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Grotte de La Faucille, Sclayn (Andenne, BE) Preliminary reports on the 2016-2017 excavation of the Neolithic ossuary and terrace

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1. Introduction

The spread of the Neolithic throughout Europe has received much attention in recent years. Archaeological and genetic analyses have shown that Neolithic lifeways spread across Europe through means of a large-scale migration. The start of this dispersal throughout Europe appears to be located in Anatolia and the Aegean around 7000-6500 cal BC (Skoglund *et al.*, 2012; Gamba *et al.*, 2014; Lazaridis *et al.*, 2014; Skoglund *et al.*, 2014; Mathieson *et al.*, 2015; Cassidy *et al.*, 2016; Günther & Jakobsson, 2016; Hofmanová *et al.*, 2016; Kılınç *et al.*, 2016; Omrak *et al.*, 2016). In Europe, migrating people and the Neolithic ways of life spread along two main routes: along Mediterranean coasts and inland, following the Danube River (Günther *et al.*, 2015; Olalde *et al.*, 2015; Valdiosera *et al.*, 2018). Neolithic farming reached the fringes of Northwestern Europe ultimately by around 4000 cal BC. In some regions, this introduction coincided with admixture with local hunter-gatherers; in other regions, admixture is only observed in later farming groups (Smith & Stringer, 1997; Skoglund *et al.*, 2012; Skoglund *et al.*, 2014; Günther *et al.*, 2015; Mathieson *et al.*, 2015).

In Belgium, Early Holocene human skeletal remains date from the Early Mesolithic to Late Neolithic, with a gap from the Middle Mesolithic to Early Neolithic. A single cremation burial dating to the early Neolithic was recovered at Hollogne-aux-Pierres, but most Belgian Neolithic skeletal collections originate from Late Neolithic caves and rockshelters, compared with open air sites found more commonly in central Europe (Toussaint, 2010). Osteological evidence is mostly limited to the Meuse Valley where caves and rock shelters facilitated bone preservation, though it is possible that open air cemeteries were used but did not preserve. Collective burials were a characteristic feature of Neolithic societies in Western Europe. The custom of the collective burial in Belgium, however, predates arrival of the Neolithic and dates to the Early Mesolithic. Although the majority of osteological samples were excavated in the 19th and early 20th centuries and lack detailed context, several recent excavations have yielded both Mesolithic and Neolithic remains (Bocherens *et al.*, 2007).

2. Excavation of Grotte de La Faucille

The cave, 'Grotte de la Faucille', located in the valley of the Fond des Vaux, in Sclayn (municipality of Andenne, Prov. of Namur, BE; Fig. 1:1), was discovered May 11, 1999. In August of the same year, an initial assessment of surface deposits led to the discovery of human and animal bones as well as some archaeological evidence attributable to the Final Neolithic. Radiocarbon dating of a human bone confirmed this, with a result of 4266 ± 40 ^{14}C BP (OxA-10584; 2 sigma: 3011-2702 cal BC; Toussaint, 2002).

In the summer of 2015, collaboration with the Public Service of Wallonia (SPW), Liverpool John Moores University (LJMU) and the Scladina Cave Archaeological Centre (SCAC) resumed study of this site. A review of bone material exhumed in 1999 was carried out

prior to field operations by a team from LJMU, under the direction of I. De Groote. The purpose of the work was both to optimize conservation of the material and refine preliminary determinations made in April 2000 (Dr Philippe Masy). The study showed that the collection, composed of 120 human mostly fragmentary bones and teeth, corresponds to a minimum of two adults and four children. The latter have estimated ages at death of 2-3 years, 6 years, 8-9 years and 15-18 years based on the degree of maturity of bones and teeth. In May 2015, the SCAC initiated new fieldwork to test the remaining anthropological potential of the site, clarify the stratigraphic origin of human remains, determine their degree of distribution and devise the best approach to extract the maximum information about burial practice. The approach also had a methodological objective of testing the contribution of 3D recordings by photogrammetry (developed as part of the work in Scladina Cave) to the excavation of cave entrance sites. The aim was to work on development of a field method applicable to Mesolithic and Neolithic burials in the context of cave entrances as part of preventive archaeological operations where these sites are frequently threatened by speleological activities.

