Identification of Social Status through Grave Goods Using a Biocultural Approach in Interpreting the Alpine Context of Borca Di Cadore, Belluno, Veneto, Italy (18th–19th Centuries)

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Abstract: The cemetery of the Church of Santi Simone e Giuda in Borca di Cadore (Belluno province, Veneto region, Italy) was excavated between 2021 and 2023 as part of an archaeological intervention. The excavation area yielded a total of 21 graves dating back to the 18th–19th century; this was intriguing due to the presence of grave goods and taphonomic indicators that allowed these burials to be interpreted as clothed burials. This contribution examines 14 of the 21 graves, representing the available sample considering preservation conditions. Fieldwork was carried out through close synergy between archaeological and anthropological methodologies, involving careful excavation to verify funerary rituals through taphonomic data analysis. Anthropological methods were applied to determine the biological profile of the individuals, while aspects related to their health status were investigated through paleopathological analyses. Data obtained from field and laboratory observations were cross-referenced with historical and anthropological-cultural data from bibliographic and archival research. Reconstructing the social status of the deceased within the burial context is crucial for understanding the social and cultural dynamics of past populations, achievable only through a biocultural approach integrating information from archaeology, cultural anthropology, and bioarchaeology. Modern burial contexts offer privileged realities due to abundant historical and anthropological-cultural data from bibliographic and archival research. Reconstructing the social status of the deceased within the burial context is crucial for understanding the social and cultural dynamics of past populations, achievable only through a biocultural approach integrating information from archaeology, cultural anthropology, and bioarchaeology. Modern burial contexts offer privileged realities due to abundant historical and anthropological-cultural documentation, allowing for a more precise contextualization of bioarchaeological findings with significant support from documentary sources. Studies applied to these periods closer to the present enable the continuous refinement of an investigative method attentive to the synergy of different aspects of biocultural research, enhancing the importance of this approach in reconstructing the life histories of populations.

Keywords: anthropology; archaeology; paleopathology; taphonomy; Alps; modern era

1. Introduction

Modern contexts have often been neglected by scientific research, with limited resources being directed towards more ancient contexts, which are favored for extensive excavations and detailed studies. This results in a compromised archaeological record and, in the frequent case of cemetery excavations, a compromised anthropological record. Restrictions often limit the recovery of complete individuals, leading to a skeletal sample that is frequently limited and sometimes fragmentary. Consequently, researchers tend to focus on better-preserved and more complete contexts. However, paying less attention to less complete contexts can result in the loss of valuable information, particularly in the case of modern contexts [1].

Archaeology and anthropology of the modern age differ in many aspects from those of ancient contexts [2–4]. The study of these contexts, closer to the contemporary era, is of...
great interest as the amount of sources available to researchers is undoubtedly impressive. In addition to the traditionally available historical sources such as chronicles, registers, and iconographies, there are also oral sources and first-hand testimonies that make it possible to interpret archaeological findings based on real-life experiences. This difference in the types of sources available necessarily leads to the need to approach research with a new perspective and method, based on interdisciplinarity, such as that of biocultural research.

In this work, we aim to study an 18th–19th-century cemetery by applying the biocultural approach. Starting with the historical and archaeological context, through the careful recovery of skeletal remains and meticulous anthropological study, we aim to identify status differences within the investigated population through grave goods and marks left on bones by particular clothing ornaments. The contributions of cultural anthropology and the history of costume are essential in this case for a proper interpretation of the findings, practices, and customs.

1.1. The Burial Rite in the Alpine Context

Each fundamental phase of the life cycle is marked by a rite of passage [5], which highlights the transition of a person from one social condition to another, or from one phase of the life cycle to the next. Death, in all human cultures, is one of the fundamental moments of an individual life cycle, and the rituals related to this transition are crucial for society to manage this crisis and, subsequently, restore the social equilibrium endangered by the disappearance of one of its members [6,7].

In the Catholic world, death is not considered the end of existence, but the first of the “nuovissimi” (judgment, heaven, hell) to which the soul is subjected once it has left earthly life. To be saved, one needed not only to live well but also to die well, and the ritual codified by the Church through pamphlets, booklets, and official clergy prescriptions are themes within which individuals could move to try to access a better post-mortem existence [8]. The prescription of rituals related to death is codified in the Rituale Romanum [9]; however, as always in cultures, manifestations of the same ritual can differ in certain aspects, making them characteristic of specific places and social groups [10]. Regarding funerals in the mountain villages of the Belluno area, they were characterized, until the early 20th century, as family rites performed by invitation and, in specific cases, rituals in which no one but the priest and the sacristan could participate. In addition to this, the environmental aspects of Dolomiti led to a management of death and its associated rituals that were significantly different from the official ones, especially in winter, with roads impassable even with sleds due to heavy snowfalls and villages sometimes too far from cemeteries [11,12].

Oral testimonies related to the preparation of the deceased for the wake and subsequent burial make it possible to identify some peculiarities found within the burials of the cemetery of Borca Di Cadore. Perusini [13] describes the ways in which the deceased were dressed, differing by sex and age class. The most interesting notes are the fact that all the deceased were given socks but not shoes and that it was customary to sew the shroud with a few stitches that were removed before placing the body in the coffin. Married women were dressed in a black dress or the same dress made for their wedding. Men were dressed in a dark suit, with just the vest, without a jacket [14,15]. From the 18th century, it was not uncommon to be buried in the clothes of religious orders or confraternities, a custom mainly found among the nobility and reported in testamentary dispositions [16].

