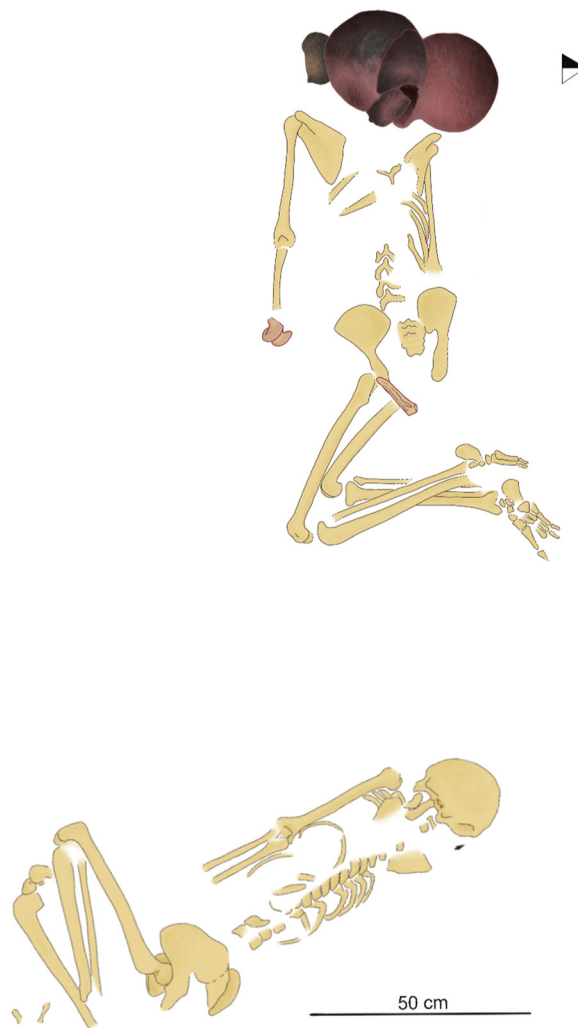


Figure 2: Plan of the excavation of the mortuary features of Individuals 1♀ and 2♂ of the Newen Antug site. Source: this work.

Originally, Individuals 1♀ and 2♂ were buried on their right sides, with the legs flexed to the right and the arms parallel to the axis of the body (Figure 2). Individual 1♀ was laid along the E–W longitudinal axis of an oval-shaped grave, facing south. The absence of carpals, metacarpals, phalanges (right and left), and the distal end of the left forearm was confirmed *in situ*. Funeral goods were found in the form of the calcaneus and astragalus of *Equus caballus*, replacing or perhaps symbolising the missing left limb. Three clay pots of the local Valdivia Red on White Bichrome tradition were present as offerings, arranged on and around the head, as well as a sharpened instrument made from the distal epiphysis and diaphysis of the metatarsus of *Hippocamelus bisulcus* was found beside the left coxal bone.

Individual 2♂ was laid in an oval-shaped grave oriented NW–SE, looking SW. The total absence of the left hand and the distal end of the left forearm was confirmed. An offering in the form of a pedunculate projectile point made of obsidian was found NW of the grave.

The individuals were sexed from available remains, primarily the cranial base and pelvic morphology (Buikstra & Ubelaker, 1994; Klales, Ousley, & Vollner, 2012; Walker, 2008). Ages were likewise estimated from the morphology of the cranial and postcranial skeleton and from tooth wear (Ginter, 2005; Igarashi, Uesu, Wakebe, & Kanazawa, 2005; Lovejoy, 1985). Height was estimated from the maximum lengths of the femur and tibia (Pomeroy & Stock, 2012). From this, it was determined that Individual 1♀ is an adult female aged over 52 ± 13 years with an approximate height of 149.6945 ± 1.844 cm; Individual 2♂ is an adult male aged 30–40 years with a height of 164.38 ± 2.289 cm.

