THE WATERLOO SOLDIER
AN ARCHAEOLOGICAL INVESTIGATION
AT THE HEART OF THE CONFLICT
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COVER
Ken Dethier & Aude Van Driessche
Prior to the construction of the new 3 hectare car park planned during the bicentenary arrangements, the Archaeology Service (SPW-DG04/Heritage Department) conducted a rescue archaeology operation consisting of opening up trial trenches 6.5ft wide by more than 30ft long, across the entirety of the 300,000 ft² site. This operation resulted in the discovery of a skeleton, located 1,600ft from the Lion’s Mound, or, more specifically, in the D39 trench, whereas the other 119 trenches yielded negative results. This was exactly the place in 1815, at seven o’clock in the morning, (or four hours before the start of the battle), where the rear Allied lines were located, several hundred yards from the ambulance which had been set up at the Mont-Saint-Jean farmhouse and in proximity to the Dutch-Belgian troops, and the troops from Nassau, Hanover - including the King’s German Legion - and Brunswick (Damamme, 2003, p. 199-217).

From the very beginning of the dig, the examination of the skeleton revealed the presence of a lead ball in the area of the right lung, leaving little doubt as to the cause of death and the supposition that the victim belonged to one of the army corps who had fought in the battle of June the 18th. The next step was to try to find out as much as possible about this soldier’s personal story and the circumstances of his death.

This booklet contains all the details of the archaeological investigation, the conclusions that were drawn from it, and the questions which we have yet to answer, and probably never will...
2. THE SKELETON

2.1. Anthropological analysis

The skeleton was discovered 80cm beneath the modern day surface, inside a layer of colluvium which had accumulated for over a century due to erosion from intensive agriculture. This gradual sedimentation protected the body from damage by ploughs, which however, slightly shifted some of the bones when the colluvial layer was still thin. The proximity of the very acidic topsoil also contributed to making some alteration to the bones. And lastly, the skeleton was slightly disturbed on its discovery, the skull being fractured by the shovel of the digger used to excavate the trenches. The skeleton is well preserved as a whole, even if some bones are missing, and, considering that no traces of amputation or trauma were observed – while without being able to completely exclude this possibility - the state it was found in seems to be due solely to the conditions of burial and discovery already mentioned. This is the case for most of the skull, of which only a few fragments are preserved, and also for the femur, left patella, ribs and also the bones of the feet and hands. The skull, the knee and the left foot have been affected by the digger’s shovel, but this does not seem to be the case for the right foot and hands, which were rather disturbed by ploughing.

The skeleton is lying on its back and the shoulders are free. The pelvis and legs are slightly tilted to the left and the torso is slightly bent to the right. The arms are bent and lying away from the body, the right arm at a right angle and the left at an obtuse angle. The left hand would have been resting on the stomach and the right hand on the right border of the pelvis. The legs are flexed, the left in unstable equilibrium, with the knee slightly raised in relation to the rest of the body. Several foot bones are still present (the first metatarsal and the proximal phalanx), but they seem to have been moved. As for the rest, the bones are mostly still in anatomical order, some in unstable equilibrium, such as the bones of the right foot and those of the pelvis. There have been slight shifts in the body’s volume and the dynamic of the bones testifies to the decomposition of a clothed individual buried in the ground (or within a filled space), because within an empty space, such as a coffin, the unstable equilibria would not have been preserved. Anthropological and archaeological evidence indicates that this man was wearing trousers and maybe a shirt, a hypothesis supported by slight movements in the volume of the body, in terms of the chest, right shoulder and forearm. The absence of metal buttons, however, rules out the presence of a uniform jacket. This may have been removed in order to examine the wounded man. The piece of fabric that was found under the spinal column (see §3.2), possibly a torn-off epaulette, seems to be the only vestige of this jacket. Although it is difficult to speculate further, even so, considering the position of the bones, it is easy to imagine an individual who has been thrown or has fallen backwards and who – on being rapidly buried with earth - has disappeared from sight. Nevertheless, the body has only been stripped of its military possessions (uniform, jacket, weapons) and therefore arguments are in favour of the hypothesis of a body that has been buried rapidly.
This is an adult male (Bruzek, 2002; Murail et al., 2005). Based on the analysis of the pelvis (Schmitt, 2005), the age at the instant of death has been estimated as being between 20 and 29 years old (most likely between 23 and 25 years old), as confirmed by observations made concerning the rest of the skeleton, both in terms of the clavicles as well as the sacral vertebrae, whose fusion (during growth, the sacral vertebrae fuse to form the sacrum) is still in progress. According to the dimensions of the femur (Olivier & Aaron, 1978), this man must have been 161.6 cm (+/- 2.98 cm) or 5'3.6" tall. The morphology of his skeleton appears somewhat gracile and the humeri seem proportionately shorter than the other long bones.