1.2. Historical Background

The first record of the existence of a church dedicated to Saints Simon and Jude Thaddeus (also known as the church of S. Simon) in Borca Di Cadore, dates back to 1331. At that time, the church was dependent on the parish church of S. Vito, from which it was emancipated in 1694. On 7 July 1737, a landslide from Mount Antelao destroyed the church of Borca, the bell tower, the rectory, and many homes. The surrounding cemetery was also destroyed. For this reason, the governing body of the church of S. Simon first built a new
cemetery around the rural church of S. Lorenzo in Taulén, which temporarily served as the community church, and subsequently commissioned the construction of the new building to architect Domenico Schiavi. Construction began in 1738 and was completed in 1742. This new ecclesiastical building, located in Fusineles, where it still stands today, was also provided with a new cemetery, which, as usual, was established around it. The cemetery was expanded in 1830 to also accommodate the deceased from Cancia whose cemetery was permanently closed. The project included a single cemetery entrance located to the side of the church’s right lateral door. An expansion towards the church’s apse and the closure of the second entrance behind the choir were planned, as well as a separate space for unbaptized deceased children.

Archival sources report that within a few years, the burial area was exhausted, and in 1846 the municipality of Borca submitted a request for the construction of a new cemetery. Only in 1853 was the construction completed, and the cemetery was officially inspected and approved by engineer Serafini on December 20 of that year [17,18].

1.3. Archaeological Background

The cemetery area associated with the church of S. S. Simon and Jude whose existence was well hypothesized based on historical data, as previously highlighted, was identified in 2021 during the archaeological monitoring required by the competent superintendence in the context of public works for the installation of a new water purification system near a sector of the cemetery area pertinent to the church.

Preventive archaeological studies had already identified a particular level of risk for the area of the Church of Saints Simon and Jude. These studies highlighted that the archaeological potential of the area was linked not only to the place of worship but also to the presence of an important smelting furnace erected in 1430 and decommissioned in the 18th century before the church’s construction.

The site is located on the valley floor on the left side of the Boite stream. According to settlement models typical of mountainous environments, the valley floor was designated for productive activities directly connected to the exploitation of water resources, especially those that, due to the use of fire, were prudent to keep away from residential areas. The latter and the road system connecting them were situated on the middle slope, in an elevated position to ensure better sun exposure and to keep the settlements safe from the seasonal water stress of the Boite stream.

Therefore, the decision to build the church in this area is confirmed as almost “accidental,” or at least an exception, linked to the contingency created by one of the many landslides that have affected this territory over the centuries. This is evidenced by the limited chronological span of the cemetery’s use, which lasted only about a century.

The archaeological investigation was conducted within a trench running NW/SE, approximately 33 m long, corresponding to the route of the public works to be carried out near the church. The trench was adequately widened, up to about 3 m, to thoroughly investigate the funerary contexts that would be encountered. The cemetery area occupies the SE part of the trench, extending for about 10 m in length and preserved starting from about 50 cm below the road surface. Although trench excavation is highly limiting for understanding the planimetric development of the cemetery, an SE boundary was determined where a boundary wall exists, and a probable NW boundary was identified beyond grave 19. In this sector, some preserved negative contexts were identified, apparently not related to funerary use. Their functional significance is uncertain, but they are characterized by the absence of osteological remains and other artifacts attributable to burials (Figure 1).
Figure 1. The figure combines orthophotos of the portion of the cemetery area pertaining to the church of S.S. Simon and Jude, investigated through archaeological excavation. The orthophoto was
obtained through three-dimensional photogrammetric processing. The excavation trench plan highlights its position relative to the church, still in use by the community. The map of Italy shows the location of the Veneto region within Italy and the position of the municipality of Borca di Cadore within the Veneto region.

In the sector occupying the central and central-western part of the trench, for a length of about 12 m, the subsoil is completely reworked by numerous underground utilities, and the stratigraphic sequence is visible only in segments in the northeastern wall. In the northwestern end, for a length of about 8.70 m below the deposits related to the current road, there is a cobbled pavement emerging at about −20 cm from the road surface, which seals a non-funerary anthropogenic stratigraphic sequence but pertains to the repeated arrangements of the floor level and foundations of structures, likely connected to the preparation and various reconstructions of the perimeter wall of the northwestern part of the churchyard.

The archaeological deposit did not yield anthropic evidence predating the cemetery area. This area was divided into two phases based on the superimposition of some funerary contexts that locally impacted significant parts of previous burials, evidently no longer visible or lacking markers at the time of the deposition of more recent interments. The classes of “grave goods” materials found in association with the interred subjects are very limited and represented by a numerically small number of artifacts used over a broader diachronic span than historically attested in the cemetery under examination.

In the summary description of the excavation, the limits in acquiring data derived from a purely archaeological reading of the context are inherent, making the anthropological study presented here essential for reconstructing the historical context of this geographical area between the mid-18th and 19th centuries.

Anthropological investigations have thus allowed the verification of certain aspects related to the burial ritual used between the late 18th and late 19th centuries in the community of Borca di Cadore.

