

Of Hedges, Myths and Memory

an interpretive report concerning the
Archaeological and Historical Investigations
at the *château/ferme* de Hougoumont
Battlefield of Waterloo
April to July 2015

Context

The *château-ferme* of Hougoumont is of international military and historical importance and stands as an icon of the Battle of Waterloo that took place on Sunday, 18 June 1815 and which for the last 200 years has remained more or less in the state that it was left in following the conflict. In 2003, the farm was sold by Comte Guibert d'Outremont for €1.5 million to the *Intercommunale de Bataille 1815* together with 12 hectares including the garden.¹ Comte d'Outremont had inherited the property, through the female line, from Comte François-Xavier de Robiana who had purchased it for 40,000 francs on 7 May 1816 from Chevalier Philippe Gouret de Louville-Gomont, a descendant of Jean d'Arazola de Oñate who had himself acquired it in 1671 and was probably the builder of the château house and the majority of the southern buildings.

After the purchase, a conservation project was created under the name "Project Hougoumont"² and, following extensive research by historian Kevin Rogers, a conservation plan was presented in December 2013 by architects Inskip & Jenkins. Over €3.5 million was raised and the conservation of the farm buildings was started. The completed conservation was formally opened to the public by HRH Charles, Prince of Wales, on 17 June 2015. Hougoumont now forms part of the national patrimony of the battle and is open to visitors.

Whilst the buildings and the land had been saved as a memorial to the 1815 conflict, there are still a significant number of historical questions about the conflict at Hougoumont that remained unanswered, and in 2014 a Belgo-British archaeological project was created under the name "Waterloo Uncovered"³ to conduct further research. Waterloo Uncovered was authorised to conduct geophysical surveys followed by ground-truthing and the use of invasive trenching techniques in April and July 2015. They brought in a mixed team which included a number of army veterans from Operation Nightingale⁴ (which uses archaeology as therapy for PTSD) together with supervising archaeology specialists, serving soldiers from the Coldstream Guards, and various specialists in metal detecting, geophysical surveying (from the University of Ghent), archaeological mapping and data recording, artefacts identification and recording, film making, and public relations. Students from University of Utrecht (Middleburg College), Netherlands, with others from Universities of Leicester and York, UK, and *stagieres* from within Belgium, together with lecturers and professors from various universities, made this an international, educational and academic project. The Co-Directors of Archaeology were Dr Tony Pollard, a professional archaeologist and the Director of the Centre for Battlefield Archaeology at Glasgow University, and Dominique Bosquet of the SPW (*Service de l'archéologie-Direction extérieure du Brabant wallon*), the regional

¹ Eric Meeuwissen *La ferme d'Hougoumont mise en vente*, Le Soir.be, édition du 9 avril 2003, page 21.

² www.projecthougoumont.com

³ www.waterloouncovered.com – this project is structurally and financial supported as a charity with donors from across both countries. It is now the over-arching project for archaeological research over the entire battlefield and has both practical and intellectual support from Project Hougoumont.

⁴ <http://www.daguk.org>

authority. The author of this paper, Alasdair White FHEA FINS, is the Historical Advisor for both Project Hougoumont and Waterloo Uncovered.

Mme Nathalie du Parc, of the *Intercommunale Bataille de Waterloo 1815*, granted permission to establish the Project HQ and Finds Office within the domestic accommodation being provided for the future *conciierge* and facilitated WU's presence at the site; her staff at the farm were extremely helpful and supportive throughout the project. The farmers impacted by the project's work were also very supportive.

Documentary Review

During the historical and archaeological investigations undertaken in 2015, a variety of historical data was accessed, some of it not in the public domain and being seen for the first time:

