



Timoteo Mendieta Alcalá and the Pact of Forgetting: trauma analysis of execution victims from a Spanish Civil War mass burial site at Guadalajara, Castilla la Mancha

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ABSTRACT

Fascist dictator Francisco Franco was responsible for the torture, murder and covert burial of 150–200,000 civilians both during and after the Spanish Civil War (1936–1939). This comprises one of the largest concentrations of mass graves and victims in the world, yet efforts to exhume them have been strenuously blocked by subsequent governments. This research documents the 2017 exhumation of Timoteo Mendieta Alcalá and 27 other individuals executed between July and November 1939, and interred at the cemetery in Guadalajara, Castilla La Mancha. The analysis includes DNA identifications and an assessment of cultural (possessions) and bioarchaeological variables (age/sex, stature, palaeopathology) in order to contextualise studies of ante/peri-mortem trauma, and thus understand the decedents' lives and the manner in which they were treated before and up to the time of their executions. Of the 24 burials in the main grave, 23 (95.8%) showed gunshot trauma (GSW), 7 (29.2%) showed blunt force trauma (BFT) and 1 (4.2%) showed sharp force trauma (SFT). Five of the main group (20.8%) showed healing lesions indicative of often extensive assault in the weeks leading up to their execution; one individual had sustained 27 fractures. GSW patterns are consistent with an organised firing squad, followed by multiple GSW at close range in the back/side of the head. This research elucidates unrecorded aspects of fascist dominion in 1936–9, adds to extant research on pattern and method in global atrocities, and demonstrates the human cost of the Spanish Civil War to those who aim to trivialise it.

SUMARIO

El dictador fascista Francisco Franco fue responsable por la tortura, asesinato y enterramiento encubierto de unos 150–200.000 civiles, tanto durante como después de la Guerra Civil Española (1936–1939). Esto comprende uno de los números más grandes de fosas comunes en el mundo, aunado a que los esfuerzos para exhumar a las víctimas han sido enérgicamente bloqueados por gobiernos sucesivos. Esta investigación documenta la exhumación realizada en el año 2017, de Timoteo Mendieta Alcalá y otros 27 individuos que fueron ejecutados entre Julio y Noviembre de 1939, fueron enterrados en el cementerio de Guadalajara, Castilla La Mancha. El análisis incluye la identificación de ADN, una evaluación de la cultura material (posesiones) y variables bioarqueológicas (edad/sexo, estatura, paleopatologías) para contextualizar estudios de trauma ante/peri mortem, para entender la vida de los difuntos y la manera en que fueron tratados antes y al momento de su ejecución. De los 24 enterramientos de la fosa común, 23 (95,8%) mostraron traumas por armas de fuego, 7 (29,2%) mostraron traumas por objetos contundentes y 1 (4,2%) mostró trauma por un objeto afilado. Cinco individuos del grupo principal (20,8%) mostraron lesiones ya curadas, lo que indica asaltos, a menudo extensos, semanas antes de su ejecución; un individuo presentó 27 fracturas. Los patrones de las heridas de balas son consistentes con la formación de un pelotón de fusilamiento, por lo tanto les dispararon en un rango de corto alcance, en la parte

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posterior de la cabeza. Está investigación apunta a dilucidar aspectos no registrados del dominio fascista en 1936-9, buscando extender las investigaciones de patrones y métodos de atrocidades globales, demostrando así el verdadero saldo de vidas humanas que tuvo la Guerra Civil Española, en especial para aquellos que buscan trivializarlo.

1. Introduction: The Spanish Civil War

The Spanish Civil War [SCW] (1936–1939) describes the conflict between the left-wing Spanish Republic – founded in 1931 – and a fascist revolt under the leadership of General Francisco Franco [1,2]. Franco exploited institutional unease in the aftermath of the Republic’s social reforms, gaining support from the Catholic Church, monarchists, *latifundistas* [landowners], most of the military, Mussolini’s Italy and Nazi Germany [1,3]. Franco’s campaign against perceived enemies resulted in a holocaust¹ often referred to as the White Terror. The victims were rarely soldiers, and were targeted for being non-elites, republican loyalists, atheists, Jews, intellectuals, liberals, academics, protestants, anarchists, freemasons, socialists, Catalan/Basque nationalists, communists, homosexuals and trade unionists [3–6]. The bodies were dumped in mass graves all across Spain, their descendants and relations being forbidden from marking the graves, or from any public mourning [2,7–10]. Franco instituted the “Law of Political Responsibilities” in 1939, granting blanket justification to tribunals that carried out mass show trials and executions of republican supporters. Right-wing civilians were thus emboldened to persecute and murder republicans and personal foes with impunity [11]. Francoist groups carried out raids, abductions and murders well into the second half of the 20th century [11,12], forcing 500,000 people into concentration camps for indoctrination and as slave labour [4,9,11,13]. Thousands of children from republican families were abducted, renamed and given to supporters of the fascist regime [14,15]; babies were stolen from hospitals and sold [15]. Purges were carried out, and trade unions destroyed. Jobs were awarded to fascist sympathisers, while the families and descendants of republicanists were marginalised [12]. Officially, however, the regime’s narrative was one of national “rebirth”, and rehistoricisation of briefly republican Spain [5,16,17]. In order to consolidate their power [18], the fascists made martyrs of the victims of Republican violence [9], raising monuments and buildings to their memory, and reburying them in the Valle de los Caídos [Valley of the Fallen], alongside Franco’s tomb. Victims of the fascists received no such recognition.

2. 1939–1975: Aftermath and repercussions

Franco’s persecutions caused the populace to adopt the ‘forgetfulness’ that has characterised Spanish political attitudes since Franco’s death in 1975 [4,5,9,18–20]. The new government swiftly moved to shield Spain’s new parliamentary monarchy from any post-dictatorship retribution by granting amnesty for all crimes “of a political nature” [21] committed between 1936 and 1975 in the 1977 Amnesty Law known as the *Pacto de Olvido* [Pact of Forgetting] [12,17,22,23]. This not only permitted the law to ignore and eventually forget the victims of the war and the dictatorship [23], but also prevented any debate concerning accountability for past crimes [22]. Even public acknowledgement of the existence of these victims or their graves became taboo. The details of the SCW were deliberately glossed over, so that modern Spaniards are often surprisingly ignorant of the true facts of the conflict [12]. So in an era when the civilian victims of recent dictatorships – including Greece, Portugal, Argentina and Chile – have been exhumed, returned to their families or reburied with governmental apology and recognition of

responsibility, the estimated 114, 266² people ‘disappeared’ by the Falange,³ the police, the Guardia Civil or the private militias of the wealthy remain buried in unmarked graves across the Iberian Peninsula [8,15,25–28].

3. The present day: the exhumation war

“The families of the disappeared in Spain wish to know the truth about the fate or whereabouts of their loved ones. This is an absolute right under the Declaration and an obligation that the Spanish state should meet in accordance with international law”.⁴

Only Cambodia has more mass graves and anonymous victims than Spain [29], yet the SCW’s war dead remains an extremely divisive issue [30]. Illicit amateur excavations of SCW graves have taken place since the 1970s, usually carried out by family members [2,31]. However, the confrontation of recent atrocities elsewhere in the world has been absorbed by the first generations to grow up after Franco [32], who are not cowed by previous taboos or the 1977 Amnesty Law [18]. The Law of Historical Memory (2007) was enacted to remove all public symbols and monuments of Francoism from public spaces [33], culminating in the exhumation of Franco’s body from the Valle de los Caídos in 2019 [34]. Yet while this has angered conservatives, it was deemed to be insufficient by descendants of the disappeared [29,35].

The Asociación para la Recuperación de Memoria Histórica⁵ (ARMH) was founded in 2000. It is funded by various international and private bodies [29], and unites volunteers with archaeologists and forensic anthropologists in order to excavate and identify SCW victims, and to return them to their families [36]. Excavating around 1330 bodies in 153 excavations between 2000 and 2012 [29], their efforts was aided and hindered by successive governments, widely echoing party lines. The left-leaning Partido Socialista Obrero Español [Spanish Socialist Workers Party] is generally in favour of the exhumations, and even funded recovery efforts from 2006-10 [29]. However, the right-wing Partido Popular [People’s Party] is descended from the Alianza Popular [People’s Alliance], the founder of which was a minister under Franco, and which still draws most of its support from businesses and right-wing sectors with historical links to Francoism. The PP has been hostile to the ARMH, has actively opposed exhumation and funding requests [5,12,35], has blocked access to military archives, and has refused descendants’ petitions for the assistance of forensic professionals [2,37].⁶ PP senator José Joaquín Peñarrubia has even denied that any more graves exist, a statement tantamount to holocaust denial in the eyes of some [38]. These official attitudes have emboldened local government to block exhumations [31] as demonstrated by the 2012 attempt to exhume Dorado Lúque, abducted and murdered by the Guardia Civil on July 26th, 1936 [39]. Despite having obtained authorisation from the Audiencia Nacional and Ministry of the Presidency, the Cordoba County Council twice blocked the exhumation

² Estimates differ; Ruiz (2005) accepts a figure of 150,000, while Seelye (2019) places it at 200,000.

³ Technically the “Falange Española Tradicionalista”, of which Franco was leader.

⁴ Section 17 of the UN_HRC’s Report on the Working Group on Enforced or Involuntary Disappearances (2014).

⁵ Association for the Recovery of Historic Memory.