2. Materials and Methods

Within the portion of the cemetery area investigated, a total of 21 single burials and two areas dedicated to the relocation of skeletal remains from previous cemetery organizations were uncovered. The study focused on the individual graves and consisted of 17 adults from tombs 4 to 21.

The anthropological study of the burials necessarily began in the field through the examination of the skeletal remains to reconstruct the burial practices and the funerary rituals that accompanied them [19–23]. The AT 3.01 form, issued by the Central Institute for Cataloging and Documentation (ICCD), was used for collecting the taphonomic information [24].

The state of preservation of the skeletal remains was determined by selecting, among the methods known in the literature, the calculation of three indices: the Bone Representation Index (BRI) [25], the Anatomical Preservation Index (API) [26], and the Bone Quality Index (BQI) [27,28]. The BRI and API are quantitative methods. The first index (BRI) considers the representativeness of skeletal segments, that is, the frequency with which a given skeletal element can be found within the sample (a ratio expressed as a percentage between the sum of the bone elements recovered during excavation operations and the theoretical number of bones that should be present in the sample if all osteological material were preserved). The second (API) is defined as the ratio expressed as a percentage between the sum of the preservation values (C) attributed to each element or group of skeletal elements and the total number of bones in the skeleton. The BQI is a quantitative method that assesses the readability of bone surfaces and consists of the ratio between the unaltered cortical surface and the total surface of the bone element.

The sex determination was performed using the macroscopic method by identifying and observing the dimorphic morphological criteria of the skull and pelvis [19–23]. For
the estimation of skeletal age at death, the macroscopic method based on the observation of the degree of skeletal maturation determined by the completion of fusion between diaphysis and epiphyses was generally used. For skeletal remains with well-preserved diagnostic parts, we used the standardized macroscopic method by Meindl, Lovejoy, and Mensforth [29] for variations in the auricular surface of the ilium, and Burns’ method [30] for changes in the vertebral body related to age. Macroscopic analyses were conducted with the naked eye. Anomalies found in the bone tissue, identified as possible markers of occupational stress and pathologies, were compared with paleopathological literature [31–33].

For the study of skeletal indicators of occupational stress, which can provide useful information on the complex relationship between humans and their living environment, morphological markers of functional stress (MSM) were considered. Specifically, productive (p) and erosive (e) enthesopathies at muscle attachment sites most involved in functional activities [31] were evaluated. In both cases, four degrees of manifestation were assigned: absent alterations (0), mild (p1; e1), moderate (p2; e2), and severe (p3; e3).

The skeletal districts examined include the following: the scapula, clavicle, long bones of the upper limbs, hand phalanges, long bones of the lower limbs, calcaneus, and foot phalanges.

Subsequently, the analysis of degenerative markers of occupational stress (osteoarthritis) was conducted, focusing on the vertebral district. For the analysis, the method proposed by Sofaer Derevenski was utilized [34].

Regarding the analysis of markers such as accessory articular facets, reference was made to the list of occupational stress markers (MOS) formulated by Capasso et al. [32]. Modifications of this type were recorded solely based on their presence or absence.

The set of evidence uncovered during the excavation was documented through photographic capture. The photographs were subsequently processed using three-dimensional photogrammetric software Photometric 2009 and rendered as a three-dimensional model and as an orthophoto.

The observation of taphonomy, along with the finding of grave goods in some burials, allowed for the identification of particular characteristics that create distinctions within the examined sample, interpreted through anthropological, cultural, costume history, and historical sources as indicators of social status differentiation [35–39].

3. Results

The analysis of the skeletal representativity was calculated using the Bone Representation Index. The data analysis indicates that the most represented skeletal elements are the skull (52%), tibia (52%), and fibula (52%), followed by the radius, pelvis, femur, and calcaneus (41.1%). The least represented districts are the patella and sacrum (29.4%). The sternum is never present in the skeletal sample.

Regarding the API: 23% of individuals have an API > 50%, and 11.7% have an API between 50% and 40%.

For the calculation of the BQI, it was deemed appropriate to exclude class 1 (absent skeletal element). The results show that the cortical bone was fully preserved in 31.6% of the remains, with poorly readable bone elements being very scarce (0.2%). Analyzing the BQI for each skeletal element, it is noted that long bones, together with the skull, maintain the highest value of bone quality, resulting in the most readable bone types.

In conclusion, the assessment of the conservation state of the sample indicates good preservation of the bone sample and good readability of the cortical surface, although in many cases there was dispersal of anatomical portions due to the disturbance of deeper burials by new interments, especially in the center of the investigated cemetery area, which was more densely used.

Despite the long bones generally having high API and BQI, the epiphyseal portions are poorly represented, making it impossible to use metric methods for sex estimation.

The individuals from the single burials were interred on their backs, with an unconventional cranio-caudal orientation, deviating from the custom of burying the deceased
with their heads to the west and their feet to the east. Most of the skeletal remains were found oriented with the head to the south and feet to the north (graves 4, 6, 8, 9, 10, 11, 13, and 17), with graves 7 and 19 oriented southwest-northeast. Another group of burials had the opposite orientation, with heads to the north and feet to the south (graves 5, 14, and 15), with grave 18 oriented northwest-southeast and grave 20 oriented northeast-southwest. The remaining burials, graves 16 and 21, were traditionally oriented west-east.