Individual 1♀ and Individual 2♂ were dated to 540 ± 50 years BP (dated by ^{14}C , LP 3024, charcoal) (Pérez, 2016), from remains of carbonised wood collected from the first grave, corresponding to the Late Pottery period (Cúneo, Della Negra, & Novellino, 2002; Hajduk & Cúneo, 1997–1998; Pérez, 2016, 2018). Contextually, the dating of Individual 1♀ is attributed to the early contact period (mid-sixteenth century AD) based on the presence of remains of *Equus caballus* as part of the funerary offerings. Dates were obtained with the approval of the local Curruhuinca Mapuche community, as a condition for their Prior Free Informed Consent for excavation of the site.

2.2 Method

Macroscopic examination of the skeletal tissues was performed on standard bioanthropological methods, complemented by radiographic plates (Aufderheide & Rodríguez-Martín, 1998; Kimmerle & Baraybar, 2008; Larsen, 2015).

The identification and description of the skeletal trauma followed the procedures, terms, and criteria given by Kimmerle and Baraybar (2008). Each of the bones were described individually, photographed, and documented in a diagram.

For differential diagnosis, detailed trauma traits were recorded for each injury: shape, signs of shattering, crushing, and wedge-shaped appearance (Kimmerle & Baraybar, 2008).

Bone trauma analysis was contrasted with possible taphonomic processes within forensic lesionology analysis (Cappella et al., 2014; Coelho & Cardoso, 2013; De Boer, Van Der Merwe, Hammer, Steyn, & Maat, 2015; Green & Schultz, 2017; Moraitis & Spiliopoulou, 2006; Symes et al., 2001; Wieberg & Wescott, 2008), e.g. the unreliability of colour (Wieberg & Wescott, 2008). Then, they were compared with the physical evidence of weaponry trauma in contexts of similar chronology (Blakely & Mathews, 1990; Figueres, 2012; Gaither & Murphy, 2012; Hutchinson, 1996; Murphy, Gaither, Goycochea, Verano, & Cock, 2010; Pérez Fernández, 2016; Santana-Cabrera, Velasco-Vázquez, Rodríguez-Rodríguez, González-Marrero, & Delgado-Darias, 2016), and evidence of armed conflicts of the pre-Hispanic period (Arkush & Tung, 2013; Garrido & Morales, 2019; Lambert, 2002; López & Berón, 2014; Mensforth, 2007).

3 Results

3.1 Signs of Morbidity and Way of Life

In both individuals, a type of erect tabular cranial deformation was observed on the cranial vault: lambdoidal occipital flattening, which is a common indicator on Mapuche skulls (Henckel, 1950) caused by the fixings used for their wooden baby-carriers (Munizaga, 1987). Slight deviation to the lateral bony portions of the knees (femur and tibia), robust entheses of the coxal bones, severe articular lesions in the lumbar-sacral zone, and accessory facets on the coxal bones and tibias were detected, markers compatible with *horse-riding syndrome* (Berthon et al., 2019; Pálfi & Dutour, 1996).

3.2 Lesions Associated with the Probable Cause of Death

3.2.1 Individual 1♀

Lesion 1. A *curved transverse fracture* was observed on the medial diaphysis of the left ulna, presenting a fracture line with a regular border, stepped and with crushed edges, associated with a *longitudinal fracture* (Figures 3 and 4).

The taphonomic damage to the radius prevented any significant observations, although it presented morphology similar to that of a spiral fracture (Figures 3 and 4).

Lesion 2. During the macroscopic inspection, a fissure was observed on the posterior face at the level of the deltoid tuberosity of the left humerus. Radiography showed that this fissure is an incomplete oblique fracture of the medial portion of the humeral diaphysis (Figures 3 and 5a).

3.2.2 Individual 2♂

Lesion 1. A spiral fracture was observed on the medial diaphysis of the left radius: the border is regular and the edges have suffered crushing and scaling (Figures 3 and 6c).

Lesion 2. On the medial diaphysis of the left ulna, was observed a regular and linear border with flaking damage (Figures 3 and 6a and b).

Lesion 3. In radiography, the distal diaphysis of the right ulna presents an incomplete transverse fracture with multiple fissures (Figures 3 and 5b).

Lesion 4. The left fibula presents a transverse fracture at the level of the medial diaphysis. The fracture is incomplete, and can be observed both macroscopically and in radiography (Figures 3 and 5c).