⁶ This is inconsistent with the PP’s enthusiasm to exhume and identify members of Franco’s Blue Division that fought with the Nazis against Russia in WW2 [12].

¹ The use of the alternate term ‘genocide’ remains a matter of debate [11].

without penalty (Op. Cit. 22-4). The family lost their appeal, owing to the fact that the court relied upon an outmoded piece of legislation [40] that was designed to deal with atrocities dating to the Turkish invasion of Cyprus in 1974. The legislation contains ‘out of time’ clauses where “... excessive or unexplained delay on the part of applicants” invalidates their claim before its merits could be assessed. The court found that there was no “... meaningful contact between families and authorities concerning complaints and requests for information, or ... progress in investigative measures” in the years after the SCW, despite the fact that the country was under a dictatorship under which such appeals were illegal.⁷ The legal position thus seems to be that living in a totalitarian state is insufficient excuse for the complainant to not “... display due diligence and to bring their case before the Court without undue delay” [39], decreeing that the events lay outside the court’s temporal jurisdiction (Op. Cit. 33, 34-7) and that the merits of the complainant’s case would thus not even be judged (Op. Cit. 46). They also decreed that all deceased officials involved with the murders – including Franco – were absolved of their criminal responsibility (Op. Cit. 17), while the Criminal Division of the Audiencia Nacional declared themselves unable to investigate any crimes linked to “military rebellion” (Op Cit. 18). Since the collapse of the Fascist regime, therefore, Pro-Franco social convention, the 1977 Pact of Forgetting and continued juridical obfuscation have continued to obstruct all attempts to gain justice from domestic courts (Op. Cit. 29).

Exceptions are rare. Judge Baltasar Garzón – who previously applied universal jurisdiction to enable the challenging of amnesty laws in Argentina – declared Francoist killings to be crimes against humanity, and ordered the exhumation of several mass graves. ~The nationalist backlash was immediate [41]. The PP, the remnants of the Falange, and a far-right pressure group called Manos Limpias [Clean Hands] halted proceedings by forcing a legal inquiry into Garzon in 2008, claiming that his actions defied the 1977 act, and that the Civil War holocaust predated the Crimes Against Humanity Statute⁸ (1945). Despite the fact that the charges were dismissed (and the head of Manos Limpias was arrested for fraud, money laundering, and extortion [42]), internal opposition remains high. External pressure has also been brought to bear via the UN’s European Convention on Human Rights (2009), whose special note concerning Spain stated that amnesty law is incompatible with state duty to investigate torture or barbarity, cannot be used to erase cases where judicial standards were not adequately met, or to overlook any grave breaches of fundamental human rights [21]. Spain’s refusal to recognise pre-1976 atrocities also flies in the face of the International Covenant on Civil and Political Rights (that Spain signed in 1977) and the Rome Statute of the International Criminal Court (signed in 1998, enacted 2002). It also defies the Council of Europe’s guidelines concerning the eradication of impunity for serious human rights violations (2011), and the special mission to Spain by the Working Group on Enforced or Involuntary Disappearances [15]. Garzon’s earlier assistance to Argentina has proven to be of key importance, however, as the universal justice principle permits the prosecution of other nations’ crimes against humanity, and are not subject to manipulation by Spanish nationalist/fascist pressure groups.

4. The case of Timoteo Mendieta Alcalá

Mendieta was a 41-year-old native of Sacedón, president of the local UGT (Union General de Trabajadores [General Union of Workers]), a butcher, a plasterer, and a father of seven (see [Image 1](#)). Denounced by a



Image 1. Timoteo Mendieta Alcalá. Photo courtesy of the ARMH.

neighbour, he was taken from his home on the September 11, 1939 and executed for having given “aid to the rebellion” [43]⁹ in Guadalajara on the 15th of November [44]¹⁰.

His daughter, Ascensión Mendieta, spent much of the next 75 years campaigning for the right to exhume and rebury his remains, but even after the dictatorship ended, subsequent administrations blocked her efforts [45]. The local council also prohibited families from visiting the graves or erecting memorials, and refused to change the names of streets memorialising Francoist leaders, in defiance of historical memory laws [46]. Ms. Mendieta took her case to Argentinian judge María Servini de Cubría, who went on to execute the world’s only legal instruction against Francoist atrocities in 2014 [44]. Guadalajara city council’s final attempt to block the exhumation order failed [46], and the excavation was scheduled for 2016. The project was run by the ARMH, staffed by volunteers and funded by an Abraham Lincoln Brigade Archives (ALBA) Award, the Norwegian Electrician’s Union, and various private donations. Official records stating that he was buried in ‘Fosa 2’ were found to be inaccurate; the work continued in ‘Fosa 1’ in 2017, leading to the exhumation and analysis of Timoteo Mendieta Alcalá and twenty-seven other individuals executed and interred at around the same time. His remains were positively identified then reburied in July 2017; his daughter passed away and was buried alongside him in 2019.¹¹

5. Aims of the current project

... with the lapse of time, memories of witnesses’ fade, witnesses may die or become untraceable, evidence deteriorates or ceases to exist, and the prospects that any effective investigation can be undertaken will increasingly diminish ... [39]

⁷ The legislation also demands stricter timekeeping for domestic conflicts, further blockading the chances of successful SCW appeals [40].

⁸ In fact, the CAHS was designed to be retroactively applied, and was used in the Nuremberg Trials in 1945/6.

⁹ The Francoists dubbed the democratically-elected republican government a ‘rebellion’ [11].

¹⁰ At least 1262 people were shot by the Special Executions Court in Guadalajara [46].

¹¹ The ‘Argentine Lawsuit’ and Mendieta’s role therein is recorded in the 2018 film, “The Silence of Others”.

The aim of the Pact of Forgetting was twofold: short-term immunity for perpetrators, and giving time for memories and eyewitnesses to die, thus preventing any enquiry into the SCW and the dictatorship. The removal of images and iconography associated with Franco and the Falange does testify to a national distancing from fascist ideology, but the human cost has not been so publicly acknowledged. In one sense, however, there are numerous witnesses to fascist oppression, and as forensics and biological anthropology develop, the tens of thousands of bodies in mass graves are mute testimony to the brutalities they suffered, even if the perpetrators are now beyond judicial reach.

Spanish public opinion concerning Francoism remains sharply divided. However, what is certainly true is that the 1977 Pact of Forgetting has failed to ensure national cohesion in the aftermath of the dictatorship. Whether or not those affected by the Spanish holocaust are prepared to forgive and forget – and whether the government should acknowledge responsibility and make reparations – is a matter for national discourse, but only when all the facts of the matter have been laid bare. It is clearly inappropriate that victims' families should be forced to abide by legislation drafted by those directly involved in their antecedents' murders, and it is only through revealing and confronting the direct actualities and human cost of the dictatorship that any form of accord can be reached. Finally, decades of censorship and obfuscation have left many with a necessarily vague and rather abstract sense of past injustice, but this pales into insignificance when confronted with the physical evidence of abuse, torture and execution. The immediacy of skeletal remains, osteological trauma and recognisable personal possessions surfacing in mass graves provokes a powerful and visceral reaction: this is clear evidence of violence, of state terror [30], not obtainable in any other way. It is hoped that it will illuminate both inconsistencies and omissions in the historical sources, which are incomplete, uncatalogued, frequently restricted, and written by individuals who were either involved with – or judicially sympathetic to – the murders and executions they describe [11]. To this end, the current project intends to detail the genetic identities, social and physical attributes, life history and probable causes of death in all the individuals excavated at the Mendieta grave site, via assessment of cultural materials (possessions), body proportions, life history indicators (*ante-mortem* trauma, palaeopathology etc.) and patterning of *peri-mortem* trauma. In a wider perspective, this will contribute to the current corpus of data on SCW killings, and adds to bioarchaeological methodology by comparing historically documented age-at-death and stature data with that derived from the skeletal material. Finally, it provides a measure of how these victims were treated in the weeks and days before their deaths, and will provide a tangible immediacy to the actual, human cost of the SCW. Staunch supporters and opponents of Franco are unlikely to change their attitudes, but presentation of genuine, unbiased consequences of the SCW may serve to change opinions of the middle ground, as well as attracting international attention to this divisive issue.

6. Methods and approaches

Members of the ARMH, the current author and three postgraduate bioarchaeology students excavated the graves (see Images 2, 4). The remains were recorded *in situ*, photographed and transferred to an on-site laboratory. The positions of all bodily elements, associations with cultural artefacts and location within the burial sequence (where possible) were all recorded per individual.

The sex of each individual was ascertained by scoring the morphological characteristics of the pelvis (greater sciatic notch, composite arch, preauricular sulcus, subpubic angle, subpubic concavity, ventral arc and morphology of the ischium/pubis) and the skull (glabella, supraorbital ridges, supraorbital margins, bossing, supraceutical crest, mastoid process, nuchal crest, mandibular angle, gonial eversion and chin morphology). Methods are as laid out in Phenice (1969), Krogman & İşcan (1986), Buikstra and Ubelaker (1994) and Bass (2005).

Age was determined using the pubic symphysis and auricular surface



Image 2. Guadalajara Cemetery Collective Grave 1 under excavation by ARMH members.

of the pelvis, dental formation/eruption, dental wear and epiphyseal fusion (see Refs. [47–50]). Age was classified into young adult (20–35), middle adult (35–50) and older adult (50+) ageclasses, according to Buikstra and Ubelaker (1994). Estimates were refined where possible and at the discretion of the analyst, in order to increase utility in matching historical records.