All burials were in earthen pits with wooden coffin depositions. Due to the partial decomposition of the wooden elements constituting the burial coffins, numerous nails were found, often in secondary deposition. The only exception was grave 15, where nails were discovered still embedded within fragments of boards. In many cases, the planks forming the bottom and the sides of the coffins were preserved (graves 5, 6, 7, 8, 13, 15, 20). The mortise and tenon joints found between the boards of the burial coffins and nails indicate that the coffins were predominantly constructed using joinery techniques and that metal nails were probably used only to secure the cover boards or certain parts of the wooden structures.

Funerary anthropology observations were carried out on 17 of the 21 discovered burials. The uninvestigated burials were found in poor preservation conditions, making it impossible to collect data. The individuals were generally laid with their lower limbs extended. The arm positions varied: forearms slightly flexed with hands overlapping on the abdomen (graves 5, 7, 14, 18), arms crossed on the chest (grave 6), arms flexed on the chest with hands crossed on the clavicles (grave 8). Only the individual in grave 15 had the left arm with a slightly flexed forearm and hand on the abdomen, and the right arm fully extended along the side.

Once the taphonomic analysis of the same burials has been carried out, we can propose the primary nature of the depositions, that is based on the identification of the anatomical connections and the maintenance of the original anatomical positions, and the presence of decomposition in a void space supported by the presence of the coffins.

The feet of individuals in graves 14, 15, 16, and 20 were found in close anatomical connection, maintaining the shape of the arch. This way of decomposition suggests the presence of a tightly binding element made of a material resistant to decomposition.

The presence of this compression during the decomposition of the soft tissues allowed the maintenance of the anatomical shape foot. Through the mechanism of delayed filling of empty spaces by sediment infiltration, it prevented the dislocation of skeletal elements at the bottom of the burial container.

The taphonomic data for the individual sepultures are summarized in Table 1.

The sample consists of three male individuals and five female individuals, while for the remaining nine it was not possible to determine the sex due to the poor preservation of diagnostic parts. All the individuals of the sample are adult. It was possible to precisely estimate the age in only three cases (grave 4: 20–29 years, grave 8: 30–34 years, grave 18: 40–44 years).

Observations of the skeletal remains revealed a significant number of pathological conditions affecting the skull, teeth, and axial skeleton. Regarding dental health, the findings included caries, tartar, crown wear, abscesses, and antemortem tooth loss, with significant cases such as grave 5, where the female individual's mandible was completely edentulous.
Table 1. Summary of taphonomic analysis for each individual burial.