Excavations in 2016 covered about 10 square metres along the slope below the 1999 trench (Fig. 1:2). This work allowed collection of archaeological and anthropological material that was displaced both stratigraphically and spatially, indicating that part of the contents of the

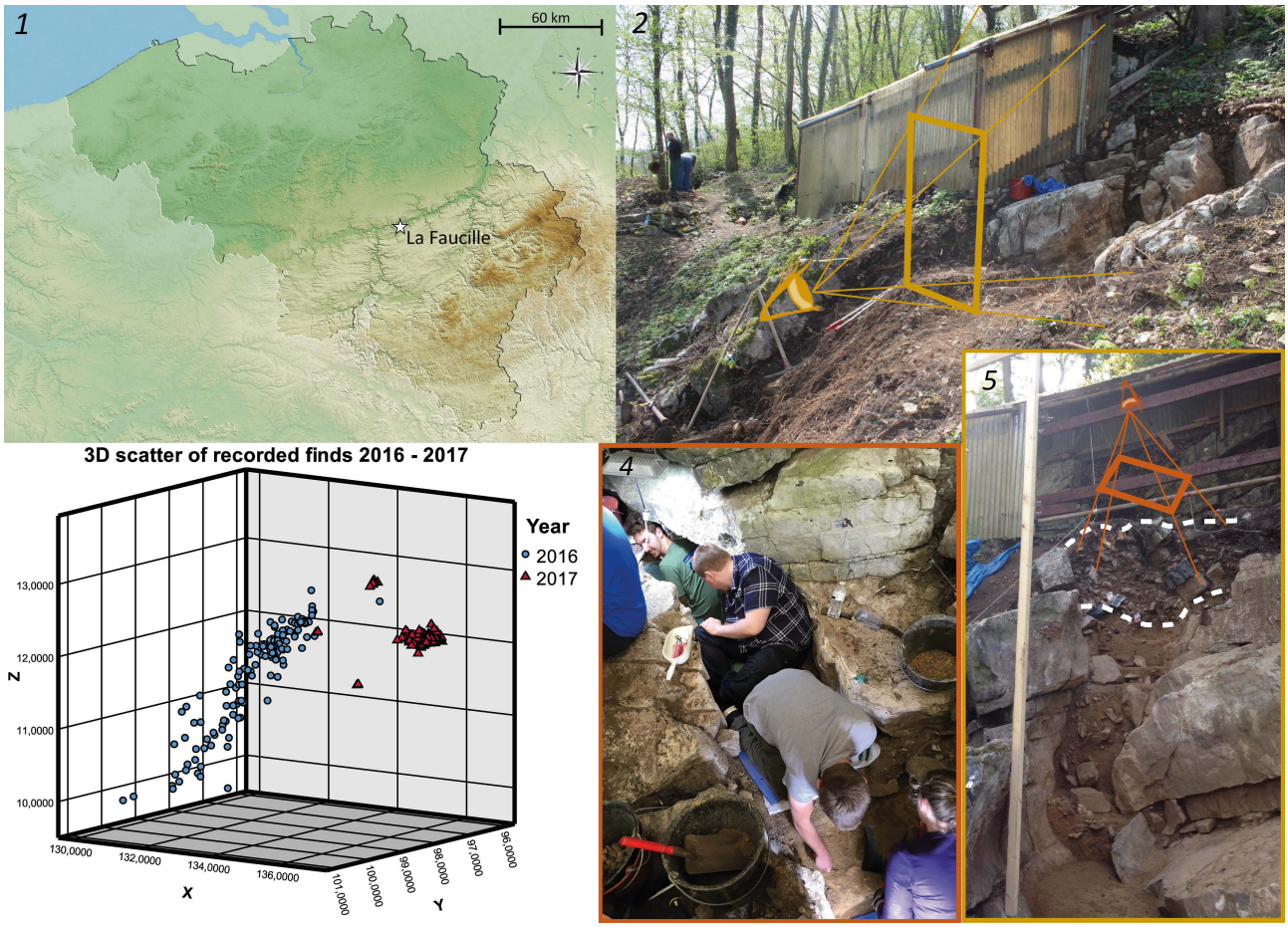

Fig. 1 – 1. Locality of Grotte de La Faucille at Sclayn;
2. Excavation of the terrace and slope - 2016 and position of image 1-5;
3. Three dimensional scatter of recorded finds in 2016 and 2017;
4. Narrow entrance to the cave makes excavation difficult;
5. Transverse section at end of 2016 season highlighting highly reworked deposits from which the finds originate and position of image 1-4.

cavity had been reworked in the slope deposits (Fig. 1:3). The exhumed material includes 180 objects (Fig. 1:3), which comprised 49 bones and teeth identified as belonging to *Homo sapiens*. The non-*Homo* collection consists of a few archaeological finds (details below). Based on these new remains, the anthropological sample increased to two adults and five children in 2016. The additional individual corresponds to a child whose age at death was 6-7 years. All anthropological material lack long and axial bones (only a few fragments were exhumed in 1999), suggesting the missing elements were either reworked further down the slope or are still inside the cave.