Stature was measured in the ground – where possible – and also estimated from the bones using Trotter 1970 (in White and Folkens 1996), the Fully/anatomical method [51,52] and the metacarpal method [53]. Results were compared. Joint pathology and osteologically visible diseases [54] and dental pathology/loss [55] were also recorded.

Finally, the *ante-mortem* and *peri-mortem* traumatic lesions were mapped, described and – where possible – sequenced. Traumatic lesions were differentiated on the characteristics of bone fracture, bone colour, evidence of healing (osteoblastic response, line of demarcation, osteoclastic response and sequestration [56] and – in the case of gunshot wounds (GSW) – the presence of bevelling and discrete entry/exit lesions. Direction of GSW was ascertained where possible, although the limitations of solely bony evidence were taken into account [57]. The age, sex, stature and trauma data were double blind tested by at least two researchers.

Genetic testing was carried out on osteological and dental remains of each individual; if genetic information was not available, individuals were identified using anthropometric and historical information. The DNA studies were carried out by LabGenetics¹² Madrid. Teeth and sections of femoral diaphysis (taken by geneticist Shirley Jones) were compared with buccal epithelial cheek swabs taken on close living relatives. DNA was obtained using the PrepFiler® BTA Forensic DNA Extraction Kit (Applied Biosystems), followed by purification using Applied Biosystems' automatic DNA extractor. PCR was used to amplify selected genes following Applied Biosystems' YFiler Plus protocols. Analysis was carried out using GeneMapper® ID-X (Applied Biosystems). Once genetically identified, historical data concerning the age/sex and stature of the deceased were compared with the bioarchaeological data.

7. Collective grave 1, cemetery of Guadalajara

The body of Timoteo Mendieta and the 23 other individuals were

¹² www.labgenetics.com.es.



Image 3. Guadalajara cemetery individual graves 9, 10, 11 and 12.

recovered from collective grave 1¹³ in a walled-off area (termed ‘Patio 4’) in the southwestern corner of Guadalajara’s Municipal Cemetery. Before the dividing wall was knocked down in the recent past, this area could not be visited. The grave was approximately 3 m deep, and was oriented SW-NE; it runs parallel with collective grave 2, excavated in 2016. The 24 individuals were directly superimposed, in either direct contact or separated by thin layers of soil. All the individuals were fully skeletonised. Osteological preservation was generally good, although the frailer bones of older individuals had preserved less well. Two individuals (19 and 21) were contained in wooden coffins. Ten individuals were oriented towards the N or the NE, and fourteen towards the S/SW. All 24 individuals were recovered. They were numbered in the order of their recovery; thus burial 1 (Timoteo Mendieta Alcalá) was the first individual to be recovered, while individual 24 (Gregorio Florian Exposito) was the last. Assuming that council records are correct, this places the use of Collective Grave 1 between the 26th of July and the 15th November 1939. This overlaps with the use of individual graves 9, 10, 11 and 12, located to the west of the main collective grave (see [Image 3](#)). Genetic tests confirmed several of the individuals; further biographical information concerning the other individuals buried in ‘Fosa 1’ was compiled by the Forum for the Memory of Guadalajara.¹⁴ Full information is presented in [Tables 1](#) and [1a](#).



Image 4. Skeletal data recording by the author and Adam Burr (photo: Tatiana Vlemincq-Mendieta).

¹³ Records provided by local government claimed that Mendieta was interred in collective grave 2 of patio 4 [46]; following an excavation in 2016, this was found to be incorrect.

¹⁴ <https://memoriaguadalajara.es/2017/05/15/>.



Image 5. Wallet recovered from the remains of Individual 7 (unidentified).



Image 6. Coffin burial of Individual 19 (unidentified). Note shoes and belt.



Image 7. Remains of Individual 22 (Angel Viñas Dias). Note buttons and belt.

7.1. Material culture and grave structure

Aspects of the individuals’ lifeways and conditions prior to, during, and directly after their execution can be ascertained from their possessions, evidence of perpetrator compartment, and their distributions in the grave. It is evident that the individuals were attired when they were interred – 17/24 were wearing belts, 11/24 were wearing shoes and 17 had at least one button (or a zip) on their body (see [Images 6-7](#)). Three individuals retained substantial fragments of thick textile, perhaps jackets or coats. They had very few personal possessions – exceptions

include one empty wallet (see [Image 5](#)), one plastic comb, a chain, a handmade animal bone tobacco pipe¹⁵ and a handmade die.¹⁶ No money, jewellery, watches or paperwork was recovered. Such items were either returned to families following the owners' execution, or kept by the executioners. There are no indications that the individuals were bound or blindfolded when they were executed. All the bodies were in an approximately extended position, although 2 had disarrayed legs and 6 had sprawled arm positions (see [Images 6-10](#)). The bodies therefore seem to have been deposited individually, and were probably dropped in rather than more carefully placed; this is substantiated by the highly regularised layout of the individual burials 9-12. The central part of the main grave had subsided significantly as the bodies decomposed, resulting in vertical disassociation of the lower body from the skull (see [Image 9](#)). Finally, it should be noted that the long axes of both graves 1 and 2 were almost exactly N-S, whereas all the other graves in the cemetery – including the four separate graves 9/10/11/12 – were oriented in the traditionally Christian E-W fashion (see [Image 3](#)). This was likely intentional on the part of the gravediggers, as it seems scarcely



Image 8. Remains of Individual 14 (Juan Ignacio Sanchez Polo). Note organic preservation.



Image 9. Remains of Individual 3 (Julian de Cerro Lite). Note slumping of thorax relative to head.

probable that they would not have noticed the correct orientation from

¹⁵ Three individuals had pipe smoker dental facets, but only one pipe was recovered.

¹⁶ Individual 17 also had a 9-tooth metal bridgework.

the hundreds of other graves that surrounded them. While impossible to prove directly, this was likely intended to deprive the interred individuals of a 'proper' Christian burial, perhaps as 'revenge' for the anti-clerical stance adopted by many republicans in the 1930s [3].¹⁷

8. Place and means of execution

Two execution locales were used, according to historical records. Some of the individuals were executed in the cemetery itself in an area called La Rambla, while other executions took place in the nearby Camino del Rio. A section of the cemetery's stone perimeter wall about 20 m from the gravesite was peppered with bullet holes and impact sites (see [Images 11 and 12](#)); some tiny pieces of lead projectiles were also noted in the wall. Unlike findings from previous work by Rios et al. (2014), therefore, the individuals were not shot in the grave as no ballistic evidence was recovered from the base thereof. Metal detecting in the general area located projectiles and casings of various calibres, although it cannot be certain that they pertain to these specific killings (see [Image 13](#)). The casings are 9 mm,¹⁸ and probably from ejector



Image 10. Remains of Individual 24 (Gregorio Florian Exposito), the first to be interred.



Image 11. Bullet impacts in a wall adjacent to the burial site.

¹⁷ 'Deviant' burials are often associated with social outcasts and the marginalised [66].

¹⁸ 9 mm calibre can span 9-9.99 mm across the rim (base).



Image 12. Bullet impact detail.

handguns. The bore varies between 9.7 and 9.9 mm, and length between 22.94 and 23.3 mm. The headstamps are often illegible, with the exception of those marked with PS ('Pirotecnia Militar de Sevilla'). Some are marked with further codes (ICM), or date numbered '31' or '36' (see [Image 14](#)). The projectiles matching these casings measure between 15.87 and 16.34 mm; bore could not be measured accurately owing to distortion, but was between 8.5 and 9.5 mm. The deformed remains of one of these was recovered from beside the occipital of Individual 17. No larger-calibre casings were found. The large projectiles measure from 30.8 to 31.2 mm long¹⁹ with a bore of 7.05–7.25 mm, and are presumed to be rifle ammunition. It should be noted that civil war weaponry was not standardised, as both sides bought in arms from numerous international sources. Nine mm (long and short) and 7 mm calibre handguns were commonplace, while 7.92 Mauser rifles were common with the para/military. Hunting rifles and shotguns were also used on occasion [58].

9. Osteobiographies and bioarchaeological accuracy

Something of decedents' lifeways can be ascertained from their body sizes and proportions, and examination of wear-and-tear and other markers on their dentition and bones. In this case, most of the executed individuals were non-elite day labourers. The assumption would thus be that they would display characteristics of a physically demanding life,

and perhaps dietary/economic disadvantage. The full details are provided in [Table 3](#).

9.1. Age

The individuals were all assessed for age markers, and these results were later compared to the actual known ages at death derived from historical records. Twenty-one individuals had both bioarchaeological and historical ages-at-death, ranging from 21 to 69. In 76% (16/21) of cases the ageclass (young/middle/old adult) was correctly identified, while more exact age estimations were accurate in 57.1% (12/21) of cases. There was a tendency to underage older individuals; the average age of correctly estimated individuals was 38.8, while the average age of incorrectly estimated individuals was 41.7. However, when the individuals above 40 (4/8 [50%] correct) and under 40 (8/13 [61.5%] correct) were assessed using Fishers Exact Test, there was no significant difference between the groups ($P=0.6731$). Inaccuracy in ageing is thus not purely a function of more advanced age.