<table>
<thead>
<tr>
<th>Grave</th>
<th>US</th>
<th>Sex</th>
<th>Age</th>
<th>MNI</th>
<th>Burial Structure</th>
<th>Deposition</th>
<th>Decubitus</th>
<th>Compressions</th>
<th>Orientation</th>
<th>Decomposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>50</td>
<td>M</td>
<td>20–29</td>
<td>1</td>
<td>Earthen pit with wooden coffin deposition</td>
<td>Primary</td>
<td>Dorsal</td>
<td>On the shoulder girdle</td>
<td>S-N</td>
<td>Void-space</td>
</tr>
<tr>
<td>5</td>
<td>54</td>
<td>F</td>
<td>AD</td>
<td>1</td>
<td>Earthen pit with wooden coffin deposition</td>
<td>Primary</td>
<td>Dorsal</td>
<td>On the shoulder girdle</td>
<td>N-S</td>
<td>Void-space</td>
</tr>
<tr>
<td>6</td>
<td>56</td>
<td>F</td>
<td>AD</td>
<td>1</td>
<td>Earthen pit with wooden coffin deposition</td>
<td>Primary</td>
<td>Dorsal</td>
<td>On the shoulder girdle</td>
<td>S-N</td>
<td>Void-space</td>
</tr>
<tr>
<td>8</td>
<td>73</td>
<td>F</td>
<td>30–34</td>
<td>1</td>
<td>Earthen pit with wooden coffin deposition</td>
<td>Primary</td>
<td>Dorsal</td>
<td>On the shoulder girdle</td>
<td>S-N</td>
<td>Void-space</td>
</tr>
<tr>
<td>9</td>
<td>90</td>
<td>ND</td>
<td>AD</td>
<td>1</td>
<td>Earthen pit with wooden coffin deposition</td>
<td>Primary</td>
<td>Dorsal</td>
<td>NR</td>
<td>S-N</td>
<td>Void-space</td>
</tr>
<tr>
<td>10</td>
<td>94</td>
<td>ND</td>
<td>AD</td>
<td>1</td>
<td>Earthen pit with wooden coffin deposition</td>
<td>Primary</td>
<td>Dorsal</td>
<td>NR</td>
<td>S-N</td>
<td>Void-space</td>
</tr>
<tr>
<td>11</td>
<td>96</td>
<td>F</td>
<td>AD</td>
<td>1</td>
<td>Earthen pit with wooden coffin deposition</td>
<td>Primary</td>
<td>Dorsal</td>
<td>NR</td>
<td>S-N</td>
<td>Void-space</td>
</tr>
<tr>
<td>13</td>
<td>102</td>
<td>ND</td>
<td>AD</td>
<td>1</td>
<td>Earthen pit with wooden coffin deposition</td>
<td>Primary</td>
<td>Dorsal</td>
<td>NR</td>
<td>S-N</td>
<td>Void-space</td>
</tr>
<tr>
<td>14</td>
<td>104</td>
<td>M</td>
<td>AD</td>
<td>1</td>
<td>Earthen pit with wooden coffin deposition</td>
<td>Primary</td>
<td>Dorsal</td>
<td>On the shoulder girdle</td>
<td>N-S</td>
<td>Void-space</td>
</tr>
<tr>
<td>15</td>
<td>40</td>
<td>M</td>
<td>AD</td>
<td>1</td>
<td>Earthen pit with wooden coffin deposition</td>
<td>Primary</td>
<td>Dorsal</td>
<td>On the shoulder girdle and arms</td>
<td>N-S</td>
<td>Void-space</td>
</tr>
<tr>
<td>16</td>
<td>113</td>
<td>ND</td>
<td>AD</td>
<td>1</td>
<td>Earthen pit with wooden coffin deposition</td>
<td>Primary</td>
<td>Dorsal</td>
<td>On the shoulder girdle</td>
<td>E-W</td>
<td>Void-space</td>
</tr>
<tr>
<td>17</td>
<td>116</td>
<td>ND</td>
<td>AD</td>
<td>1</td>
<td>Earthen pit with wooden coffin deposition</td>
<td>Primary</td>
<td>Dorsal</td>
<td>NR</td>
<td>S-N</td>
<td>Void-space</td>
</tr>
<tr>
<td>Grave</td>
<td>US</td>
<td>Sex</td>
<td>Age</td>
<td>MNI</td>
<td>Burial Structure</td>
<td>Deposition</td>
<td>Decubitus</td>
<td>Compressions</td>
<td>Orientation</td>
<td>Decomposition</td>
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<tr>
<td>18</td>
<td>120</td>
<td>F</td>
<td>20–29</td>
<td>1</td>
<td>Earthen pit with wooden coffin deposition</td>
<td>Primary</td>
<td>Dorsal</td>
<td>NR</td>
<td>NW-SE</td>
<td>Void-space</td>
</tr>
<tr>
<td>19</td>
<td>126</td>
<td>ND</td>
<td>AD</td>
<td>1</td>
<td>Earthen pit with wooden coffin deposition</td>
<td>Primary</td>
<td>Dorsal</td>
<td>NR</td>
<td>SW-NE</td>
<td>Void-space</td>
</tr>
<tr>
<td>20</td>
<td>112</td>
<td>ND</td>
<td>AD</td>
<td>1</td>
<td>Earthen pit with wooden coffin deposition</td>
<td>Primary</td>
<td>Dorsal</td>
<td>On the shoulder girdle</td>
<td>NE-SW</td>
<td>Void-space</td>
</tr>
<tr>
<td>21</td>
<td>130</td>
<td>ND</td>
<td>AD</td>
<td>1</td>
<td>Earthen pit with wooden coffin deposition</td>
<td>Primary</td>
<td>Dorsal</td>
<td>ND</td>
<td>W-E</td>
<td>Void-space</td>
</tr>
</tbody>
</table>

M, male; F, female; ND, not determinable; NR, not recovered; AD, adult.
On the neurocranium, porosities were found on both the inner and outer tables. Two individuals exhibit cortical bone thickening, in one case accompanied by the presence of serpens endocrania and deep impressions of the meningeal arteries. The individual from grave 16 has an osteoma on the left frontal bone [40–45].

The pathologies recovered for the individual sepultures are summarized in Table 2.

Table 2. Summary of pathologies recovered in individual burial.

<table>
<thead>
<tr>
<th>Grave</th>
<th>Sex</th>
<th>Age</th>
<th>Pathologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>M</td>
<td>20–29</td>
<td>Tooth loss, Abscess, Caries, Dental calculus, Dental wear, Endocranial porosity, Deep impressions of the meningeal arteries</td>
</tr>
<tr>
<td>5</td>
<td>F</td>
<td>AD</td>
<td>Edentulous mandible, Dental wear on incisors, Serpens endocrania, Deep impressions of the meningeal arteries, Cranial vault thickening, Cribra cranii, Vertebral osteoarthritis on thoracic vertebrae</td>
</tr>
<tr>
<td>6</td>
<td>F</td>
<td>AD</td>
<td>Caries, Dental wear, Dental calculus, Osteoarthritis on fingers</td>
</tr>
<tr>
<td>8</td>
<td>F</td>
<td>30–34</td>
<td>Serpens endocrania, Deep impressions of the meningeal arteries, Vertebral osteoarthritis on thoracic vertebrae</td>
</tr>
<tr>
<td>11</td>
<td>F</td>
<td>AD</td>
<td>Tooth loss, Dental wear, Deep impressions of the meningeal arteries</td>
</tr>
<tr>
<td>13</td>
<td>ND</td>
<td>AD</td>
<td>NR</td>
</tr>
<tr>
<td>14</td>
<td>M</td>
<td>AD</td>
<td>Dental calculus, Cranial vault thickening, Deep impressions of the meningeal arteries, Cribra cranii</td>
</tr>
<tr>
<td>15</td>
<td>M</td>
<td>AD</td>
<td>Dental calculus, Caries, Dental wear, Deep impressions of the meningeal arteries, Paranasal sinus cysts on left side, Vertebral osteoarthritis on thoracic vertebrae</td>
</tr>
<tr>
<td>16</td>
<td>F</td>
<td>AD</td>
<td>Dental calculus, Caries, Tooth loss, Button osteoma on the left frontal bone, Traumatic ossification of the 3rd and 2nd phalanx of the last left toe</td>
</tr>
<tr>
<td>18</td>
<td>F</td>
<td>40–44</td>
<td>Osteoarthritis on fingers, Osteoarthritis of hip joint</td>
</tr>
</tbody>
</table>

M, male; F, female; AD, adult; NR, not recovered.