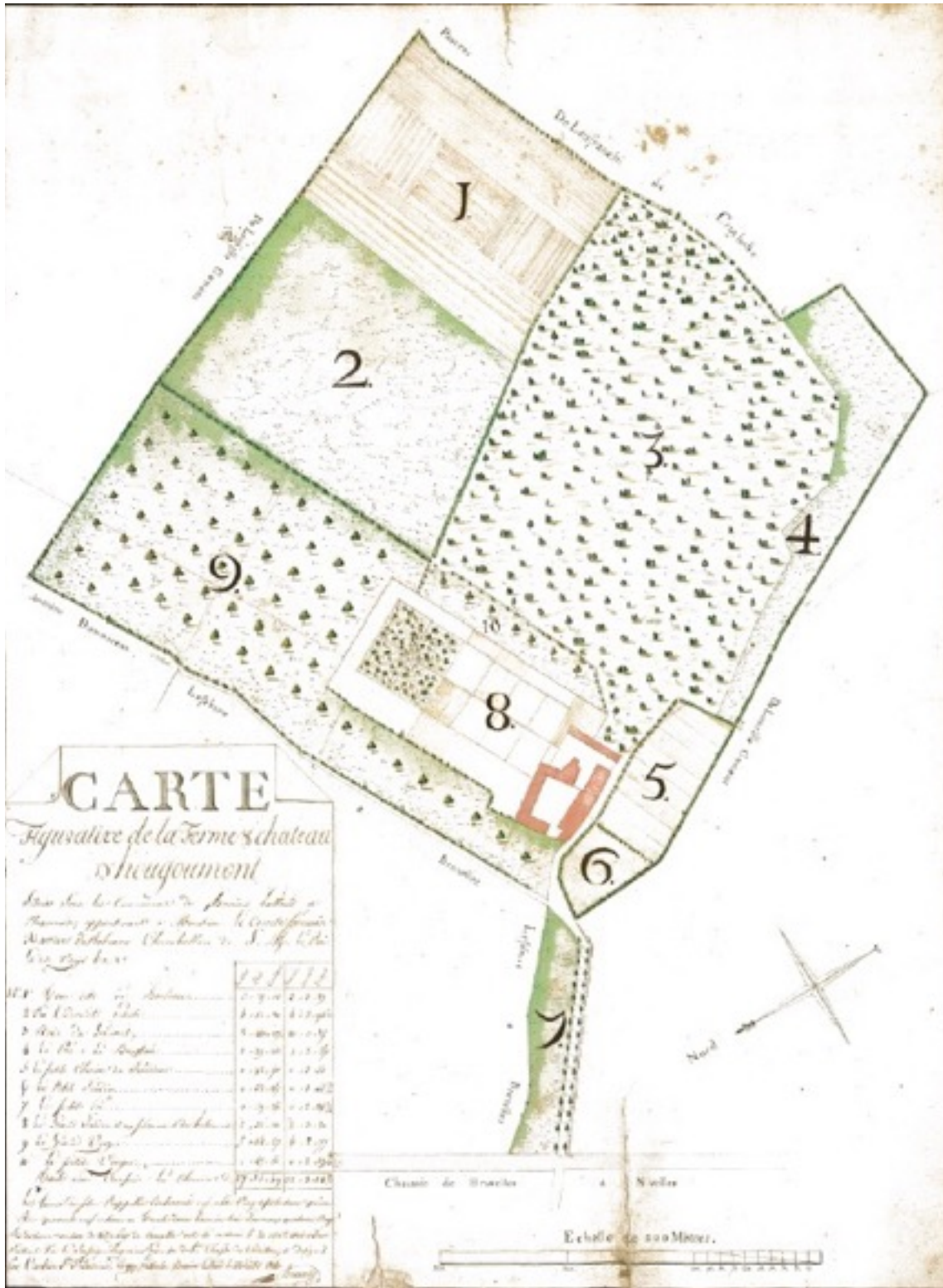
- **d'Oultremont Collection:** Alasdair White has been granted access to the personal documentary archive concerning the Hougoumont estate and belonging to the last private owner of Hougoumont, Comte Guibert d'Oultremont. It has not been fully examined at the time of writing and has not previously been available to historians; however, the Comte kindly allowed three of his maps to be scanned for historical research purposes. These maps were:
 - the full **cadastral map** showing the Hougoumont estate in 1816 when it was sold by Chevalier Philippe Gouret de Louville-Gomont to Comte François-Xavier de Robiano (the ancestor of Comte Guibert d'Oultremont). (Map 1 below)
 - the full **cadastral map** of Hougoumont dated 1820 when land-usage changes occurred. (Map 2 below)
 - a working map in pen and ink of the Hougoumont estate but undated – this is thought to be from 1815-1816 and connected with the initial bill of sale. (Map 3 below)

The Belgian Cadastre is structurally a personal and fiscal cadastre based on the French Cadastre established in the early years of Revolutionary France for the purpose of establishing land ownership (legal entitlement), occupancy, usage and taxation (based on the assumed productive values). Established in 1808, some 13 years after the united provinces of Belgium became part of the French Revolutionary empire in 1795, the cadastre used the very latest survey techniques, measurements (both local and the new metric system) and triangulation protocols, and the maps have proven to be extremely accurate as one would expect given that taxation is based on the actual size and usage.⁵