The mandible is fragmented at the ramus and shows no loss of teeth during the individual’s lifetime. The maxilla is very incomplete and fragmented. The third molars of the lower jaw and the upper third molar on the left are missing, or perhaps never formed (this is called agenesis). A thin layer of tartar is visible on most of the teeth and there is also an early portion of the remaining upper left cheek teeth (cheek height). This absence is indeed the case, it can be deduced that the man was right-handed, and was tearing the cartridges held in his left hand while holding his rifle ready to be reloaded with his right.

In terms of pathology, this man suffered from a congenital defect, a form of spina bifida, indicated by the total lack of fusion of the sacral vertebral arches. Only the first three sacral vertebrae have been preserved but the spacing of the side walls makes it clear that it had to be the same for the last two. This means that, unlike the average person whose spinal cord is protected by bone in the area of the sacrum, here it must have been only covered by the skin of the back. In other words, it must be spina bifida occulta, the benign and most common form of this deformity. It may go unnoticed at birth and as long as the problems associated with this abnormality do not become obvious (incontinence, paralysis etc.). This soldier also seems to have suffered a kyphosis of the spine which would have given him a stooped appearance. It is probably possible to correlate this with the osteoarthritic damage of the dorsal vertebrae that has occurred. The mild osteoarthrosis present in some of the bones of the feet cannot be due to age-related articular wear, but seems instead to indicate a particular activity requiring the repetition of certain movements and the solicitation of certain muscles and tendons. At the site of the right lung, where the bullet was found, the front part of the ribs is very fragmented, whereas the back part is much better preserved and displays no trace of impact. In addition, a bone callus served on one rib, likely following an old fracture. Finally, Schmorl nodes (a sort of slipped disc) are visible on several thoracic vertebrae.

In conclusion, this young adult man, who was rather frail and probably slightly hunchbacked and with an underbite, received a fatal bullet in the right lung. Although traces of the impact are no longer perceptible, the state of rib preservation makes it likely that the bullet hit him from the front, a hypothesis which looks supported by the position of the skeleton when it was discovered. He suffered from spina bifida, a birth defect that could have prevented him from being able to take part in the gruelling manoeuvres of the armies of the time and ought to have prevented him from fighting in battle. The arthritis and the possible existence of kyphosis of the spine could themselves be linked to birth defects, but they could also result from a particular activity such as marching and carrying heavy equipment such as was indeed the pack carried by these men. It is not impossible that the latter conditions are closely connected.
3. ITEMS IN CONNECTION WITH THE SKELETON

Several items were found in contact with the skeleton or in its immediate vicinity. Whether at the time of excavation or after restoration, identifying them has helped reconstruct a significant portion of the soldier’s personal history.

3.1. The lead ball

The lead ball, located in the middle of the right ribs, weighs 23g and measures 16.4mm in diameter, a calibre which corresponds to the French projectiles designed for the model 1777 musket, nicknamed the “five foot six clarinet”, because of its size (Logie, 2003, p.17). English musket balls had a larger calibre, 32g in weight and 19mm in diameter. The wound caused by this projectile was certainly lethal and renders the hypothesis that the wounded man moved away from the front, several hundred yards to the south, on his own, very unlikely. It is therefore very likely that he had help to withdraw from the front in order for his injuries to be examined and treated.