9.2. Sex

Where data exists, all the interred individuals were historically known to have been male. The skulls and the pelvis were blind scored separately by two researchers. The consensus was taken for each set of methods (cranial and pelvic) and the results were compared to assess the accuracy of each. In 23/26 (88.5%) cases the pelvis was sexed as 'male', and in 3/26 (11.5%) cases as 'probably male'. The cranial measures resulted in 'male' in 9/25 (36%) cases, 'probably male' in 9/25 (36%) cases, 'unknown' in 4/25 (16%) cases and 'probably female' in 3/25 (12%) cases. Age was found to be a factor in the three 'probably female' individuals, who were found to have been 67, 35–50 and 48 years old, considerably older than the average for the group as a whole. This suggests that increased age may result in diminution of the cranial characteristics that are scored as 'male', and underscores the necessity of using pelvic material in the sexing of archaeologically derived human remains.

9.3. Stature

Statures were computed for the Guadalajara sample. The results were compared with the historical data in order to assess the accuracy of the methods used. The average (historical) height of the sample was 162.7 cm, which is 4.1 cm below the national average [166.81] of the 1911/1917 birth cohort [59], although there was considerable range of variation in the sample, which spanned 161–176 cm. The Trotter method was found to be consistently more accurate than the metacarpal method or the Fully method, which had the further disadvantage of being particularly time-consuming. These results are not reported here. Trotter was accurate to within 5 cm in 80% (12/15) of cases where historical stature was known. The bioarchaeological estimate was exact in 2/15 cases, overestimated height in 3/15 cases, and underestimated height in 10/15 cases. The average error of the 15 cases where statures could be compared was 2.13%. It should be noted that while estimates for some older individuals were inaccurate owing to loss of height during life (i.e. Jesus Sanchez Cortes: estimated height 161 cm, actual height [1939] 152 cm), others saw little height reduction (i.e. Mateo Molina Cedrón: estimated height 173 cm, actual height [1939] 170 cm). This has implications for the accuracy of age-linked correction factors used in stature reconstructions.

9.4. Dental pathology

Over half of the individuals that could be scored (7/13) displayed signs of linear enamel hypoplasia (LEH), which is associated with physiological issues in childhood such as malnutrition or illness. While a wider study is required, increased prevalence of LEH is traditionally

¹⁹ A single iron projectile was also found, with a length of 32.71 mm.



Image 13. Assortment of ammunition recovered in the vicinity of the burial site.



Image 14. Selected headstamps on bullet casings.

associated with poor diet and health, and with those living in stressed environments [60]. Tooth loss levels were high, with 80% showing at least some teeth lost *ante mortem*, and 20% of individuals – all over the age of 40 – being almost edentulous. A cariogenic diet and periodontal disease are both likely causes; as protein rich diets (which have a retardant effect on cariogenesis) tend to characterise social elites, one might posit a less elevated status for the Guadalajara sample, and this is consistent with what is known of the deceased [60]. However, a wider study is required to determine whether this can be conclusively demonstrated.

9.5. Palaeopathology (Joint pathology)

Degenerative joint disease (DJD) describes a range of progressive conditions usually associated with age, lifestyle and activity levels, of which OA (osteoarthritis) is the most significant. Visible osteologically as joint deformation, osteophytosis and eburnation [54], it can stand as a proxy for general loading and activity levels in the archaeological past. Minor lipping and slight joint modification have little effect on the individuals' quality of life: 23/24 (95.8%) of the Guadalajara individuals showed at least some DJD. Eleven of these (47.8%) comprised very

slight remodelling and lipping of the vertebral bodies and apophyseal articular facets, while the other twelve (52.3%) displayed both spinal and limb joint DJD. There was a clear correlation with advancing age, with particularly severe deterioration into the 40s and beyond. Single cases of osteoporosis and intervertebral disc disease were also noted, along with two cases of rotator cuff disease. While it would be necessary to take a wider perspective on Spanish populations at the time, these results do at least suggest that these individuals had fairly active lives with notable physical loading, perhaps as a result of construction work, agriculture or other physical labour.

10. Traumatic lesions

Osteological lesions are not a full reflection of traumatic impacts upon the human body, given that bone can be very resilient to certain impacts, while GSW/SFT may be fatal while missing all bony structures. While recognising this, skeletal trauma morphology and patterning are still the most direct manner of ascertaining social/environmental impacts on the individual [61]. Presence/extent of healing, lesion morphology, positioning and laterality can identify likely causation, while observations can be contextualised socially in order to better understand historical or archaeological lifeways [62]. Both *ante-mortem* (fully- and partly healed) and *peri-mortem* lesions were scored in the current study. Antemortem (healed) injuries show remodelled callus formation often associated with deformation of the bone contour, while lesions suffered close to death show unremodelled callus formation with textural surface changes. Perimortem injuries show no bony response to the fracture, associated with sharp margins and splintering. Bone fractures that were caused significantly after death can be differentiated on the basis of fracture angulation and colour at the fracture site [54,60,61, 62].

10.1. Ante-mortem (healed) lesions

The population displayed a range of minor breaks to ribs, noses, wrists, fingers and toes (see Table 3 for details). More significant injuries included a possible healed fracture to one individuals' skull base, and a single large scapular lesion that is likely a well-healed gunshot trauma. Minor wear and tear manifesting as bony faults – such as *os acromiale* and vertebral spondylolysis – were also scored as 'healed trauma'. In

crude terms, the individuals display a healed trauma ratio of 0.96 lesions per individual, 0.79 if the spondylolysis/*os acromiale* is removed. The maximum number of lesions per individual was 5, to include four ribs and a wrist fracture (Ind. 14).

10.2. Ante-mortem (healing) lesions

Thirty-five healing lesions²⁰ – to include forearm fractures, a broken nose and broken ribs – were scored in the same sample (see Table 3). Forearm fractures, nasal fractures and rib fractures are usually associated with interpersonal conflict, although other causes are not unknown [62]. Across the full sample, this equates to 0.69 lesions per individual, although in fact all 35 lesions were suffered by only five individuals (14.3 lesions per individual), and one of these had a total of 27 (25 healing rib fractures, a healing ulna/radius and a healing MC5 fracture). The historical arrest and execution data exists for this individual – Jesus Sanchez Cortes (see Table 1a) – indicates that he was captured over four months before his execution, so it is highly likely that he sustained these injuries while a prisoner.

10.3. Peri-mortem traumatic lesions

A total of 72 peri-mortem lesions were scored on the 28 individuals recovered from grave 1 and 9–12. Ten (41.7%) had sustained a single peri-mortem lesion, while 8 (33.3%) had sustained 2, 3 had sustained 3 (12.5%), 2 had sustained 4 (8.3%) and one had sustained 9 (4.2%). The traumatic lesions were divided by type: GSW (gunshot wound), BFT (blunt force trauma) and SFT (sharp force trauma), and all were analysed by body region. There were 45 GSWs, 26 BFTs and a single SFT. These were found throughout the body. In order to clarify trends, the legs and arms were combined in one category, the vertebrae, ribs and shoulders into ‘thorax’, and all aspects of the skull into one. Only 9.7% (7/72) of traumatic lesions were found in the limbs, followed by the skull (45.4% [32/72]), then the thorax (45.8% [33/72]). Given that multiple ribs can fracture from single impacts, the skull was in fact the most strongly impacted part of the body.

The fully-assessed Pit 1 burials were analysed as a group. Twenty-three of the 24 showed signs of GSW (95.8%), visible during excavation as extensive shattering secondary to penetrating bullet holes (see Images 15–18). Of these, two showed triple lesions (8.7%), 7 showed double lesions (30.4%) and 15 showed single lesions (65.2%). This



Image 15. Skull of individual 2 (Antonio Sierra Olivo).



Image 16. Skull of Individual 8 (Victorino Diaz de la Randa).



Image 17. Skull of individual 12 (Constancio Sanchez Valero).

should be considered to be a minimum number, as the ‘possible’ GSW were omitted from this study (see Table 4); uncertainty stems primarily from fractures to fragile bones such as scapulae, ribs and vertebrae, where impact morphology cannot easily be ascertained (Langley 2007). Of the 45 GSW, 29 (64%) were cranial and 16 (35.6%) were postcranial. More GSW was found in the shoulder (6/16: 37.5%) than the limbs combined (5/16: 31.3%), and many rib/vertebral fractures (5/16:

²⁰ To include a single patch of periostitis reflecting a probable impact to overlying soft tissue.



Image 18. Skull of individual 13 (Andres Gayoso Sanchez).

31.3%) were in the top ¼ of the trunk, especially the cervical vertebrae and first ribs. Bullet impact site morphology varied considerably. Entry wounds were identified by the presence of internal beveling and secondary vault fractures; the intersection of fractures allowed sequencing of the lesions where more than one was present. Explosively destructive lesions that shattered bone without leaving measurable bullet-holes may represent rifle round impacts (see above) that seem to have hit primarily the anterior aspect of the victims (see [Image 15, 16, 23](#)). Ammunition used during the SCW was highly diverse, including 9 mm, 7 mm (Mauser) 6.3 mm and 5.6 mm (0.22) rounds [68,70]. In the present case, the smaller, more crisply defined impacts measured between 8 and 10 mm in diameter, while a single 5 mm lesion (Individual 13) was also observed. Specific calibres could not be reliably identified [69, 71].