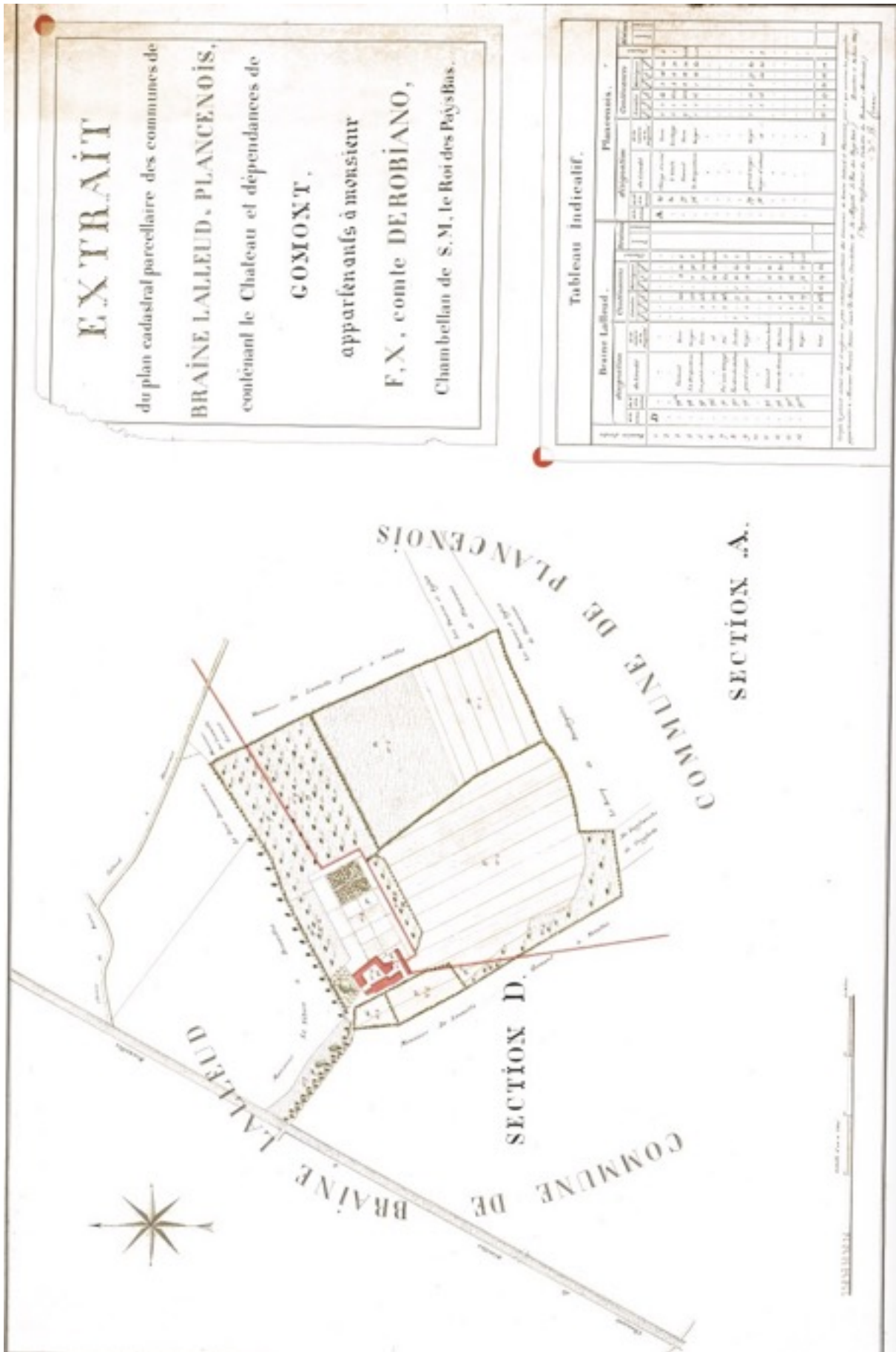
In 1808, when Napoleon sought to finance his wars through land taxation, the French Cadastre was updated and new cadastres were established in all *départements*, both in France and other areas conquered by the French Revolutionary Army. In Belgium, the work of creating the cadastre started in 1808, beginning with Brussels and other cities and their agriculturally rich hinterlands. The French system of cadastre maps fixed not only the ownership but also the exact boundaries and usage using a common land-usage legend that included all public roads but not their names; the maps did not record private roads or farm tracks. The types of boundary to each parcel of land was also recorded, e.g. hedges, walls, drainage ditches, rivers, streams, roads and so on. The work of mapping the land for the Belgian Cadastre was completed in 1843.

The key to the taxation principles was that each type of usage – residential, industrial, arable, pastoral, orchards, woodland, and gardens – were all recorded using a common legend and were taxed at different rates based on an 'assumed productive value' or rental value.

⁵ Based on a variety of interest sources including www.eurocadastre.eu



Map 1: Cadastral map dated 12 July 1816 – private d'Oultremont collection.



Map 2: Cadastral map dated 30 June 1820 – private d'Oultremont collection.

Cadastral maps were only updated if the legal status of the land changed: change of ownership/occupancy or change of land usage being the principle reasons. A good example of this is the 1820 cadastral map which shows the change in usage for parcel 3 from woodland on the 1816 map (Map 1) to arable on the 1820 map (Map 2).

The Hougoumont cadastral maps are from the cadastre covering the *département de la Dyle* in the *Cadastre de Brabant Meridional*. In October 1814, Willem Benjamin Craan (1776-1848), who had served the French Empire as Cadastral Surveyor for the *département de la Roer* based at Aix la Chappelle (Aachen) in what is now Germany, was appointed by King Willem I of the Netherlands as the *chef de Cadastre* responsible for the *département de la Dyle*. As the Hougoumont cadastral map dated 1816 (Map 1) is signed by someone other than Craan,⁶ it would not be unreasonable to assume that it was prepared prior to 1814, whereas the second map, dated 1820, is signed by Craan and details the change of usage for 'parcel 3' from woodland to arable land (thus attracting a higher 'assumed productive value').⁷

The two cadastral maps thus provide the first totally accurate maps of the Hougoumont estate prepared and drawn to scale by professional cartographers and engineer/surveyors and from which information has been obtained showing land-usage, dimensions, and distribution of hedging. With Map 3, they also allow identification of road names of public roads (farm tracks are not shown) and land ownership of surrounding land. During the 2015 investigations, Map 1 (see above) was digitally overlaid onto the Google Earth map and found to be accurate with all the mapped features still visible today. The accuracy of the layout of the hedges also allowed confirmation of locations mentioned in the documentary record.

The sketch map (Map 3) allows the identification of the local names of fields and roads and the Ferraris map (Map 4) shows the approximate route of estate roads.



Map 3: Sketch map of Hougoumont in the private d'Outremont collection.



Map 4: Hougoumont as shown on the Ferraris map of 1777 in the Belgian Royal Library.

⁶ The signature is currently indecipherable and the entire legend is an extract from the cadastre records confirmed by various people involved in the estate. The assumption being made here is that as Craan probably did not prepare the map, it predates his appointment as *chef de Cadastre*. This makes the 1816 map the first of Hougoumont to be prepared using advanced mapping techniques since the Ferraris maps of 1777 and, because of the much larger scale, the cadastral maps are far superior in detail and accuracy.

⁷ W.B. Craan is best known for his 1816 map of the battlefield showing the initial distribution of the belligerent forces compiled from personal correspondence with surviving officers. Craan's work pre-dates that of W. Siborne by 16 years or more.