Below is the photographic documentation of the most significant bone alterations found, starting from the skull and ending with the lower limbs (Figure 2).
Figure 2. The most significant bone alterations found: caries (A–C), antemortem tooth loss (D), insertion of the costoclavicular ligament (E), insertion of the biceps brachii tendon on the radial tuberosity (F), insertion of the triceps brachii on the olecranon of the ulna (G), palmar and dorsal interossei muscles (H), eburnation of the femoral head and flattening of the corresponding acetabular cavity in individual from grave 8 (I, N), Poirier’s facets from grave 15 (L, M), plantar and dorsal interossei muscles (O), fusion of the second and third metatarsals of traumatic origin (P).

The good representativity of the bones of the shoulder girdle and limbs, combined with their overall good preservation, has facilitated the study of activity indicators whose etiology can be correlated with the individuals’ lifestyles. This analysis has allowed the identification of the skeletal districts to be subjected to more intense biomechanical activity. Alterations attributable to enthesopathies were observed in 47% of individuals. The skeletal districts that exhibit the most intense biomechanical activity were found to be the upper limbs and the calcaneus.

In particular, the presence of morphological stress markers (MSM) or entheseal changes on the humerus (biceps brachii and triceps brachii), on the radius and ulna (insertion on the radius and ulna of the interosseous membrane, insertion of the biceps brachii tendon...
on the radial tuberosity, insertion of the triceps brachii on the olecranon of the ulna), on the clavicle (insertion of the costoclavicular ligament), and on the scapula (insertion of the deltoid) were revealed. MSM were also observed on the lower limbs, with notable evidence on the linea aspera of the femur (insertion of the adductor magnus), on the tibia (insertion of the soleus muscle), and on the patella where, in grave 14, a bone spur was found at the insertion of the patellar ligament. Additionally, marked muscle insertions were found on the phalanges of the hands (palmar and dorsal interossei muscles) and feet (plantar and dorsal interossei muscles), along with the formation of bone spurs at the insertion of the triceps surae muscle. Furthermore, the articular facets of the costal tubercle of four individuals exhibited osteophytosis at the insertion of the lateral costotransverse ligament.

The development and localization of occupational stress markers are similar in both sexes. Arthropathies were detected in 35.2% of individuals, with a higher frequency of osteoarthritis in the vertebral column (17.6%). In the case of the individual from grave 5, in addition to the presence of marginal lipping, Schmorl’s nodes were found on the upper thoracic and lower lumbar vertebrae. The only instance of hip osteoarthritis was found in a mature female individual (grave 18) that exhibited eburnation of the femoral head and flattening of the corresponding acetabular cavity. The distribution of arthritic lesions is more prevalent in females than in males.

Accessory articular facets are also uniformly present throughout the osteological sample and were found at the level of the shoulder girdle and lower limbs. Specifically, there was an antero-inferior extension of the sternal auricular facet of the clavicle, Poirier’s facets, and squatting facets (Charles’ facet and squatting facets of the tibia).

The excavation revealed the presence of grave goods and elements related to clothing in some burials.

Regarding clothing-related elements, buttons made of both bone and metal were found. The presence of green stains on ribs, scapulae, clavicles, pelvis, and forearms indicated the presence of clothing even in cases where buttons were not preserved. Of particular interest was the discovery of fragments of metal inserts, likely embedded in fabric. The female individual in grave 8 (Figure 3) had metallic residues on the spine of the scapula, resembling a thin thread forming a woven pattern.

In addition to clothing-related elements, grave goods were found in five graves (graves 6, 8, 14, 15, and 18). Specifically, rings were discovered in female graves as well as two rosaries with medallions, one of which had blue glass beads.

With the examined sample, the individual from grave 15 represents a unique case among those found in the cemetery (Figure 4).

This is an adult male. The dental condition is characterized by a lower amount of tartar compared to the other individuals, the absence of cavities, and the presence of significant crown wear on teeth. The appendicular skeleton exhibits marginal lipping on the thoracic vertebrae, well-developed thigh muscles, Poirier’s facets, Charles’ facets, and tibial squatting facets.

This individual also stood out within the group of studied inhumations regarding clothing and grave goods. They exhibited a large amount of residual metal traces on various skeletal regions: the right hand, clavicle, atlas vertebra, and skull. Notably, a metal mesh was found on the skull, preserved around the nasal opening and the maxillary and zygomatic bones. Fragments of the same metal mesh, along with remnants of fabric, were preserved on the squamous part of the temporal bone between the acoustic meatus and the mastoid process.
Figure 3. The figure shows the skeletal elements with metal imprints from grave 8 and their relative positioning.
Figure 4. The figure shows the skeletal elements with metal imprints from grave 15 and their relatives positioning.