Many of the measurable lesions were located on the rear half of the skull, suggesting handgun GSW administered at close range (see [Image 19, 21](#)). Impacts on the postcranial skeleton were anterior where ascertainable, along with 37.5% (12/32) of the cranial lesions. Twenty-five percent (8/32) of cranial lesions were to the sides of the head ([Image 20, 22](#)), while 37.5% (12/32) of cranial GSW were to the occipital/rear aspects of the temporals. Of the 25 cranial GSW from the main grave where both entry and exit wounds could be accurately determined, the assailant was standing behind the victim in 44% of cases (11/25), whereas 28% of shots came from the front (7/25) or the sides (7/25). The assailant was standing behind and to the left of the victim in 36% (4/11) of cases, behind and to the right in 45% of cases (5/11) and directly behind the victim in 18.2% of cases (2/11). The position of the victims at the time of death cannot be ascertained with certainty. However, a survey of Grave 1 cranial trauma indicated that 5/6 (83%) of



Image 19. Occipital GSW to individual 7 (unidentified).



Image 20. Peri-mortem GSW from left to right parietals of Individual 17 (unidentified).



Image 21. Double peri-mortem GSW to right temporal of Individual 18 (unidentified).

anterior cranial lesions followed a straight antero-posterior track, suggesting that they – and their assailants – were both standing. By contrast, 70% (7/10) of posterior GSW were angled supero-inferiorly. Individuals 17 and 18 both had a pair of closely-spaced GSW on one side of their heads (17 – left side; 18 – right side [see [Image 21](#)]). The general tendency, therefore, is for low prevalence of trauma from the extremities and the lower aspect of the body, rising towards the centre of the body and peaking in the skull (see [Images 29 and 30](#)). No dorsal infracranial GSW were noted other than the large number of GSW to the neck area, which reflect the close-range shots usually administered to the occipital. Mandibular trauma is likewise usually dorso-ventral, having passed first through the cervical vertebrae (see [Image 24](#)).

Seven of the 24 grave 1 individuals showed signs of BFT, discounting



Image 22. Peri-mortem GSW to right anterior temporal of Individual 20 (Roman Adalid Moreno).



Image 25. Peri-mortem nasal fracture to Individual 5 (Tomás Sierra Olivo).



Image 23. Peri-mortem GSW to left side of skull of Individual 24 (Gregorio Florian Exposito).



Image 24. Peri-mortem dorso-ventral GSW to mandible of Individual 21 (unidentified).

lesions that may have been post-mortem. A total of 17 individual impacts were noted, over seven individuals. Three (42.8%) had single lesions, two (28.5%) had double lesions, one (14.3%) had a triple lesion, and a single individual had 7 lesions (14.3%). It is interesting to note that the first ten individuals interred (15–24) possess no clear BFT lesions, perhaps suggesting a change in approach to the captives through

time. The number of elements fractured totalled 26, to include 18 ribs (<3 ribs fractured per impact); 23 of these were postcranial, and three cranial. The thorax (ribs) was the most affected. Rib BFT are traditionally associated with unarmed pugilism and accident [62], thus these lesions could have been caused by either assault or perhaps post-mortem deposition of the bodies. There are slightly more rib lesions on the left side (10/8), a tendency that could indicate laterality by right-handed assailants. However, accident cannot be ruled out. There were no parry fractures of the forearm, associated with blocking of blows to the head. Cranial BFT included minor nasal/facial fractures (see Image 25), and a major maxillary peri-mortem blow dealt to the head of Individual 11 (Jesus Sanchez Cortes) is likely to have been something heavy and solid, perhaps a gun butt. Only individual 1 (Timoteo Mendieta Alcalá) showed both cranial GSW (1) and cranial BFT (1).

Only one SFT was noted, affecting the right scapula of Individual 22 (Ángel Viñas Díaz), indicative of a thin, long, tapering blade cutting through the coracoid process and the scapular spine (see Images 26 and 27). The presence of splintered yet attached bone fragments on the inferior aspect of the scapular spine indicates that the assault was superior-inferior, although the position of the victim at the time cannot of course be ascertained. The blade shape is triangular/rounded rather than flattened, and is consistent with M1871/93 Remington rolling block socket bayonets known to have been converted to fit the M1893 7 mm Mauser rifle – regularly used by the Spanish army – in the early 20th century [67,68].

Rios et al. (2014) have posited that many SCW victims may have been known to their executioners, and thus that their perceived misdoings may have affected the way in which they were treated or executed. In the current case, it should be noted that the individual with the most healing and peri mortem trauma – and seemingly beaten to death – was 67-year-old Jesus Sanches Cortez, who was not only a PSOE militant (like many others in the grave) but also a UGT treasurer and municipal judge.

11. Interpretation

Insofar as can be determined from osteological evidence, the Guadalajara individuals all died violently from GSW, BFT and SFT. The GSWs are consistent with both front-facing and *coup-de-grace* shots rendered from behind the victims. A number of different weapons were evidently used. The head and upper torso was particularly targeted, although bullets also hit the limbs and thorax. One individual was stabbed with a long, thin blade. The victims had previously suffered severe and often multiple blunt force traumas suggestive of repeated beatings and assaults over a period of weeks. Peri-mortem and healing BFT was often the only trauma visible: Jesus Sanchez Cortes sustained 27 blunt force traumas in the weeks before his death, and (at least) four

more at the time of death, including a massive impact that shattered his face and skull. Unless he (also) sustained osteologically invisible gunshot wounds, it thus seems likely that he was clubbed/beaten to death. The bodies were deposited in a mass grave, which had been dug in what was probably an intentionally aberrant orientation; the bodies were interred without apparent attention to detail, although two were interred in plain wooden coffins.

The records available suggest that these executions were officially sanctioned. They are thus similar to Rios et al.'s (2014) 'JCMG' group of official cemetery-buried executions, and contrasting against extrajudicial executions buried inside (ECMG) and outside (EOMG) cemetery locales. A greater proportion of the Guadalajara sample (95.8%) was affected than the pooled SCW group (86%), with some variability in the proportion of single (25.5/69%), double (30.4/54.2%) and triple (8.7/2.6%) cranial GSW. However, the key issue was whether or not the executions were officially sanctioned, which determined the preponderance of direction of fire. In both rural and cemetery extra-judicial cases, GSW was mainly back-front (70.7% and 61%), whereas judicial GSW were 70.7% front-back. This is evidently the distinction between firing squad executions and covert dispatch shootings to the back of the head, as also seen in death-squad killings in Croatia [63], Bosnia-Herzegovina [64], and WW2 Bosnia-Herzegovina and Daksa [10]. Guadalajara GSW was consistently to the front of the body except for the occipital and the dorsal aspects of the temporals/parietals (see Ref. [65]). The prevalence of postcranial GSW in the Rios et al. sample ranged from 55.1 to 70.4%; only 7/24 individuals in the Guadalajara sample (29.2%) were affected, of which 68.8% was in the cervical/thoracic vertebrae, ribs and shoulders and the remainder in the

appendicular skeleton. In the event of multiple cranial trauma, the dorsal shots were always secondary to the anterior shots, implying that the dorsal/lateral cranial GSW were *coups-de-grace*, secondary to the more randomised pattern [65]. The prevalence and distribution of GSW are shown in Image 28 (full body distribution), Image 29 (cranial GSW distribution) and Image 30 (orientation of cranial GSW)..

The Guadalajara group sees some BFT to the thorax and face at around the time of death – and indeed probably causing it in at least one case – in addition to 35 healing lesions to the ribs, forearms and face, all of which were sustained shortly before their executions. All of these lesions were sustained by only 5 individuals, giving weight to Rios et al.'s suggestion that personal acquaintance between executioners and executed – or different death squads – could potentially affect the nature



Image 26. Superior view of SFT to scapula of Individual 22 (Angel Viñas Dias).



Image 27. Inferior view of SFT to scapula of Individual 22 (Angel Viñas Dias).

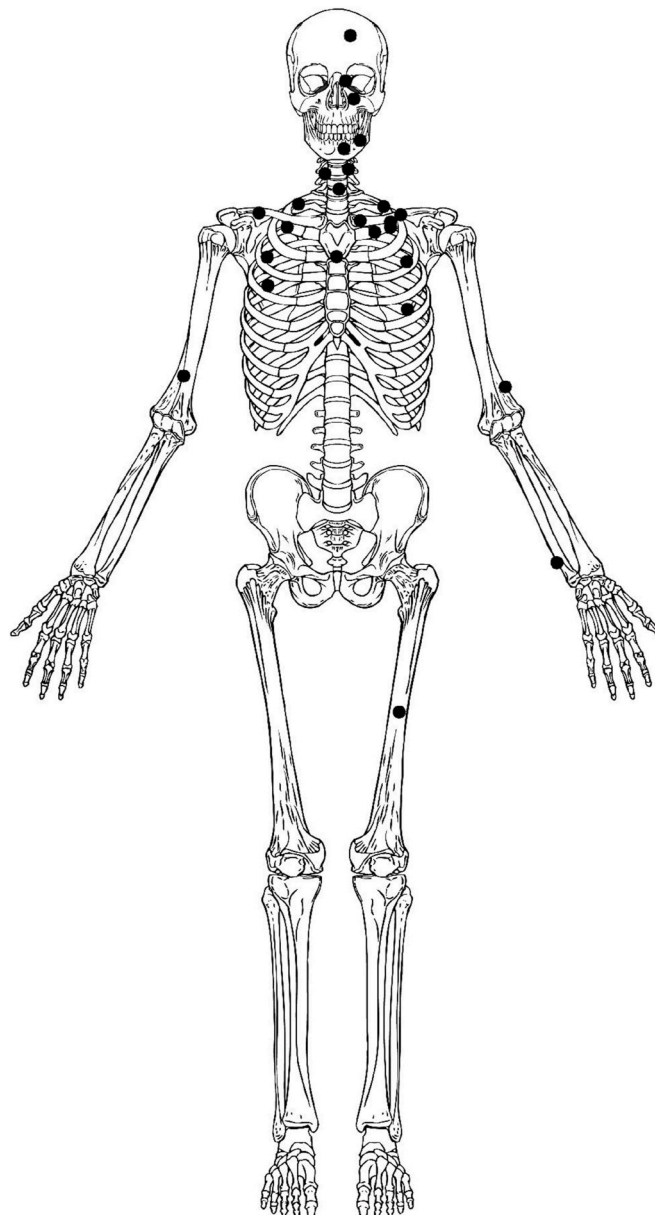


Image 28. Pooled GSW impact sites in the Guadalajara Sample (not including cervical GSW)²¹.