4 Discussion

4.1 Signs of Torture

For Individual 2♂, the fracture of the right ulna like those observed here are called “parry fractures,” implying a defensive movement by the victim (Aufderheide & Rodríguez-Martín, 1998; Kimmerle & Baraybar, 2008). In the same individual, the left fibula presents a blunt lesion commonly caused by direct blows in the area (Aufderheide & Rodríguez-Martín, 1998; Kimmerle & Baraybar, 2008).

On the Individual 1♀, the fracture of the left humerus implies indirect blunt force with flexion and rotation, identified principally when the upper limb is fixed at one end, while the other is in movement

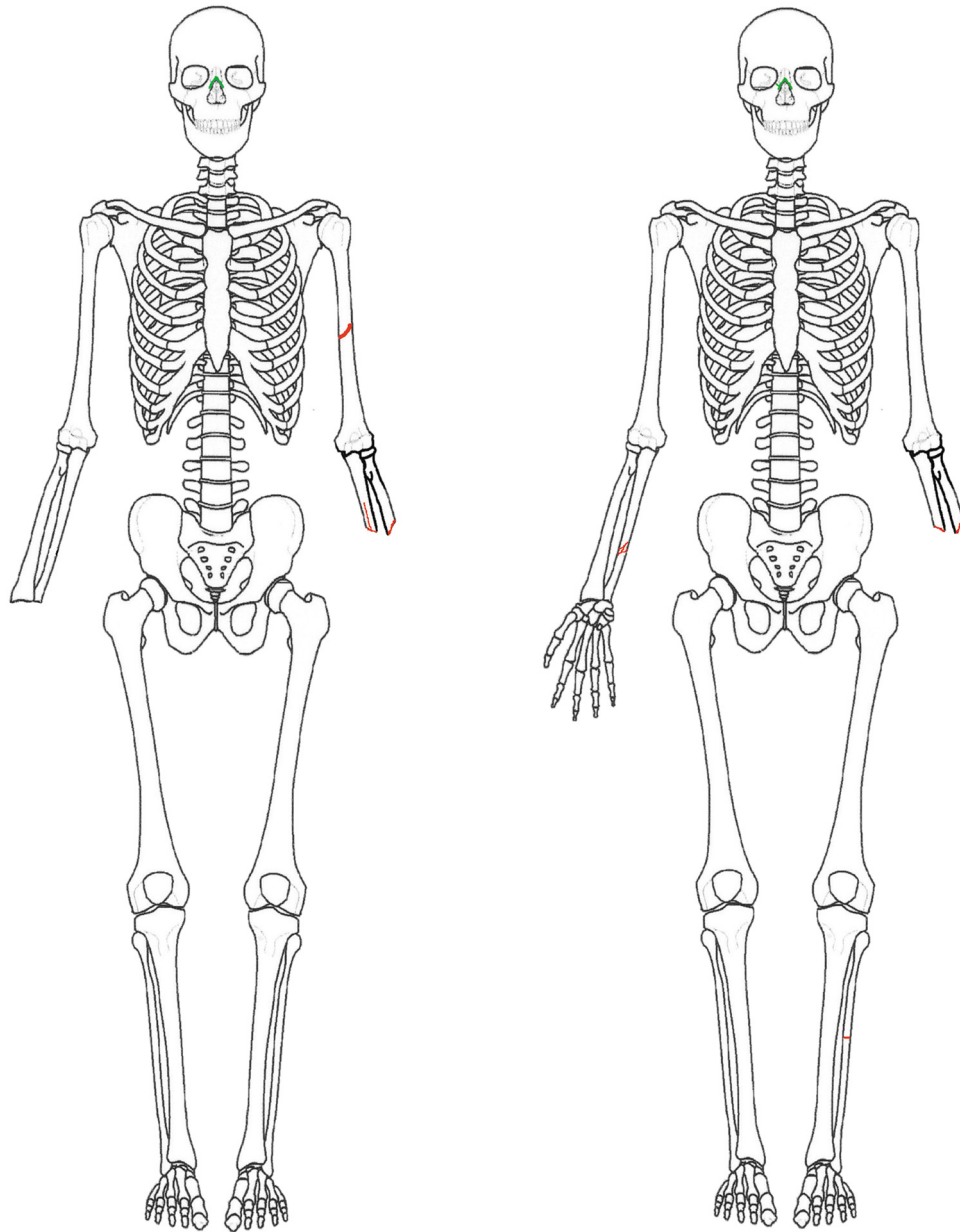


Figure 3: Diagram of skeleton, anterior view. Individual 1♀ and Individual 2♂, respectively. The locations of the lesions are shown in red. Source: this work.

(Aufderheide & Rodríguez-Martín, 1998; Kimmerle & Baraybar, 2008). In mediaeval contexts (Mazzarelli et al., 2019), the lesions of this type have been observed in contexts of the torture and death of victims who are tied down or restrained.