- **Rapport d'Analyse Dendrochronologie – Les Chataigniers de la Ferme d'Hougoumont (Braine-l'Alleud)** by Jérôme Eeschhout, Université de Liège, 2005. This document was provided by Mme Nathalie du Parc to answer the historical question about the age of the sweet chestnut trees and thus indicate the age of the south wood that was cut back after the 1815 battle and clear-felled between 1817 and 1820.⁸
- **Project Hougoumont Conservation Report:** permission to use this exceptional resource was granted by Martin Drury, Chairman of Project Hougoumont (UK), on 15 July 2015. Vol II contains over 200 documentary mentions of Hougoumont in historical documents of 1815 and later, written by eye-witnesses or those subsequently visiting the battlefield. These were taken from published sources. This collection pulls together many of the sources into one document and it has proved invaluable. Vol III contains a huge compendium of around 320 images of the farm from 1815 onwards. These images have allowed a greater understanding of what the place looked like (often rather romanticised, sadly) during and after the battle, and have addressed a number of important points. They have been used to provide architectural detail for the 3-D modelling of the farm prior to the battle – this model will be used to determine sight-lines, amongst other things, and will allow the answering of a number of historical questions.
- **Mont-Saint-Jean 6-7 juillet 1794** by Lucien Cecille, Philippe Charlet and Jean-Jacques Pattyn (Historic'one Editions, 2015) a published account of the 1794 battle at Hougoumont during the French Revolutionary Wars against the First Coalition. This well-documented book, only available in French, confirms the historical contention that a battle was fought at the farm prior to 1815, and that the first loop-holes in the garden wall were initially made in 1794. It has also provided the background context to a few of the finds made by the archaeologists.
- **A Narrative of The Battles of Quatre-Bras And Waterloo; With the Defence of Hougoumont** by Matthew Clay. The full text of the account of the battle by Matthew Clay edited by Gareth Glover⁹ and which Mr Glover asserts as being “*a full transcription of the narrative of the Waterloo campaign by Private Matthew Clay 2nd Battalion 3rd [Scots Fusilier] Foot Guards, published [by F. Thompson, Printer] in Bedford in 1853*”. The veracity of this statement has not been checked yet, but if true, then this will assist in the resolution of a number of interesting historical events.

Issues arising from reliance on documentary evidence

The traditional approach to investigating historical events is to base underpinning assumptions on the documentary evidence about the event and this is certainly the way that the history of the Battle of Waterloo has been developed. In this case, the documentary evidence used has been the military records (muster rolls, order books, copies of orders, military maps, etc.) and descriptions and memoirs written by participants on both sides of the conflict. However, recent research and developments in the fields of clinical and behavioural psychology, neuroscience, endocrinology, response to stress, and memory, calls into question the value of memoirs and reports written by participants in the events described. It also raises doubts about the validity of observations recorded by non-participants (i.e. observers).

Between 2004 and 2012, neuroscientist John Coates conducted research into the biological response to risk-taking, especially in high stress environments and described the results in his

⁸ The 1820 cadastral map shows that parcel 3 has been changed from woodland to arable and this change will have triggered the modification of the cadastral map and a new one issued. This confirms that the woodland still existed after 1816, when the estate was sold, and may have existed until early 1820.

⁹ *A Narrative of The Battles of Quatre-Bras And Waterloo; With the Defence of Hougoumont*, by Matthew Clay, Edited by Gareth Glover (Ken Trotman Publishing, 2006).

2012 book *The Hour Between Dog and Wolf*¹⁰. His principle findings are that people in high stress environments, especially those involving risk-taking, have a distinct biological response involving the endocrine system and this affects the way their bodies work and how their minds process data to assess risks and determine actions. The most common physiological response is well-known as the ‘fight or flight’ adrenal response in which the hormone, adrenaline, prepares the body for short-term action. This affects the blood supply to the internal organs, including the brain, causing non-essential activities to close down while, at the same time, causes the survival functions to become enhanced. People in the grip of an extreme adrenal response report the time-phasing in the brain slowing down so that external events appear to be happening slower, and their ability to collect and process data (cause and effect) and to determine what actions to take is speeded up, that their sight was clearer and that they were more aware of their surroundings. The adrenal response effect is well understood and this description will come as no surprise, but what Coates also found **was that this physiological response was occurring before the cognitive response** – in other words the body was sensing the threat and taking action before the mind could start processing it.

But perhaps the most interesting result of this response is to the memory. Subsequently investigation was made into what research subjects could actually recall of the events in which they participated and found that their short-term memory could recall very little and their medium to long-term memory could recall even less. Indeed, the recalled memory seldom included the stimulus (the events that created the response), and the actual elements of the event itself and the order in which they occurred were retained only in the short-to-medium-term memory. As time passed, their ability to recall accurately diminished significantly, leaving a set of memories that had been processed and often bore very little relationship to the actual event. In other words, **what is recalled from memory is what the mind believes happened rather than what actually happened**. This effect is often referred to as ‘false memory’.

False memory (rather than the cause of false memory) has also been recognised for some time and it is often **compounded by the mind recording memories of what it thinks ought to have happened**: and this occurs even if the subject is not contaminated by other sources of data about the event – reading or hearing a report of the event from someone else, for example. This is the reason that the police take statements immediately from as many eye-witnesses as possible without allowing the eye-witnesses to hear what others are saying – and from this jumble of data they then tease out facts.

As time passes between the event and the recollection of it by participants who were there, the degree of cognitive processing distorts the memories even further and various biases creep in, the main one being that people come to believe that the version of events that they recall is actually correct because they recall it. This becomes self-reinforcing until they are unable to accept their original recall was incorrect (“we come to believe our own myths” as one academic friend put it recently). But the biggest issue with memory recall after time is almost always that the person recalling the event has been influenced by other memories (their own and from other people) which have combined to create a new version of the event. When challenged on this, the person then becomes subject to the ‘loss aversion’ concept which Daniel Kahneman, an eminent clinical psychologist, talks about in his book *Thinking, Fast and Slow*¹¹ in which he concludes that people will irrationally **‘stick with what they believe rather than risk changing to an alternative position’ even when what they believe is demonstrably wrong and the alternative position is in their best interests**. This is one factor behind how incorrect versions of events become embedded in the human cognitive memory.