²¹ Shots affecting the neck have been omitted as they lie behind the mandibular body.

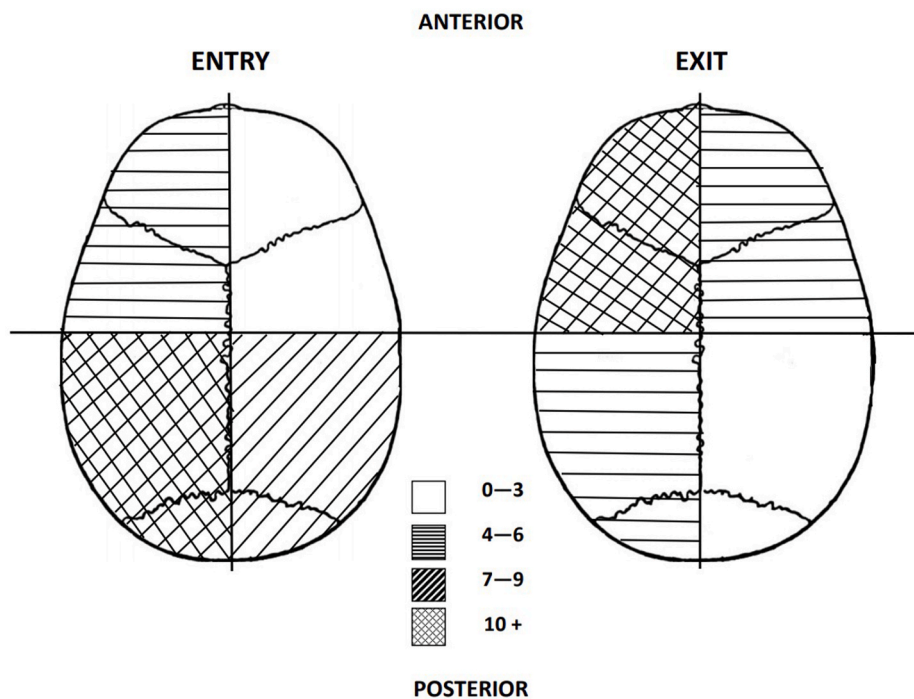


Image 29. Pooled GSW prevalence per cranial quadrant (vertical view).

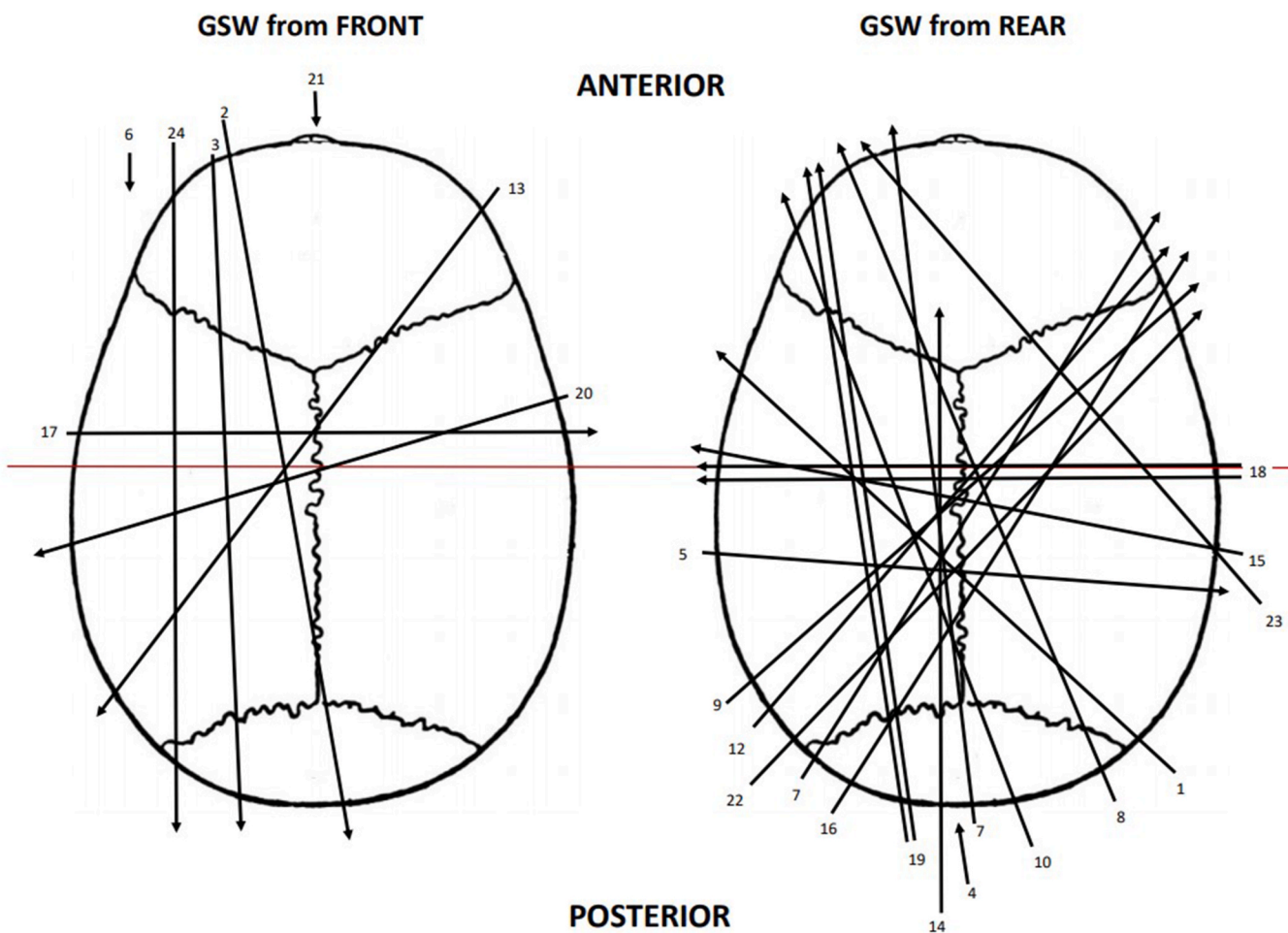


Image 30. Cranial GSW orientation anteriorly (left) and dorsally (right) in vertical view.

of their treatment and demise. As BFT was not noted for the comparative sample, it is impossible to assess how typical or otherwise this pattern may be.

12. Discussion

The Guadalajara sample adds to a growing collection of research concerning the nature of prisoner treatment and execution during the Spanish Civil War. The review of biological characteristics of the deceased assists in the refinement of ageing/sexing and stature assessment methods when compared to contemporary historical data, while the review of cultural characteristics and possessions adds something of a personal perspective to the lives of the deceased. Further, the assessment of peri-mortem traumas illustrates the nature of these individuals' execution, while healing lesions illustrate their treatment in the preceding days and weeks. About one fifth of the individuals displayed often extreme levels of healing BFT, indicative of assault that was sustained during incarceration, and perhaps motivated by political aims. Physical abuse appears to have worsened through time, with no BFTs in the earlier part of the sequence but increasing prevalence in the latter half of the group. Executions were primarily by gunshot that affected the whole frontal aspect of the body, followed up with single/double small-arms GSW at short range to the back/sides of the head and the neck. No such lesions were found lower in the thorax or the appendicular skeleton, indicating that these were perhaps coup-de-grace shots of severely wounded victims. While a firing squad cannot be conclusively demonstrated, evidence of bullet fragments and damage in nearby walls does suggest this to be a possibility.

13. Concluding remarks

Spanish attitudes towards the SCW can be illustrated by testimonials and casual remarks made by visitors to the gravesite during the excavation. The timbre of statements made by those whose antecedents were buried in the grave was sombre, even fearful: "my mother ... still remains afraid that if she writes something down, there may be repercussions should someone read it"²² wrote the grandson of one of the deceased. However, a visitor to the excavations who had no specific link to the grave made little of the SCW's human cost, declaring instead that

the events had taken place a long time ago, that there was little to be gained by digging up the dead, and that 'they' (i.e. the Guardia Civil, Falangist and civilian death squads) were just 'boys being boys'. This underscores the futility and unworkability of the *Pacto de Olvido*, for nothing will convince those favoured by Franco's rightist policies (and their descendants) that the murders committed in his name were anything other than just, while forty-five years of political pusillanimity have silenced generations destroyed by Franco's tyranny, and perpetuated it into the 21st century. Yet the middle ground, the generations who grew up after Franco and – perhaps most importantly – international opinion are less likely to accept the farragoes of legal circumventions and political obfuscations that characterise Spain's official attitude to the SCW, in favour of the material immediacy of bullet-ridden skeletons, smashed bones and poignant personal possessions [7,30]. Exhumations and analyses such as the foregoing can thus have a very real impact on Spain's official reluctance to face the recent past, over and above the positive healing effect of reuniting shattered families and damaged communities suffering the dual effects of state-sponsored homicide and the *Pacto de Olvido*.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.fsisy.2021.100156>.