In 2017, excavations continued directly in front and behind the 1999 trench in the cave entrance. As excavations continued the archaeological and anthropological material became richer, causing work to slow. In addition, the small entrance becomes increasingly narrow allowing only one or two excavators to excavate there at a time (Fig. 1:4). A total of 428 finds were recorded in the 2017 season (Fig. 1:3), of which 309 were identified as likely originating from *Homo sapiens*. To preserve the maximum amount of spatial information, 3D coordinates for each bone and tooth identified *in situ* were recorded and photogrammetry models created before lifting. The spread of the artefacts and sedimentology show that the currently excavated area is heavily reworked (Fig. 1:5). At the end of the 2017 season, the sediments containing the human bones were changing in character (more compact) and well preserved adult long bones were left in the section for future recovery.

Examination of the finds of Grotte de La Faucille took place in 2018 and 2019 and in this paper we present some preliminary results from these analyses. Reference to insights gained from the 1999 excavations have been incorporated as well.

3. Archaeology

The excavations have yielded relatively few artefacts (Fig. 2). There are several flint fragments, two of which were recovered in 1999. The first is a large white flake fragment showing high gloss use wear, commonly referred to as sickle gloss (Fig. 2:4). This determination however needs confirmation via microwear analysis. Another find from 1999 is a tanged point (Fig. 2:3) consistent with those found in Late Neolithic/early Final Neolithic industries (FA1999-120; Vanmontfort *et al.*, 2009). This typological dating is consistent with the radiocarbon date obtained on human bone. In 2016, a further four flint flakes, presenting a white patina, were recovered (FA-2016-004, 032,042, 054), none of which show intentional retouches.

Two small pottery fragments were recovered in 2016. The first (FA-2016-049) is undiagnostic due to its limited size. The second, (FA2016-134-2) is a small potsherd tempered with numerous quartz fragments. There are three organic artefacts. First, a well preserved bone awl (FA1999-119; Fig. 2:5) was recovered in 1999. It is made on a horse (*Equus sp.)* or cervid vestigial metapodial. The awl has a preserved length of 104 mm. The tip is well preserved but the distal end is damaged. Further use-wear analysis will determine if the awl was used. The second artefact is a pierced carnivore tooth (likely *Canis sp.*; FA2016-002; Fig. 2:1). The hole's edges are smooth, suggesting the tooth was strung and used as a pendant or clothing ornament. The enamel surface is damaged but some of the damaged areas look smooth, suggesting the pendant was worn after fracturing.

Lastly, a bone artefact of unknown function was recovered at the end of the 2017 season (FA2017-379; Fig. 2:2). The fragment appears to be one half of the original artefact and its distal end is damaged. It has an elongated rounded head (Ø: 23.2 mm), the surface of which looks smooth with no visible striations. The object is made from a large long bone: the cortical thickness must have been at least 8.2 mm and small remnants of trabecular tissue suggest a closed trabecular structure at least on one side. A longitudinal cavity runs

Fig. 2 – Archaeological evidence recovered 1999, 2016 and 2017.
1. Pierced carnivore tooth; 2. Bone object; 3. Tanged point; 4. Large flake with high gloss use wear; 5. Bone awl.

the length of the bone and shows circular striations possibly from drilling. The cavity has a maximum diameter of 8.4 mm and narrows near the surface on the head to 6.2 mm. There is a narrow collar below the rounded head with a length of 13.6 mm. So far, we have been unable to determine the identity of the species.

4. Anthropology

A total of 471 finds were identified as likely being from *Homo sapiens*. Most are fragmentary. Of these, 93 human teeth were recovered over the three seasons. Most are loose, but one mandible and a partial maxilla belonging to a ± 6 year-old was recovered. A MNI (minimum number of individuals) was calculated based on the juvenile and adult dental sample. Using tooth development stages the deciduous and juvenile permanent dentition were divided into age categories. This technique resulted in the identification of a minimum of six juveniles (2 x ± 2 yo, ± 6 yo, ± 8 yo, ± 13 yo, ± 15 yo). Teeth belonging to one individual originated from different excavation years, demonstrating that the excavation area is highly reworked.

The MNI for the permanent adult dentition sample was determined by identification of the teeth (excluding those assigned to the juveniles mentioned above). Six lower left second premolars were recovered; therefore, the MNI is six, though this is likely an underestimate as it was impossible to make associations with preserved first premolars or first molars. Hence the actual number of adult individuals may be closer to nine.

Complete bones are rare, consisting mostly of elements of the hands and feet (n = 90). All skeletal elements are represented. Few were preserved sufficiently to side and age, but MNI was calculated (Tab. 1). The MNI from postcrania is seven based on the humerus, *i.* e., three adults and four children. Four adults are identified by a portion of a femur. The tooth sample is better preserved and is therefore a better estimate of the MNI.