I have discussed this point at some length simply because historians routinely use eye-witness memoirs as though they were a categorical truth rather than a ‘version of the truth’; to build a theory of what happened based on one or even a few stated sources often results in an incorrect

¹⁰ *The Hour Between Dog and Wolf* by John Coates pub. Fourth Estate, London 2012.

¹¹ *Thinking, Fast and Slow* by Daniel Kahneman, pub Allan Lane, London, 2011.

interpretation of events. Let's take an example: in the heat of battle, the participants will be subject to an extreme adrenal response and this limits their ability to register and subsequently recall the situation other than in terms of what actually happens to them. If they then attempt to record down those events and the order in which they occur the result is likely to be inaccurate **and the memory is likely to become focused on what they believe should have happened**. If their memoir is not written until 15 or more years later then the veracity of the report must be considered as being very low. So, looking at Matthew Clay's memoir¹², his descriptions of events and landscape prior to the battle for Hougoumont are likely to be more accurate than his description of events during the heat of battle but both are likely to contain false memories (especially about time and order of events) given that his account appears to have been written in 1853, after his retirement and when he would be 58 years old. It would also have been heavily edited for publication.

Other examples abound and it is essential that, to fully understand the events, it is necessary to cross-reference the memoirs, and to re-interpret rather than to accept their rather romanticised and editorialised content as being correct. This is not to say that the memoirs are valueless or wrong, but a more careful analysis needs to be undertaken. Memoirs written immediately after the battle by participants are more likely to be accurate than those written 15 or more years after the event. It should be noted here that the vast majority of memoirs concerning Waterloo were written in the early 1830s in response to the creation of the Siborne model which was completed in 1838. Also, most of the written material was eventually published in 1891 (76 years after the events) and ruthlessly exploited as accurate by generations of historians ever since.

Archaeological Research

There have been a number of archaeological investigations at Hougoumont: Derek Saunders physically excavated the draw well in the courtyard in 1985, Tim Sutherland conducted geophysical work including fluxgradiometer and ground penetrating RADAR (GPR) in 2014 and 2015 – his results can be found on his website¹³ – and Waterloo Uncovered¹⁴ conducted two archaeological investigations: 27 April to 1 May and 20 July to 31 July 2015. Prior to the latter, the site, with the exception of parcels 1 & 2 and most of parcel 3 (see Map 1), all under crop at the time, had been subject to geophysical survey using electromagnetic induction (electrical conductivity and magnetic susceptibility). During the investigations the survey's area was also subject to a detailed metal detector survey before trenching took place.

In excess of 1250 finds have been logged, photographed, recorded and mapped. These have now been passed to SPW (*service public d'wallon – service d'archéologie*) for cleaning, preservation and identification. As the results become available, they will be released on <http://www.lparchaeology.com/waterloouncovered/>.

Amongst these finds there are some 250+ musket balls, some that have been dropped, some that have been fired but hit nothing, and many that have been fired, hit something and have become distorted. A significant number of finds have been shown to be re-enactor detritus as they bivouac in the garden and the orchard most years. One of the purposes of the detector survey was to collect such detritus to ensure that it does not distort the historical and archaeological record.

¹² *A Narrative of The Battles of Quatre-Bras And Waterloo; With the Defence of Hougoumont*, by Matthew Clay, Edited by Gareth Glover (Ken Trotman Publishing, 2006).

¹³ <http://tis509.wix.com/archaeologyawaterloo>

¹⁴ www.waterloouncovered.com

A full and detailed report will be released on the project website¹⁵ in the near future and this will discuss the methodologies used and the finds, as well as the full analysis.

The historical questions that have been ‘answered’

Hedges: As a result of analysis of the cadastral map legends, it is clear that there are two types of boundary hedges identified: a thick and a thin hedge. Descriptions in the documentary records show that the main boundary hedges, those shown on Map 1 and Map 2 as surrounding the entire property, were dense/thick, quickset hedges mainly of hawthorn (*crataegus*), with European maple (*acer campstre/pseudoplatanus*), stunted beech (*fagus*) and blackthorn (*prunus spinosa*) often up to two metres in height, usually set on a raised dyke or on the upper side of a deep ditch. The other type of hedge such as that between parcel 10 (the small orchard or ‘killing zone’ along the south wall) and the woodland in parcel 3, were slightly less high at about 1.5-1.75 metres, less dense although of the same mix of species, and did NOT have an associated ditch, or only a shallow one. ALL hedges shown on the cadastral maps were established to keep stock (farm animals) from roaming and were referred to as ‘stock-proof’, these would present a significant physical barrier to troops attempting to pass through them. In full leaf (as in June) they would also have been effectively opaque thus providing good defensive cover and are excellent windbreaks.



Fig 1: Example of mixed hedging – this hedge is on similar soil to Hougoumont and about 10kms away.

Except for the remnants of the hedge above the sunken way to the north of the great orchard (parcel 9) and that between the walled garden (parcel 8) and the strip of parcel 9, all the Hougoumont hedges have been grubbed up and some have been replaced by wire fences. This stems from the second half of the 19th century, when the less maintenance-intensive wire fencing for enclosures was adopted, and the early 20th century and the mechanisation of agriculture.