3.2. The piece of fabric embroidered with copper thread

Attached to the back of the spine was a piece of serge, which has been identified as having been fabricated in England due to its two-up, two-down weave. On the side which has been in contact with the spinal column, it is possible to distinguish the fabric well as a series of cannetille elements (coiled metal wire embroidery thread) in copper thread. The reverse side of the item has the appearance of a rather coarse felt, made of meshed fibres. This is most likely dress uniform embroidery from a tail (bottom of the uniform jacket) or a schabraque (saddle cloth). Judging by its large size, the piece of fabric might also have been attached to a sergeant major’s baldrick worn around the neck, but our man seems a little too puny to have been promoted into such a position. The poor state of preservation of this fabric scrap does not admit of any better identification.
In total, our soldier has over 15 francs in silver coins, to which must be added several copper coins, a little over a month's pay for an enlisted man. A rifleman in the French army would receive 0.30 francs a day and a grenadier corporal, 0.05 francs. An infantry battalion commander would receive 10 francs a day. A British soldier would earn between 8 pence and 3 shillings 912 pence = 1 shilling = 5.6g of 900 ‰ silver). The scale of salaries was therefore much greater among the English troops and non-commissioned officers than in the French army (Holmes, 2001) and Hanoverian soldiers received lower wages than both the English and the French. Out of this wage, the soldier, no matter what his nationality, would need to put aside enough money to pay for his equipment, generally for underclothing, uniforms and shoes. This contribution varied according to the weapons and the year. The closer one gets to 1815, the more the material conditions of the average soldier improved. In theory at least, armies provided nourishment for their troops, whether it were an additional wage, or the provision of bread, meat and drink. In the British army, which strongly influenced the Hanoverian troops, a group of six men would receive 6 pounds of bread, 10 pounds of meat and 2 pints of rum. But clearly, the supply corps was deficient in every nation's army. The wage was irregular, the provisions didn't arrive. The only solution for these armies on the march was therefore looting the surrounding villages. Napoleon Bonaparte summed this practice up very well when he said: "The war must feed the war." Note also that at the time, a worker's salary varied, on average, from 1 to 2 francs a day (Paillot, 1951). Workers were therefore better paid than the soldier.

In order to create a link between the coins and the Soldier's nationality, it is necessary to look at the money in circulation during the Napoleonic Empire. In France, at the end of the Revolution, monetary anarchy reigned and Bonaparte, First Consul, was trying to restore order in this matter. However, despite increased resources, the French Mint was unable to supply the new money in sufficient enough numbers and old money continued to circulate. At markets, across the whole of

3.3. The contents of the purse

At the right femoral-pelvic joint were found 28 coins, to which were stuck three fragments of fabric. These consist of two small pieces of a knitted type of textile on which glass beads have been sewn, a piece of felt fabric, probably woven, and a piece of canvas fabric. Given the location of these items, it seems likely that this is the remains of the Soldier’s purse. These purses, often decorated with sewn beads and called reticules or aumônières were frequently used in the 19th century.

Among the currencies studied, one was identified as Austrian (right page, A), two - and very probably two other - were from Hanover (B) and eight which were minted in Paris(C). Noted also was a 12 denier coin of bronze bell metal (D), minted in Lille in 1791-1792 during the French Revolution, and two small silver coins, one of which is from Brunswick and was in circulation for more than a century (III GUTE PFENNIG).
France, altercations were common, because merchants were afraid of the abrupt demonetisation of the old currency and refused to accept any money but that of the Empire. In 1810, the struggle for a streamlined currency continued: *bell metal coins will no longer be accepted as legal tender effective as of the 1st of November [...] coins of the value of 6 sous and 12 sous will no longer be legal tender.*

Over the course of time, despite production difficulties in every Mint of the Empire, the money in circulation eventually become standardised and essentially consisted of the Emperor’s silver coins.