Table 1
Identified Individuals and Biographical Details

	Grave 1 Biographical Details (identified individuals)
1	Timoteo Mendieta Alcalá. Aged 41. Butcher and plasterer. Married; 7 children. General secretary of Sacedón UGT.
2	Antonio Sierra Olivo. Aged 24. Brother of Ind. 5. No known militant connections.
3	Julián del Cerro Lite. Married 34 year-old from Zaragoza. UGT/PCE militant.
4	Benito Pinilla Dorado. Unmarried 21 year-old farmworker from Auñón, member of the PCE/UGT.
5	Tomás Sierra Olivo. Day labourer from Pastrana. Age 28. Brother of Ind.2. No known militant connections.
8	Victorino Díaz de la Randa. Married 33 year-old day labourer, born in Sayatón.
9	Francisco de Llera Díaz. Married 49 year-old day labourer, president of the Committee of the Frente Popular.
10	Pedro Guzmán Fernández. Married 36 year-old farmworker, UGT councillor/treasurer. Member of the <i>Carabineros</i> Corps during the war.
11	Jesus Sanchez Cortes. Married 67 year-old farmworker, PSOE militant, treasurer/municipal judge of local UGT group. Father of Ind. 12.
12	Constancio Sánchez Valero. Unmarried 28 year-old farmworker. Son of Jesus S. Cortes. Republican army lieutenant, PCE/UGT militant.
13	Andres Gayoso Sanchez. Married 54 year-old farmworker, PCE/UGT militant and mayor of Armuña de Tajuña.
14	Juan Ignacio Sánchez Polo. Married 55 year-old farmworker, UGT militant.
15	Juan Jose Eugenio Gabalen [Cabalea]. Married 37 year-old day labourer, born in Madrid, PCE/UGT militant.
16	Mateo Molina Cedron. Married 68 year-old day labourer. No militant connections.
20	Roman [Ramon] Adalid [Adalia] Moreno. Married 34 year-old farmworker, local PCE secretary & vice-president of the UGT.

(continued on next page)

²² Visitors book for the 2017 Guadalajara excavations; courtesy of the ARMH.

Table 1 (continued)

Grave 1 Biographical Details (identified individuals)	
22	Angel Vinas Dias. Married 31 year-old day labourer from Sacedon. Member of the Frente Popular; fought in the International Brigades.
23	Alfonso Alonso Agudo. Unmarried 32 year-old day labourer. UGT militant and Republican army captain.
24	Gregorio Florian Exposito. Married, 48 year-old farmworker, UGT militant, active in agrarian labour group.
Separate Graves Biographical Details	
1/9	Vicente Andrés Espliego. Twenty-eight year-old day labourer from Iriépal. Militant of the UGT/PCE.
1/10	Eugenio Molina Morato. Twenty-four year-old day labourer from Sacedón.
1/11	Jesús Gil Monje [Monge]. Unmarried 27 year-old labourer from Marchamalo, member of the UGT/PCE.
1/12	Crisantos Romo Corona. Widowed 69 year-old farmworker from Sacedón. PSOE councillor, UGT militant, president of the Frente Popular.

Table 1a
Identification, Age and Stature

Burial No.	Identity ¹	Arrested	Killed	Skeletal Age	Actual Age	Skeletal Stature ²	Stature (hist.)
1	Timoteo Mendieta Alcalá	11/9/39	15/11/39	35–45	41	1.68 m	–
2	Antonio Sierra Olivo	14/8/39	16/11/39	25–30	24	1.65 m	–
3	Julian del Cerro Lite	2/8/39	11/11/39	30–35	34	1.67 m	1.667 m (1939)
4	<i>Benito Pinilla Dorado</i>	29/8/39	11/11/39	20–25	21	1.64 m	1.65 m (1939)
5	Tomas Sierra Olivo	14/8/39	11/11/39	25–30	28	1.64 m	1.59 m (1939)
6	Unknown	–	–	30–40	–	1.70 m	–
7	Unknown	–	–	30–40	–	1.69 m	–
8	Victorino Diaz de Randa	3/8/39	10/11/39	25–35	33	1.65 m	1.615 m (1939)
9	Francisco de Llera Diaz	14/6/39	10/11/39	30–40	49	1.63 m	1.625 m (1939)
10	Pedro Guzman Fernandez	16/8/39	10/11/39	25–35	36	1.62 m	1.60 m (1939)
11	Jesus Sanchez Cortes	3/6/39	25/10/39	40–45	67	1.61 m	1.521 m (1939)
12	Constancio Sanchez Valero	3/6/39	25/10/39	20–25	28	1.70 m	1.63 m (1939)
13	Andres Gayoso Sanchez	3/6/39	25/10/39	40–50	54	1.70 m	–
14	<i>Juan Ignacio Sánchez Polo</i>	3/6/39	25/10/39	45–55	55	1.65 m	1.585 m (1939)
15	<i>Juan José Eugenio Cabalea</i>	3/6/39	25/10/39	30–35	37	1.65 m	1.615 m (1939)
16	<i>Mateo Molina Cedrón</i>	6/7/39	25/10/39	50–70	68	1.73 m	1.70 m (1939)
17	Unknown	–	–	35–50	–	1.74 m	–
18	Unknown	–	–	35–40	–	1.68 m	–
19	Unknown	–	–	40–50	–	1.69 m	–
20	Roman Adalid Moreno	26/7/39	20/10/39	30–40	34	1.62 m	1.578 m (1925)
21	Unknown	–	–	20–25	–	1.67 m	–
22	Ángel Viñas Díaz	27/6/39	4/10/39	25–35	31	1.76 m	1.75 m (1939)
23	Alfonso Alonso Agudo	May 5, 1939	26/7/39	25–30	32	1.65 m	1.61 m (1928)
24	Gregorio Florian Exposito	23/5/39	26/7/39	35–45	48	1.61 m	–
Sep. 9	Vicente Andrés Espliego	2/9/39	16/11/39	28–35	28	1.62 m	1.625 (1939)
Sep. 10	Eugenio Molina Morato	16/8/39	16/11/39	21–25	24	1.69 m	–
Sep. 11	Jesús Gil Monje	–	16/11/39	–	27	1.71 m	–
Sep. 12	Crisanto Romo Corona	7/7/39	16/11/39	(Old Age)	69	1.70 m	–

¹ Italics – no DNA; identity based upon historical and anthropological data.² ± 5 cm.Table 2
Cultural Information

Burial	Identity	Position	Oriented	Hands ^a	Belt	Shoes	Buttons	Other
1	Timoteo Mendieta Alcalá	Extended	NE	Sprawled	Present	Absent	1	Last body to be deposited, first to be excavated
2	Antonio Sierra Olivo	Extended	SW	Sprawled	Absent	Present	1	Metal zip on neck to sternum; cardigan?
3	Julian del Cerro Lite	Extended	SW	Sprawled	Absent	Present	0	Pipe-smoker's facet to LC-LP1; textile on thorax
4	<i>Benito Pinilla Dorado</i>	Extended	SW	By Sides	Absent	Present	0	Hands pronated
5	Tomas Sierra Olivo	Extended	NE	Sprawled	Present	Absent	3	Animal bone tobacco pipe in left breast pocket (?)
6	Unknown	Sprawled ^b	SW	Abducted	Absent	Present	0	–
7	Unknown	Extended	NE	By Sides	Present	Absent	6+	Plastic comb ^c ; textiles on L forearm; leather purse
8	Victoriano Diaz de Randa	Extended	SSW	Thigh/hip	Present	Present	10	–
9	Francisco de Llera Diaz	Extended	NE	By Sides	Present	Absent	7	–
10	Pedro Guzman Fernandez	Extended	SW	By Sides	Present	Absent	0	–
11	Jesus Sanchez Cortes	Extended	SW	Sprawled	Present	Absent	2	Textile on thorax; R side pipe-smoker's facet
12	Constancio Sanchez Valero	Extended	NE	Hip/by side	Present	Present	4+	Textile on left side of thorax
13	Andres Gayoso Sanchez	Extended	NE	By Sides	Present	Absent	2	Possible pipe-smokers facet (R)
14	<i>Juan Ignacio Sánchez Polo</i>	Extended	SW	Hip/by side	Present	Present	1	–
15	<i>Juan José Eugenio Cabalea</i>	Extended	SW	Hip/pelvis	Absent	Absent	1	–
16	<i>Mateo Molina Cedrón</i>	Extended	N	Abducted/hip	Present	Present	5	–
17	Unknown	Extended ^d	SW	Slightly abducted	Absent	Present	0	Remains of bullet; metal mandibular bridgework
18	Unknown	Extended ^e	SW	Neck/abducted	Absent	Absent	0	Beside coffin (Ind. 19); R side pipe-smokers facet
19	Unknown	Extended	NE	By Sides	Present	Present	0	In coffin
20	Roman Adalid Moreno	Extended	SW	Abducted	Present	Present	5	–
21	Unknown	Extended	NE	Abdomen/by side	Present	Absent	1	In coffin (171 cm long)
22	Ángel Viñas Díaz	Sprawled ^f	SW	Sprawled	Present	?Absent	3	–

(continued on next page)

Table 2 (continued)

Burial	Identity	Position	Oriented	Hands ^a	Belt	Shoes	Buttons	Other
23	Alfonso Alonso Agudo	Extended	NE	Abdomen/abducted	Present	Absent	1	–
24	Gregorio Florian Exposito	Extended	SW	Hip/by side	Present	Absent	0	First body to be deposited; last to be excavated
Sep 9	Vicente Andrés Espliego	Extended	E	On Pelvis	Absent	Present	0	Separate Grave (Coffin)
Sep 10	Eugenio Molina Morato	Extended	E	By Sides	Present	Present	0	Separate Grave (Coffin)
Sep 11	Jesús Gil Monje	Extended	E	Abdomen/hip	Present	Present	7	Separate Grave (Coffin)
Sep 12	Crisanto Romo Corona	Extended	E	Across Abdomen	Present	Present	2	Separate Grave (Coffin)

^a If two observations are made, the first observation refers to left hand, the second to the right.