Fig 2: The hedge/fence line between parcel 10 and parcel 3 looking east.

¹⁵ *ibid.*



Map 5: extract from the 1820 cadastral map showing the junction of the hedges near the south-east corner of the walled garden. The hedges to the right of the image are shown to be thicker than the one between the small orchard (parcel 10) and parcel 3 which was woodland in 1816 and is now shown as arable – private d'Oultremont collection.

South-east corner of the walled garden: It is interesting to note the off-set hedge line at this junction (map 5). Detailed investigation on the ground confirms that the thinner hedge originally sat on a small dyke of about 10-15 cms in height with a shallow ditch on the south side. A farm track ran (and still runs) along the south side providing a link between the working farm buildings and the great orchard (upper right of the image) and the pasture (lower right of the image). The angle is such that it would allow a horse-drawn cart to turn off the track and into the orchard.



Fig 3: the area of the off-set junction discussed above. The farm track is clearly visible to the right with the ditch to its left. The dyke is directly under the fence line. The fence post to the bottom left is a little east of where the original hedge line became off-set to the left of the picture. The great orchard, parcel 9, is to the upper left of the picture.

During the battle, the troops of the *1^e Légère* under Boudin and then the troops of the *1^e Ligne* under Soye, having advanced through the wood and being confronted by the hedge to the south of parcel 10 (small orchard) then used this junction of the hedges to access the great orchard, and in doing so found themselves enfiladed by the Nassau Regiment manning the walls of the Garden (see figure 2). According to the documentary evidence, many French died here and the ditch was

‘completely filled with dead and wounded’¹⁶. This area was the subject of extensive archaeological research: the off-set ditch was identified and there may be a burial pit in the same location.

The ‘sunken way’: This is the track that runs along the northern boundary of the property between parcel 9 (see Map 1) and the rising ground to the north upon which Wellington had stationed three batteries of artillery. The track is clearly marked on the Ferraris map of 1777¹⁷ and we now know that this track was a public road called the *Rue aux Loups* (Wolf Lane). The cadastral map (Map 1) shows this had a significant hedge of mixed deciduous species running along the southern embankment, the remnants of which can be found at the north (lower) end of the great orchard. The sunken way itself is around 1.5 metres below the level of the hedge roots and some 50 cms or more below the current level of the track. It has a metalled surface and was obviously well-used with a solid surface for vehicular traffic – it would have served as the main route between La Belle Alliance on the Brussels-Charleroi road to the east and the Chaussée de Nivelles to the north.

As a result of sinking two trenches from the centre of the sunken way and running south towards the formal garden, a number of musket balls were discovered in the embankment and these were first thought to have been the result of ‘firing off’ the muskets to clear them after the wet night of 17 June 1815. This theory can now be discounted as the trenches also revealed that the southern side embankment where the hedge had been situated (see Map 1) has been re-profiled, probably in the 1970s, when the construction of the ‘Ring’ motorway created a need to dispose of sandy subsoil from the north side of the ridge; it appears this may have been simply shipped to the south and used to re-profile the south edge of the sunken way. This still needs confirming through the public works archives.

The theory originated with the account by Matthew Clay of ‘firing off’ of his musket in the morning to clear it but deeper analysis of the full text places that incident as taking place in the shallow ditch to the north of the upper hedge to the south of the great orchard.¹⁸

The musket balls, being not far into the re-profiled ground, must be assumed to be a later addition to the archaeological record and are probably re-enactor material. No indication of fighting along or across this road has come to light as yet to suggest these may be projectiles from 1815, although there is evidence in the documentary record that suggests French skirmishers were operating to the north of the farm but firing northwards uphill towards the artillery battery situated on the end of the ridge.¹⁹

The dumping of sandy subsoil, and subsequently building waste from the 2015 conservation work, has also re-profiled the area that used to be the *houblonniere*, or hop field, which used to contain a large pond and was situated close to the north gate. This was the place of some fierce skirmishing

¹⁶ Ensign Henry Montague (later Colonel in Chief Scots Guards) wrote in 1843 “...till suddenly a shout arose on all sides, when, we passed out of the ditch [the ‘sunken way’ or Rue aux Loups] and charged across the orchard driving the French before us, and passed another road by the gap at the left corner of the garden wall. The ditch had been cut deep, and had been full of water, but when I reached it, was completely filled with killed and wounded so as to form a complete bridge.” – quoted in the Project Hougoumont Conservation Report Vol II page 53.

¹⁷ Confusingly, this rising ground is called the Bois d’Hougoumont on the Ferraris map of 1777 – http://www.kbr.be/collections/cart_plan/ferraris/ferraris_nl.html, map 78 Braine la Leud.

¹⁸ *A Narrative of The Battles of Quatre-Bras And Waterloo; With the Defence of Hougoumont*, by Matthew Clay, Edited by Gareth Glover (Ken Trotman Publishing, 2006) pages 15-16.

¹⁹ *A Narrative of The Battles of Quatre-Bras And Waterloo; With the Defence of Hougoumont*, by Matthew Clay, Edited by Gareth Glover (Ken Trotman Publishing, 2006) page 19.

during the ‘closing of the gates’ incident.²⁰ There is some evidence that bodies were burned in this location.



Fig 4: Farm and Orchard of Hougoumont, Field of Waterloo, 1815 by Denis Dighton. Royal Collection (UK). Note the smouldering pile in the bottom left from which bones are sticking out and around which are discarded uniforms. The bricked arch may have been an ice-house (the pond being between it and the farm wall), or it way be the discharge point of the drainage from the farmyard.