Furthermore, the wars of firstly the Revolution and then those of the Empire entailed the incorporation of new territories into France, where the French currency was imposed, or, at the very least the tariffication of exchange rates was mandatory. Napoleon Bonaparte created the Kingdom of Westphalia in 1807, consisting primarily of Hesse-Kassel, Brunswick, Hanoverian and Prussian territories and territories west of the Elbe, and set to rule over them his brother, Jérôme Bonaparte. In 1807, the French monetary system was established throughout this kingdom, but as this decision was very unpopular, Jérôme saw the necessity of minting money in the traditional currency of the former countries. The Kingdom therefore used both the German system of thalers and pfennigs as well as the French system of francs and centimes. However, our soldier’s purse contains Hanoverian coins...

Obviously, establishing an individual’s nationality on the basis of several coins poses somewhat of a challenge. Ideally we would use a body of indicators that would be reinforced by analysis of the coins’ origin. In 1815, currency from the Napoleonic Empire had spread across all of continental Europe. As the French were aware that the use of other currency than that of the Empire was in the course of being banned, a Frenchman naturally would not have had coins of German origin in his purse. An Englishman, meanwhile, would not have been in possession of French and German currency but would have those of his own country instead. On the other hand, French currency did circulate among the Hanoverian troops, as well as the currency of their own country and the surrounding states, one of which was Brunswick. The hypothesis that this soldier was part of the Hanoverian troops can therefore be advanced.

Two new flints were still to be found in connection with the deceased, one in his purse, and the other in his satchel (see § 3.4). They were fashioned by truncated retouching (Barnes, 1937, p. 330-333, fig. 6, fig. 7c; fig.) using a dark grey, fine-grained flint. The type of flint, and the dimensions of these pieces leads us to suppose that they were designed to be mounted on a musket of the type British Land Pattern, more commonly known as a “Brown Bess”, that was in service between 1750 and 1850 in the English army (K. Charpier, personal communication; Logie, 2003, p. 17). French flints were exclusively fashioned using yellow flint (K. Charpier, personal communication; Schliechter, 1927, p. 367).

As well as the coins and the flint a small ball of a reddish material of an unknown nature was submitted for three analyses: visual observations using a scanning electron microscope (SEM), molecular analyses using a Raman micro spectrometer (named after one of its inventors) and chemical analyses using the Energy-Dispersive X-ray Spectroscopy module (EDS). These detailed analyses helped identify cinnabar as the main component of the ball. Cinnabar is a mercury sulphide, deposits of which were found in Spain and Slovenia, and which has been in use since ancient times, including as a pigment (Pliny the Elder, *Naturalis Historia*, XXXIII). At the beginning of the 19th century, it was used as a pomade for the treatment of skin conditions and syphilis (Mialhe, 1845, p. 150), as well as certain diseases and the wounds of horses and cattle (Moiroud, 1831 p. 622), and any of these uses could be possible in the case before us.
3.4. The contents of the satchel

A couple of inches from the body, at around leg height, four objects were located, which were probably contained in a satchel, of which no trace remains. There is a spoon, a fragment of a burr alder box with two inscriptions on it (see § 3.5), and, under the right femur, an iron buckle, probably from a belt, and a knife. The metal objects were first x-rayed at the Faculty of Veterinary Medicine at the University of Liège (Saint-Denis) to ensure that they bore no regimental markings capable of indicating the corps to which the Soldier belonged. They were then restored by the conservation laboratory of the Department of Archaeology (SPW-DGO4 / Heritage Department) and by the UTICA association (Saint-Denis, France). After radiography and after restoration, no marks appeared and as the spoon, the knife and the buckle are of a common make that were widely in use at the time, they were of no help in narrowing down which regiment the Soldier belonged to.

3.5. The fragment of box: possible identification of the soldier?

Among the objects found in connection with the wallet of the Soldier, the fragment of burr alder box on which appear the letters “FCB” and the date “1792” became the focus of attention and, among the many enthusiasts of Waterloo in particular, fuelled hopes of identifying the victim. However, from a strictly scientific point of view, many questions remain unanswered and significantly temper that hope. First and not least concerns the identification of the owner of the item. Certainly the victim is a good candidate, but other equally plausible scenarios make it possible to doubt this. It is possible that the item was given to him by a third person, whether a member of his family or not and this could have been before or during the battle. In the same vein, it could be somebody else’s box. Or it might be, for example, that the box belonged to a deceased comrade and it was being kept as a keepsake or so that it could be returned to family or loved ones. Thus, assuming that the inscriptions definitely represent initials and a date of birth, there is no evidence whatsoever that either is that of the victim.