4. Discussion

The discussion of historical and cultural anthropological data allows for a deeper understanding of paleopathological and taphonomical data.
After observations and interpretations in the field, we can propose that the significant number of compressions found on the skeletal remains at the shoulder and pelvic girdle levels, as well as the common finding of the head of the interred hyperflexed on the shoulder or chest, indicates the use of very narrow-sided coffins, likely due to the habit of digging burial pits not particularly wide because of the hard terrain in the area, especially difficult to dig in winter when it is frozen.

The evaluation of the preservation state of the bone remains highlighted an uneven representativity of the skeletal finds, likely due to the intensive reuse of a limited burial space, as also documented by historical sources, leading to an unintentional anthropogenic selection. However, a good degree of preservation was observed both quantitatively and qualitatively in districts such as the skull, upper limbs, and lower limbs.

In the distribution of MSM, a higher incidence was noted in the upper limbs; within the lower limb, the most affected district was the calcaneus.

It was found that the most stressed muscle groups and tendon insertions in the upper limb are the deltoid muscle, triceps brachii, biceps brachii, flexor pollicis longus, and flexor digitorum profundus. These muscles are associated with movements of elevation, lowering, and circumduction of the forearm, involved in repeated movements of flexion, extension, pronation, supination, and finger flexion [46].

The adductor magnus, soleus, patellar ligament, and Achilles tendon are the muscles most involved in the lower limb, indicating engagement in ambulatory movements [46].

Activity indicators are distributed fairly evenly between the sexes, although there is a slightly higher percentage of arthropathies in females. This suggests there was no marked division of labor between the sexes, as both performed activities that involved significant muscle stress.

At the spinal level, arthropathies were found with greater involvement of the thoracic region, with lesions concentrated at the body level. These lesions are not strongly associated with a high incidence of Schmorl’s nodes, which were found in only one individual.

The distribution of arthropathies in the thoracic vertebrae could be related to load-bearing stress.

The presence of accessory articular facets confirms the pattern indicated by the presence of MSM. The presence of clavicular facets is correlated in the literature with extensive movements of the shoulder complex, involving the sternoclavicular joint, and is identified as the result of a force directed inferiorly and posteriorly to the lateral end of the clavicle. However, the high frequency of this trait and its association with age make it an unreliable indicator in mature individuals. Regarding Poirier’s facets and squatting facets, the former are believed to be associated with sedentary occupations that involve prolonged sitting with flexed knees on a low seat, while the latter appear to be linked to the habit of walking and sitting for extended periods with the foot in dorsiflexion [47–51].

The overall picture of activity indicators, according to some bibliographic sources, could suggest that the investigated osteological sample belongs to the lower socioeconomic stratum of the social structure also underscored by the uniform positioning of individuals within the cemetery and the homogeneity of their health status, which shows no differentiation among the subjects.

This social stratum in Cadore, as well as throughout the Venetian Alps, exhibited diverse occupational engagements. A segment of the population was involved in agro-pastoral activities, while others were engaged in manufacturing activities primarily related to the exploitation of forest resources, mining, and work that required migration [52,53].

Agricultural activities were predominantly managed by women. They were responsible for overseeing the vegetative cycle of various crops that required different cultivation sites based on altitude and ecology, in accordance with the specific characteristics of land ownership in this area, which were marked by a synergy of communal holdings (the so-called “regole”) and directly managed micro-properties. Extraction activities, including the presence of miners, smelters, and blacksmiths, as well as those related to the wood supply chain, such as cutters, charcoal burners, and rafters, were predominantly male
occupations [54]. However, it is important to highlight that extractive and mining activities in the 18th and 19th centuries experienced a severe crisis and became a minor sector in terms of employment. This manufacturing crisis is evident in Borca di Cadore, where the most important smelting furnace in the area was closed a few years before the construction of the church as reported above. These types of works activities are evidenced by the robustness of the recovered female skeletons, with pronounced muscle insertions in the arms and legs indicating a habitual engagement in heavy and repetitive work involving the lifting and lowering of limbs. Similarly, the male skeletons display features related to activities that required intensive use of the arms and back. The development of the musculature in the lower limbs also suggests a routine of long uphill walks in hard shoes, as indicated by the presence of osteoarthritis in the toes and the discovery of a traumatic ossification between the second and third metatarsal bones in the individual from grave 5, supporting the hypothesis of guiding raft convoys with a pole [31–33].

The recovery of grave goods and clothing ornaments was crucial, as they indicate the social status differences present even within the lower strata of the population, highlighting the presence of micro-stratifications that must be considered for an adequate understanding of the contexts.

The style of popular clothing boasts a long history of studies dating back to the 16th century, but it was only in the 19th century that these studies became systematic and reliable, thanks to the field of ethnological science.