^b Essentially extended, but legs and arms in disarray; head tipped back.

^c Marked “Garantie o Favorito o(?)”.

^d Whole body slanted down to its right, fitted in beside and above coffin for Individual 19.

^e Pressed into a small space alongside the coffin containing Individual 19.

^f Essentially extended, but legs and arms in disarray; head tipped back.

Table 3

Biological Information

Burial	Identity	Hypoplasia	AMTL	DJD	Other	Healed Trauma	Healing Trauma
1	Timoteo Mendieta Alcalá	None	None ^a	Spinal ^b	Peg ULM3	None	None
2	Antonio Sierra Olivo	Slight	None	None	Impacted LM3	Healed fracture to prox. toe phalanx	R rib periostitis
3	Julian del Cerro Lite	None	None	Spinal	Smoking facet	L5 Spondylolysis; os acromiale x2	None
4	<i>Benito Pinilla Dorado</i>	–	Mild	Spinal	M3s reduced/absent	None	None
5	Tomas Sierra Olivo	Moderate	None	Spinal	Unrupted LM3s	None	None
6	Unknown	Slight	Moderate	Spinal	Cartilag. ossification	None	None
7	Unknown	Marked	None	Mild	M3 Agensis x3	None	None
8	Victoriano Diaz de Randa	–	Marked	Spinal	Notable calculus	Healed gunshot trauma to left scapula	None
9	Francisco de Llera Diaz	–	Marked	Moderate	Rotator cuff disease	None	None
10	Pedro Guzman Fernandez	Marked	Moderate	Spinal	Rotator cuff disease	None	None
11	Jesus Sanchez Cortes	–	Extreme	Extreme	Lumbar wedging	Right toe phalanx; cranial base	25 ribs; MC5; ulna/ radius
12	Constancio Sanchez Valero	–	Moderate	Spinal	–	Bilateral os acromiale	None
13	Andres Gayoso Sanchez	Marked	Extreme	Moderate	Osteoma (11/7 mm)	None	T4 spine; 3 ribs
14	<i>Juan Ignacio Sánchez Polo</i>	–	Mild	Marked	Fused sacroiliac joints	3 L ribs; R 10th rib; L distal radius	3 R ribs
15	<i>Juan José Eugenio Cabalea</i>	–	Moderate	–	Metopic suture	None	None
16	<i>Mateo Molina Cedrón</i>	–	Extreme	Extreme ^c	Osteoma (4 mm)	L distal radius; L MC3 shaft; foot phalanx	R Prox Ulna/Radius
17	Unknown	–	Extreme	Marked	Ulnar styloid absent	Distal right radius	None
18	Unknown	–	Marked	Spinal	Metopic suture; HFT ^d	C1 Spondylolysis	None
19	Unknown	None	Mild ^e	Mild	Vastus notches	None	None
20	Roman Adalid Moreno	None	Moderate	Spinal	–	L foot phalanx; ?MT5	Left nasal
21	Unknown	Marked	Mild	Spinal	–	None	L scapula (?GSW)
22	Ángel Viñas Díaz	–	Marked+	Mild	Spina bifida occulta	–	None
23	Alfonso Alonso Agudo	–	Moderate	Mild	Fused ribs; metopic suture	Base of RMC1	None
24	Gregorio Florian Exposito	None	Marked +	Extreme	Extreme IVD	Right glenoid; ?L nasal; L styloid process	None
1/9 ^f	Vicente Andrés Espliego	None	–	Spinal	–	–	–
1/10	Eugenio Molina Morato	–	–	–	–	–	–
1/11	Jesús Gil Monje	–	–	–	Metopic suture	–	–
1/12	Crisanto Romo Corona	–	Extreme	Marked	Osteoporosis (?)	–	–

^a Mild: 1–3 teeth. Moderate 4–6 teeth. Marked 7–12 teeth. Extreme: 12+.

^b “Mild” refers to spinal and articular DJD; “spinal” is spinal only.

^c Multiple vertebral ankylosis, joint arthritis (inc. ankle, neck, elbows, shoulders) and sacro-iliac fusion.

^d *Hyperostosis frontalis interna* – intracranial (frontal) bone formation usually associated with age.

^e Impacted lower right M3.

^f 1/9-1/11: analyses carried out *in situ*.

Table 4

Peri-Mortem Trauma Distributions

Burial	Identity	LLEG	RLEG	LARM	RARM	LRIB	RRIB	LSHO	RSHO	VERT	FRO	FAC	MAN	LPAR	RPAR	OCC
1	Timoteo Mendieta Alcalá	GSW		GSW								BFT				GSW
2	Antonio Sierra Olivo										GSW					
3	Julian del Cerro Lite							GSW		GSW				GSW		
4	<i>Benito Pinilla Dorado</i>							GSW								GSW
5	Tomas Sierra Olivo								GSW ^a			BFT				
6	Unknown										GSW					
7	Unknown					BFT	BFT	?BFT			2GSW					
8						BFT	BFT		?GSW							GSW

(continued on next page)

Table 4 (continued)

Burial	Identity	LLEG	RLEG	LARM	RARM	LRIB	RRIB	LSHO	RSHO	VERT	FRO	FAC	MAN	LPAR	RPAR	OCC
9	Victoriano Diaz de Randa Francisco de Llera Diaz													GSW		
10	Pedro Guzman Fernandez		?BFT					?BFT	BFT							GSW
11	Jesus Sanchez Cortes							BFT	?BFT	BFT		BFT				
12	Constancio Sanchez Valero															GSW
13	Andres Gayoso Sanchez								?BFT		GSW					
14	Juan Ignacio Sánchez Polo			GSW		4BFT	3BFT		?GSW		GSW ^b					
15	Juan José Eugenio Cabalea															GSW ^c
16	Mateo Molina Cedrón															GSW
17	Unknown		?BFT											2GSW ^d		
18	Unknown														2GSW ^e	
19	Unknown							?BFT				GSW				GSW
20	Roman Adalid Moreno				GSW											GSW
21	Unknown												GSW ^f			
22	Ángel Viñas Díaz								SFT ^g							GSW
23	Alfonso Alonso Agudo					? GSW				? GSW						GSW
24	Gregorio Florian Exposito										GSW					
1/9	Vicente Andrés Espliego					? GSW	? GSW									
1/10	Eugenio Molina Morato															GSW
1/11	Jesús Gil Monje		? GSW					? GSW								GSW
1/12	Crisanto Romo Corona															? GSW

^a Also BFT to clavicle.

^b Very high – almost at bregma; exit wound c. lambda.

^c Very low - dorsal to mastoid process, at asterion

^d The first: mid left parietal to right temporal. The second: glancing ‘trough-like’ lesion from left-right parietal at skull apex.

^e 2 small-bore entry wounds almost exactly side by side, exiting on left temporal and parietals.

^f Passed through anterosuperiorly, and hit cervical spine.

^g Narrow dagger or rapier-like blade, passing through the coracoid and the scapular spine, from above.

Table 5
Bullet Hole Measurements

Burial	Diameter (mm)	Burial	Diameter (mm)	Burial	Diameter (mm)
1	7.52 × 9.28	9	c. 12 ²	18	7.7 × 8.6; 8.9 × 7.9
2	7.6 × 9.91	12	9.49 × 8.67	20	9.29 × 9.86
6	7.5 × 9.5	13	5 × 5	22	8.8 × 7.4
7	11.75 ² ; 8.52 ²	15	10.5 × 8.02		
8	12.8 × 9.0	17	c. 8 ² ; 8.9 ²		

Table 6
Summary of Postcranial Trauma Distributions

Total Postcranial Trauma: 40 Lesions							Total
	Limbs (7)		Trunk (33)				
	Leg	Arm	Thorax	Shoulder	Vertebrae		
GSW	2	3	3	6	2	16	
BFT	1	1	11	9	1	23	
SFT	0	0	0	1	0	1	
Total	3	4	14	16	3	40	

Table 7
Summary of Cranial Trauma Distributions

	Total Cranial Trauma: 32 Lesions						Total
	Skull Front (12)			Skull Sides (8)		Skull Rear (12)	
	Frontal	Facial	Mandible	L Parietal	R Parietal	Occipital	
GSW	7	0	2	4	4	12	29
BFT	0	3	0	0	0	0	3
Total	7	3	2	4	4	12	32

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