The southern woodland: It is reasonable to assume that the three large sweet chestnut trees, two of which are dead as a result of lightening strikes in the last 100 years and the third still alive although lightening-damaged, situated some 40 metres south of the south gate of the farm complex, are the remnants of the south wood that is shown as parcel 3 on the 1816 cadastral map (map 1) and through which the French attacked in 1815 up the road marked on the Ferraris 1777 map, as suggested by the projectile distribution discovered in the archaeological investigation.

The documentary evidence suggests this wood was a mixed deciduous woodland and the diameter of the trees as not much greater than the width of a man. Based on the study of similar woodlands on similar soils, it becomes apparent that the age of the wood must have been around 50 years or more. The dendrochronological report on the chestnut trees²¹ suggests a planting date of between 1675 and 1775, with the covering explanation that an estimate had to be made as the core sample was 30 cms too short. Taking the evidence together, a planting date of around 1760 seems about right for the wood as a whole.

²⁰ *A Narrative of The Battles of Quatre-Bras And Waterloo; With the Defence of Hougoumont*, by Matthew Clay, Edited by Gareth Glover (Ken Trotman Publishing, 2006) pages 19-26.

²¹ Rapport d'Analyse Dendrochronologie – Les Chataigniers de la Ferme d'Hougoumont (Braine-l'Alleud).



Fig 5: this picture was taken in a 50-year-old mixed deciduous woodland on similar soils. The topography is very similar to what would have existed at Hougoumont in 1815. The French traversed this type of woodland in 1815 and experienced serving soldiers have estimated that it would have taken them between 40 and 90 minutes to cover the 450 metres involved against a spirited defence and under bombardment.

We know from the cadastral maps of 1816 and 1820 that at some time between the two dates the woodland had been clear-felled and the land usage changed to arable. However, in 1816 James McQueen²² visited Hougoumont and reported that the “wood is intersected with natural hedges and ditches” and this is borne out by the landscape within other parcels of woodland in the area. Extensive re-profiling of the landscape has occurred over the last 200 years so that the entire area can now be worked using mechanical equipment; this is the only part of the Hougoumont estate in which the landscape topography has been radically changed.

The southern wall of the formal garden: Certain areas of the base of the wall, inside and out, were searched by detector, especially near the loop-holes. As a result a considerable amount of ‘flattened’ French balls were found close to the outside wall, indicating that the wall has been subject to significant attack. On the inside of the wall opposite the exterior finds, further French balls were located. These had been fired but had not been damaged by impact and must have been shot from the top of the wall or through the loop-holes.

On the other side of the ‘killing ground’ (parcel 10, the small orchard) – 30 metres south – a significant number of British balls, mostly fired, were found along the fence line suggesting that the fence line and the line of the hedge mentioned in the documentation, especially the maps, were contiguous.

The quantity of damaged French balls found at the exterior edge of the wall suggested that they had impacted the wall; a close visual inspection was made of the wall in that area but no sign of impact damage could be seen. This prompted a close visual inspection of the entire wall with a similar lack of impact damage being found.

This begs the question about the age of the wall. All the evidence points to the wall having ‘always been there’ but there is considerable and significant evidence of renewal and re-building and **it is entirely possible, indeed very probable, that the wall has been entirely re-built since 1815.** This then leads to the conclusion that the loop-holes seen today are neither original nor made by the defenders of the farm in 1815.

Referring to the military campaign of 1794,²³ the Hougoumont garden was garrisoned by French royalist *émigrés* of the *Légion de Damas* and the *Légion de Béon* and it is clear that the authors

²² Quoted in the Project Hougoumont Conservation Report Vol II, page 76.

²³ *Mont-Saint-Jean 6-7 juillet 1794* by Cecille, Charet and Pattyn (Historic’one Editions, 2015).

believe that it was these “*hommes de Béon et de Damas ont pratiqué des meurtrières pour la défendre*”.²⁴ There is no documentary evidence to hand at the moment that suggests these loop-holes were filled in again after the battle.

An examination that included measuring the height and width and the distance above the ground of each loop-hole together with a survey of their position in the wall suggests that the loop-holes have not been constructed for defensive purposes as was previously thought; the spacing would have been more regular and the height above the inside ground would have been more the same (they range from 77 cms to 162 cms with an average height above the inside surface of 114 cms). In addition, the loop-holes have all been reinforced by rough limestone sides and lintels which restrict the width considerably.

Fig 6 below shows the south wall from the south-east corner (great orchard) and appears from its type, graininess, and colour to date from the immediate post WW2 era; it can be seen that all the trees inside the garden have been felled. This is indicative of the 1939-1945 period when firewood was in short supply, especially at the end of war – replacement planting was generally restricted to the 1950s.



Fig 6: the south wall, note the lack of trees in the garden and the lack of loop-holes in the wall. Picture © Ian Knight

Notice should be taken of the fact that there are no distinctive loop-holes framed by white stone, except for perhaps one, and that the three dark rectangular areas near the corner may be re-filled loop-holes.



Fig 7: the south wall from the same place as Fig 6 but around 60 years later. Picture © Wade Krawczyk

²⁴ *Les émigrés à cocarde noire* par Bittard des Portes p.176 repris par Laudy in *La bataille de Mont-Saint-Jean, 1938* quoted in *Mont-Saint-Jean 6-7 juillet 1794* by Cecille, Charet and Pattyn (Historic'one Editions, 2015), page 56.

Fig 7, above, taken around 2010, shows that the trees in the garden have grown and the dark patches in the wall, which broadly match those in the black & white photograph in Fig 6 and could well be bricked-up loop-holes, do not seem to accord with the current loop-holes. Neither photograph shows much evidence of loop-holes as shown in Fig 8 (below) and yet there are 17 loop-holes in this wall today.