The differences in clothing styles between the affluent and the lower classes are minimal regarding the cut of the garment but pronounced in the refinement of the raw materials used for their construction and, notably, in the materials used for decorations and trimmings on women’s clothing. Specifically, the style of men’s clothing remained largely unchanged between the 18th and 19th centuries, at least for the upper part. Costume historians divide men’s clothing into traditional attire (comprising a shirt, waistcoat, jacket, knee-length breeches, and woolen stockings) and modern attire, which replaces the traditional knee-length breeches with long trousers, identified as an import from across the Alps by itinerant workers and seasonal migrants. In contrast, women’s popular clothing underwent significant changes in the bodice, which in the 18th century was laced at the front with ribbons that were replaced by metal hooks in the following century. Generally, descriptions of the attire note the use of metal buttons for men’s jackets and waistcoats, while women’s clothing featured metal eyelets for threading laces to tighten the bodices and metal hooks for fastening bodices and closing jackets. For both men’s and women’s shirts, the use of wooden or bone buttons is documented [14]. As mentioned, the differences between the garments of the lower classes and those of the affluent are not due to different types of attire worn by the various social classes. Instead, attention should be given to the use of finer fabrics, double-breasted waistcoats instead of simple single-buttoned waistcoats, and, for women’s clothing, decorations made from precious materials, such as gold or silver thread trimmings for bodices, instead of fabric trimmings that characterized the clothing of the lower and peasant classes [14,15,35–39].

Based on these descriptions the discovery of metal traces on bones can be interpreted as the remnants of buttons, hooks, and bodice decorations. In burials where clothing elements were found, it is possible to define a differentiation of the findings based on sex: metallic buttons were discovered in the male burials (graves 4 and 15), while the only bone button found was associated with the female burial in grave 8.

In addition to a differentiation based on gender, it is possible to hypothesize the presence of social stratification among the individuals buried in the cemetery of Borca Di Cadore, inferred from the presence of valuable elements in the clothing and the presence of grave goods in some burials.

The female skeletons that were recovered were the only ones accompanied by rings (graves 8 and 18), with one exceptional case of three rings for a single individual (grave 6). The custom until the early 20th century of using only the wedding ring for the bride could suggest that these female individuals belonged to the status of married women. It is also
noteworthy that in a predominantly peasant society or one characterized by small artisans with limited economic resources, jewelry was family property commonly bequeathed to daughters, granddaughters or daughters-in-law. Burial with a ring, while indicating a strong emphasis by these individuals on identifying with the social role of bride and/or wife, also suggests a possible higher economic status compared to the general population, which made it feasible to be buried with a precious item [14].

Moreover, in the case of grave 8, the interment of the female subject with a ring and a glass rosary, along with the discovery of metal threads on the scapula likely from the trimmings decorating the bodice of her dress, indicates a marked difference in social status.

This is further evidenced by the possibility to purchase a valuable item such as a rosary with colored glass beads, likely originating from Venice. The strong ties between Cadore and Venice are well documented, characterized by continuous migrations and extensive trade between this region and the lagoon city [52–57].

Similarly, the female individual from grave 6 presented an unusual abundance of jewelry accompanying her in death. One possible hypothesis for the unusual presence of so many rings could be that the buried woman worked as a wet nurse. For noble and upper-middle-class families, it was customary, in the not uncommon case of employing a wet nurse, to provide her with clothing and jewelry to showcase the family’s status. Once her duties were fulfilled, the wet nurse would bring back what she had been given, significantly contributing to her own family’s wealth [14].

Another case of particular interest is the male interment in grave 15. The discovery of two rows of three buttons positioned parallel on the torso makes it likely that the man was buried wearing a double-breasted waistcoat rather than the usual single-buttoned waistcoat commonly used among the peasant population. The impression found on the sternal end of the clavicle suggests the presence of a metal ring traditionally used to fasten the neckerchief worn by men [14]. The presence of metallic net-like decorations on a fabric covering the splanchnocranium, with edges closed behind the nape, as indicated by the metal impressions found on the mandibular rami, mastoid processes, occipital bone, and atlas, has no iconographic or documentary parallels and remains unique in archaeological findings of modern-era burials. Additionally, the presence of a rosary with a medallion as part of the grave goods may suggest that the deceased enjoyed a special status within the community of Borca Di Cadore.

Contextualizing the finding at Borca di Cadore through precise archaeological comparisons is challenging due to the limited literature available for the Italian landscape. The modern age currently suffers from a scarcity of scientific and methodological research on cemetery contexts, a situation similar to that of medieval archaeology until the 1950s in England (e.g., Warram Percy) and the 1960s in Italy (e.g., Bognetti for Castelserpio and Torcello). However, some recent studies provide osteological and ritual data on the modern age. From a paleopathological and biocultural perspective, the work by Larentis and colleagues [58] highlighted the nutritional deficiencies of a large group of non-adults from a context in the eastern Alpine arc, likely related to the peasant revolt of the first half of the 16th century [59]. The same research group conducted analyses that defined the funerary rituals of the modern age in alpine contexts of western Italy [60–62] and central Italy [63], laying the groundwork for a comparative study to which this contribution is also added.

5. Conclusions

In this work, data related to the possible identification of the social status of some of the 17 individuals buried in the 18th–19th-century cemetery of Borca Di Cadore have been discussed.

Only the application of a biocultural approach to the study of the cemetery context of Borca di Cadore has made it possible to identify the social micro-stratifications within the investigated population. This approach allows us to propose the belonging of five burials to a higher social stratum within the Borca di Cadore community, characterized by the presence of specific clothing and grave goods.
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