Another question concerns the nature of the item itself. Is it a snuffbox, a writing case or a box for military usage? As the item is in fragments, it is very difficult to say and the possibilities are endless. This question directly influences the significance of the letters and the date. Indeed, if this is a strictly personal object, it might actually be initials and date of birth. If, however, it is a box whose use is linked, for example, to military usage, the inscriptions could commemorate an important event in the career of the owner - whether it be our soldier or not - or may even be related to the object that was contained inside.

Furthermore, if the letters really are initials, in which order should they be read? Does the “F” correspond to the surname or name? In the text and register of the time, both are possible. Large numbers of candidates are therefore eligible, as well as meaning that the identification of the regiment to which the victim belonged is also subject to question. If it is possible that the victim was enlisted in Kielmansegge’s 1st (Hanoverian) Brigade (according to de Callataÿ, cited in Vander Cruyssen, 2014 ; 2015), this still remains a supposition, based on evidence which although convincing, is just as circumstantial - the presence of Germanic currency in the Soldier’s wallet and...
the presence of the Hanoverian troops in the area where the discovery was made during at least a part of the battle (Bosquet et al., 2014). But, as we are unaware of the exact time of death, it is also possible to postulate that the Hanoverian troops were not on the scene at the time and that there is in fact no link between the two whatsoever.

As stated above, the significance of the date, partly due to the identification of the object, is also subject to speculation. If it really is the victim’s date of birth, then our man died at age 23 at Waterloo, which is in agreement with the anthropological analysis which situates the age of the victim at between 20 and 29 years (Grove et al. 2014a; 2014b). Again, this convergence of data may be noted, but is not sufficient, by itself, to settle with any certainty the interpretation of that date.

In order to identify the victim and, where appropriate, investigate a possible descent, it is necessary to be able to answer the questions raised with sufficient certainty, which is, to say the least, a daunting, if not impossible, task.

Therefore, the Soldier of Waterloo remains, and probably always will remain, an anonymous victim of this grisly conflict.

4. CONCLUSION

The discovery made in 2012 at Waterloo is unique, no other skeleton having thus far been discovered during any previous excavations on the site. It also seems set to remain the only one, as trial trenches opened in this area and at the site of the memorial yielded no other remains. So this is a special case that the excavation and analyses have allowed us to identify fairly accurately, although grey areas remain, as is often so often the case in archaeology.

As such, the study of coins that the Soldier carried with him leads us to suppose that he was Hanoverian or at least of Germanic origin. Assuming this to be the case, then we must also favour the theory of the rapid burial of the body after decease, as the Allies, unlike the French who lost, took away their dead immediately after the battle. The presence of the coins and other personal items, showing that the body was not looted, also lends support to this hypothesis. Several elements from the scientific enquiry also indicate that this burial was carried out intentionally and urgently. In the absence of fighting on that side of the battlefield and given the seriousness of his injury, the Soldier must have been transported there by one or other of his comrades, unless he was dropped when dead at the place where the archaeologists discovered him, two centuries later.

Today we are left with the rather touching image of a young man who was frail, slightly hunchbacked and affected with a spinal deformity which, in the present day, would have been corrected immediately.

The question relating to his presence in terms of the memorial has been the subject of much discussion within the team responsible for its design, as well as between the various researchers who have been studying him in such detail. Ultimately, it seemed to everybody that the greatest homage that could be paid to him was to consider him, with the respect to which he is entitled and that the museum exhibit has sought to ensure, as the anonymous and silent representative of the dozens of thousands of men who perished that day in the same tragic circumstances.
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6. ILLUSTRATION CREDITS

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