Fig 8: anonymous watercolour, 1856, showing the loop-holes – PHCR Vol III p 335.

Other old photographs show signs of significant rebuilding of the wall and as recently as 2015 extensive lengths of wall have had to be completely rebuilt. **It is probable, therefore, that the wall has been almost entirely re-built and the loop-holes seen today are 19th, 20th and 21st century additions for tourist purposes.** Close inspection shows that the majority of the bricks used are of quite recent manufacture although a few from 1815 still exist.

The war of 1794: In addition to the issue of the age of the wall, there is another issue that relates to the war of 1794. Inside the formal garden pieces of grape shot (or metal balls for spherical case or canister) have been found, and down in the sunken way a part of what is thought to be a case-shot casing was found. With these finds it is tempting to assume they come from 1815 but the problem is then to reconcile the finds' locations with the positioning of the French artillery (to the west by about 600 metres, although an artillery piece is recorded as being in the field to the south of the great orchard – parcel 2). With the western guns, the range is too long and they are unlikely to be firing case/canister as their objective was to cannonade the farm buildings. The eastern gun is too close and the grape shot was found in the shadow of the wall (a ballistic impossibility).

Another theory is that the projectiles are from the British guns on the ridge to the north and the projectiles fell short: this sounds unlikely, but many would argue that the French didn't use case shot and so it must be the British. This is disputed by Paul Dawson, who asserts in the book *Napoleonic Artillery* by Dawson A, Dawson P and Summerfield S. that they had case from 1780.

Indeed, many historians claim that the French did not use artillery against Hougoumont at all but this goes against all the documentary evidence which indicates that artillery was used against the farm throughout the battle but without great success until around 14h00 when they managed to set the farm buildings alight; in addition, Clay recalls artillery smashing down the south gate.²⁵

A third theory that should be considered carefully is that the finds could be from the battle in 1794 when the French cannonaded the farm from the north on the Nivelles road – the range is right and the ballistic profile also works.

²⁵ *A Narrative of The Battles of Quatre-Bras And Waterloo; With the Defence of Hougoumont*, by Matthew Clay, Edited by Gareth Glover (Ken Trotman Publishing, 2006) page 27.

It is interesting to note that a spirit bottle made of poor quality glass was found, together with other kitchen detritus, in a trench across the middle of the garden. This bottle is undamaged and dates (provisionally) from 1750-1800. It would not be unrealistic to assume that during the occupation of the garden by the French *émigrés* in 1794 that their camp kitchen was established here and that they would have had spirits to drink at the time.

How did a small group of defenders hold off five times the number of attackers: This is probably the most interesting historical question of all. The answer, militarily, has to be that an obstacle acted as a barrier for the French coming from the wood – one that forced the attackers to split their forces to curve round the east and west ends of the obstacle (i.e. towards the south gate and then into the great orchard).

The historical documentation (and the cadastral maps) record the small orchard killing ground to the south of the garden wall had a reasonably substantial quickset hawthorn hedge set 30 metres from the wall and a few paces outside the wood. Such a hedge does not exist any more but the evidence for its existence is visible on the ground (see figures 2 and 3) and is indicated as the firing position of the French shooting at the wall and the fall of British musket balls. The shallow ditch associated with this hedge is still in existence on the south side of the hedge/fence line which is set on a small dyke.

That the hedge existed there can be absolutely no doubt as it is spoken of many times in the documentary record and not just during the battle but by visitors up to 30 years later. It also shows up in the watercolours, etchings and sketches made after the battle, and shows up clearly in two photographs from the late 19th century.²⁶ But what is interesting is the weight of troops pressurising the great orchard and the south gate and how little pressure is applied to the wall itself. **There is, militarily, little doubt that the hedge was a significant if not impassable barrier that slowed the French advance to the wall significantly as it allowed the soldiers defending the wall to slow down and fight off the attacking troops.** Exactly where the wall was exposed to the greatest pressure of attack will show up with the density of musket balls discovered outside and inside the wall; longitudinal trenches will need to be dug and then detector surveys carried out to ascertain the projectile scatter and density.

Simple mathematics shows that the defenders will have been positioned every 75 cms-100 cms along the wall, either firing over it or through loop-holes, and this will have resulted in the wall being held at any moment by between 350 and 450 soldiers of the 1/2 Nassau Regiment under Captain Büsgen and, close to the building, men of the Coldstream and 3rd Guards. **That these men held off over ten times their number demonstrates the importance of the barrier/obstacle of the hedge, the very existence of which cannot be doubted: its density and impassability and the fact it was defended so vigorously from the wall is probably the singularly most significant reason why the French were not able to storm the garden and thus capture the complex. And, as such, it may well be one of the most significant elements in the successful Anglo-Dutch defence of their position as they awaited the arrival of the Prussians.**

Conclusion

As a historian, I am of the opinion that we have successfully resolved a number of significant historical issues concerning the battle of 1815 as it applies to Hougoumont, and with this information in mind we can now confidently re-write some of the history of that iconic event. However, there are still plenty of interesting historical questions that remain, including that of the disposal of the dead.

There will be, of course, many who will consider this new evidence disturbing and unacceptable as it directly contradicts, in places, the received wisdom and the mythology (romanticised history) of

²⁶ Project Hougoumont Conservation Report Vol III pages 106 and 107.

that day on 18 June 1815. That, of course, cannot be our concern: we must remain focused on teasing out the last bits of the truth so that we can present as factually correct a record as is possible without having been there at the time. There is also much more to be learned about the social and economic life and times of Hougoumont through the ages.

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