4.2 Analytic Proposal for the Lesions on Forearm

In both individuals, the mid-part of the diaphysis of the forearms indicate perimortem extensive destruction of the bone by a mechanism of blunt force (Aufderheide & Rodríguez-Martín, 1998; Kimmerle & Baraybar, 2008), in which the attributes observed are compatible to trauma involving the muscles and other soft tissues (Scheirs et al., 2016, 2019). Typically, in cases of blunt force trauma, no portion of the body is dismembered



Figure 4: Individual 1_♀, posterior-lateral view of the ulna (top) and posterior view of the radius (bottom). The borders of the fractures on each bone are highlighted in red. Source: this work.

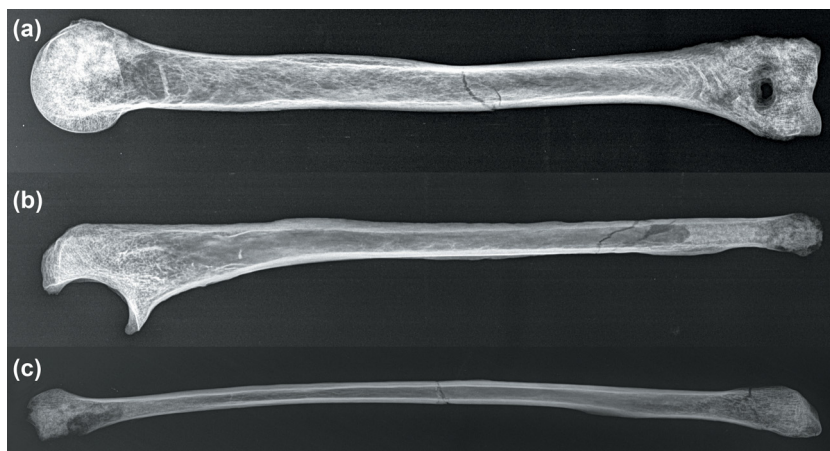


Figure 5: (a–c) Show radiographic plates. (a) Individual 1_♀, frontal view of left humerus, fracture on medial diaphysis. (b) Individual 2_♂, lateral view of right ulna, fracture on distal diaphysis. (c) Individual 2_♂, anterior view of left fibula, fracture on medial diaphysis. Source: this work.

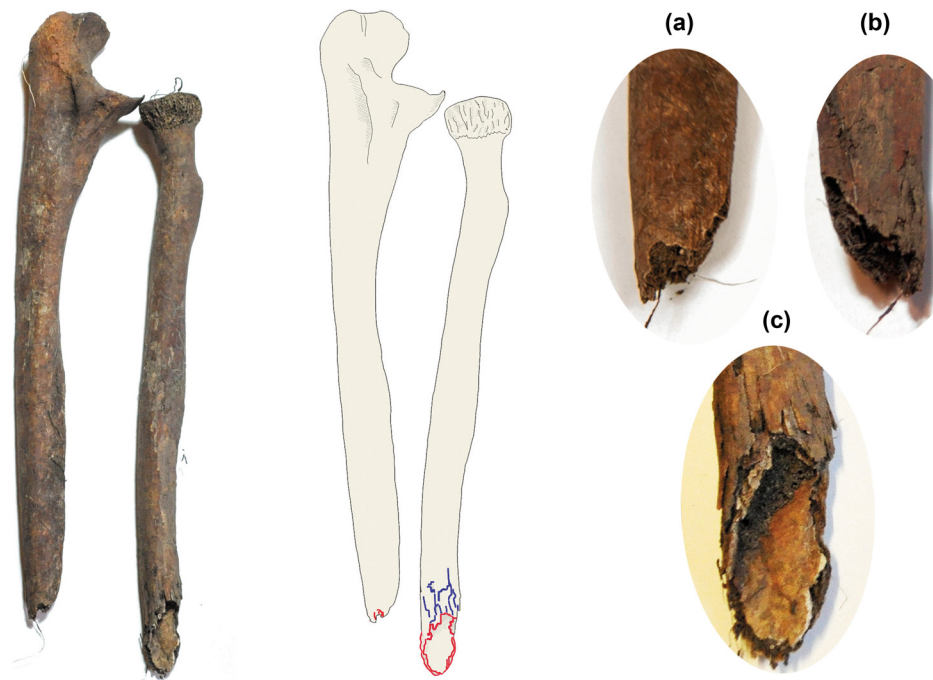


Figure 6: Individual 2♂, lateral view of the ulna and posterior view of the radius. The borders of the fracture are highlighted in red. Peeling of the cortex is observed (in blue the parts magnified by taphonomic effects). (a–c) Show details of bones' trauma. (a) Medial view of the ulna. (b) Lateral view of the ulna. (c) Posterior view of the radius; the border of the fracture is bevelled at the distal end of the fracture. Source: this work.

in archaeological or forensic cases. In primary burials (with injuries), all the body parts are present with scars or marks of the force applied to them. In this case, however, the medial and distal ends of the forearm are absent, disabling differential diagnosis.

In Humphrey and Hutchinson's study (as cited in Kimmerle & Baraybar, 2008), blunt trauma differs from sharp force trauma for flaking damage, acute-angled and obtuse-angled sides of the kerfs, but there are some chopping weapons as axes and hatchets presented: curved transverse, spiral, and longitudinal fractures (Lynn & Fairgrieve, 2009), mixing characteristics of sharp and blunt trauma. *The characteristics of sharp-blunt trauma are indicative of the class of weapon, not to be interpreted as multiple and separate mechanisms* (Kimmerle & Baraybar, 2008, p. 265). In this case, the chopping weapons: (...) *a larger, heavier, sharp object such as an axe may impart enough force when swung to [mutilate] a limb* (Kimmerle & Baraybar, 2008, p. 268). These correspond to what was observed on Individual 2♂ (and potentially on Individual 1♂), the lesion on the medial diaphysis of the left ulna, morphologically corresponding to small flaking damage, is associated with spiral fracture on the medial diaphysis of the left radius.

Lynn and Fairgrieve (2009, p. 791) detail that *the curved transverse fracture was also associated with a bisection of the bone, and leading to increased tensile and compressive forces, [and](...) longitudinal fractures originating from the impact sites (...) most likely due to the wedge action of the blade and its ability to split the bone to a greater degree than other sharp weapons*. The forearm, composed of radius and ulna – extrapolating the information obtained from the tibiae-fibulae in the experiment – *acted to attenuate the force and cause a lower-energy impact, resulting in less of the weapon blade penetrating and less of a wedge action* (Lynn & Fairgrieve, 2009, p. 791). Besides, *extensive fracturing resulted in longitudinal fractures emanating from the impact sites (...) was most likely due to the implements penetrating these small bones completely, wedging the proximal and distal halves apart*. In addition, *curved transverse fractures were observed due to the bending action of the bone upon impact* (Lynn & Fairgrieve, 2009, p. 791).



Figure 7: Engravings by Théodore de Bry showing mutilations of hands and noses (bottom) and torture (top) applied by Spanish soldiers to indigenous people in America. Source: Las Casas [1614] (2020).

4.3 Data in Context

The findings of Newen Antug are significant on account of their marked difference from evidence found at sites of armed conflicts of the pre-Hispanic and historical periods. Taken together, combinations of lesions of this type have been observed in contexts of the torture and death of victims who are tied down or restrained,

in mediaeval contexts (e.g. Cole et al., 2020; Mazzarelli et al., 2019). We propose in this respect that there are two concepts which must be distinguished: postmortem dismembering by separation of the joints and perimortem mutilation of partial segments of limbs.

In pre-Hispanic contexts, the extraction of body segments from corpses (postmortem dismembering or reduction) is expressed among hunter-gatherers both in mortuary rituals (Arkush & Tung, 2013; López & Berón, 2014) and in contexts of war (Lambert, 2002; Mensforth, 2007), when the victims present a marked pattern of perimortem cranial lesions by blunt force and traumas inflicted by stone projectiles. Among late Andean societies (up to the fifteenth century AD), postmortem dislocations and dismembering have been observed as war trophies (Arkush & Tung, 2013; Garrido & Morales, 2019), with a strong pattern of blunt force lesions perimortem – principally to the cranium – and cuts when the victim's throat was cut.

From the fifteenth and sixteenth centuries, the Spanish introduced new technologies and tactics into warfare. The evidence shows executions of children and adults in south-eastern North America (Blakely & Mathews, 1990), the Gulf of Florida (Hutchinson, 1996), Mexico (Figueres, 2012), and Peru (Gaither & Murphy, 2012; Murphy et al., 2010), with perimortem trauma caused by blunt force blows, sharp-blunt lesions, and firearms.

According to the written documents, the *Diabolical Trinity* (Espino López, 2012) explicitly included the torture of leaders by tying them to tree-trunks and mutilating them while still alive (Espino López, 2012, Figure 7). The mutilated wounds were cauterised and the victims were released so that they would live long enough to display the traumatic “punishment” to the rest of the community (Espino López, 2012). The Spanish practiced these mutilations on a massive scale and exhibited mounds of limbs and body appendices (Espino López, 2012). Another frequent technique was “surgical” mutilation in which the hand was disarticulated from the forearm, leaving the two segments joined by a tendon and the hands hanging (Espino López, 2012). Strictly speaking, this particular type of torture would leave few or no signs on the bone tissue¹, for that reason we do not discard more postcranial injuries.

Spanish troops under the command of the conquistador Francisco de Villagra passed through the area at an early date, between 1552 and 1553 AD (Álvarez, 1972; Pérez, 2014), in the Andean lake district of Neuquén, an indigenous territory extensively occupied during the Late Pottery period (Cúneo et al., 2002; Hajduk & Cúneo, 1997–1998; Pérez, 2016, 2018). The documents note numerous skirmishes during the first contacts that left casualties on both sides (Álvarez, 1972).

5 Conclusion

Individuals 1_Q and 2_Q of the second occupation of the Newen Antug site held a position of particular symbolism and leadership within their community, being buried and decked out with special care in an enclave that was of importance to the Mapuche communities.

On the basis of the present study, these two individuals can be interpreted as hostages and victims of blows, torture, and restraint, and mutilation of parts of their left hand and forearms. It is inferred that the impact was sufficiently violent to divide the forearm into two parts, generating a great fragmentation and the missing pieces can hide the real nature of the weapon and variations in the position of the perpetrator, which can also be in poor edge condition or a very blunt axe landed at an angle close to 45 degrees. In all probabilities, this treatment led to their deaths – but not immediately, given the non-mortal nature and the distribution of their injuries. These particularities agree with the historical data of people being mutilated, cauterised, and released by the Spanish as trophies (Espino López, 2012).

Such deeds match the expression of power characteristic of the Warfare Phase (1536–1655) of the War of Arauco (Bocara, 1999), as part of the establishment of a pre-disciplinary machinery of Sovereign Power (Espino López, 2012) among the Mapuche communities, both in south central Chile and Northeastern Patagonia in Argentina.

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¹ Torture and mutilations in modern contexts serve as a frame of reference (Kimmerle & Baraybar, 2008).

Conflict of interest: Authors state no conflict of interest.

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