So far six adults and six children are represented, bringing the total to at least 12 to make this one of the largest Neolithic assemblages recently excavated in Belgium. Whether the remainder of bodies is still *in situ* on site will need to be investigated through further excavations.

Element	*Left*	*Right*	*Adult*	*Juvenile*	*MNI Adult*	*MNI Juveniles*	*Total MNI*
Atlas	N/A	N/A	2	3	2	3	5
1st rib	2	2	1	1	2		
12th rib				1	1		1
2nd metacarpal	2		2		2		2
3rd metacarpal	1	1	1	1	1	1	
4th metacarpal		2	4				6
5th metacarpal				1		1	1
Scapula		2	2	2	2	2	
Humerus	5	5	5	4	3	4	7
Pubis	1	1		2		2	2
Femur	6	3	4	8	4	3	7
Metatarsal 1		1	1		1		1
Metatarsal 2	1	2	3	1	1	1	2
Metatarsal 3	2	1	2		2		2
Metatarsal 4	1		1		1		1
Metatarsal 5		1		1		1	1

Tab. 1 – Minimum Number of Individuals (MNI) calculated by anatomical units.

5. Conclusion

The first three systematic excavation seasons at the Neolithic ossuary of Grotte de La Faucille, Sclayn (BE), produced skeletal and dental remains of at least 12 individuals and a number of bone and lithic artefacts. The site was dated to the early 3rd millennium cal BC, corresponding to the transition from the late to the final Neolithic. The excavated material is clearly reworked and the individuals are mostly spread on the slope outside the site. At the end of the 2017 season, complete adult long bones were visible at the entrance of the site and continuation of the excavation should enable us to identify if these human remains, contained in a denser sedimentological unit are *in situ* or not.

The skeletal remains are fragmentary and some elements, such as the cranium, are highly underrepresented given the number of individuals. The potential to find the remainder of at least 12 individuals is promising and continued excavation may result in one of the largest recent excavation of a multiple Neolithic burial site of the 21st century. The results presented here and ongoing analysis have the potential to significantly expand our understanding of the mortuary behaviours, or variation in behaviours, of the Belgian Neolithic and contribute further to the lively debate on the spread of the Neolithic.

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Abstract

This article reports on the first three systematic excavation seasons at the Neolithic ossuary of Grotte de La Faucille, Belgium. The site was dated on human bone to 4266 ± 40 ^{14}C BP (3011-2702 cal BC; 2 sigma), corresponding to the transition from the late to the final Neolithic. The area excavated to date is clearly reworked and the individuals are distributed across the site. Further excavation will focus on the inferior levels at the entrance and inside the cave. This report presents the preliminary analysis of the anthropological and archaeological evidence recorded to date.

Five archaeological artefacts were discovered made on bone, tooth and flint. The site has produced skeletal and dental remains of at least 12 humans (MNI 6 juveniles and 6 adults) as well as a number of bone and lithic artefacts. The skeletal remains are fragmentary and some elements, such as the cranium, are highly underrepresented given the number of individuals. The potential to find the remainder of at least 12 individuals is promising and continued excavation may result in one of the largest recent excavation of a multiple Neolithic burial site of the 21st century. The results presented here and ongoing analysis have the potential to significantly expand our understanding of the mortuary behaviours, or variation in behaviours, of the Belgian Neolithic and contribute further to the lively debate on the spread of the Neolithic.

Keywords: Sclayn, Grotte de La Faucille, municipality of Andenne, Prov. of Namur (BE), multiple burial, cave, Seine-Oise-Marne, Final Neolithic, Late Neolithic.

Résumé

Cet article présente les trois premières saisons de fouilles systématiques dans l'ossuaire néolithique de Grotte de La Faucille, en Belgique. Le site a été daté sur un os humain à 4266 ± 40 14C BP (3011-2702 cal BC; 2 sigma), correspondant au passage du Néolithique tardif au Néolithique final. La zone excavée est clairement remaniée et les individus sont répartis sur le site. Les dernières fouilles se concentreront sur les niveaux inférieurs à l'entrée et à l'intérieur de la grotte. Ce rapport présente l'analyse préliminaire des vestiges anthropologiques et archéologiques enregistrés à ce jour.

Cinq artefacts archéologiques ont été découverts. Ils sont façonnés sur os, dent et silex. Le site a produit des restes squelettiques et dentaires d'au moins 12 individus dont 6 juvéniles et 6 adultes. Les restes squelettiques sont fragmentaires et certains éléments, comme le crâne, sont fortement sous-représentés compte tenu du nombre d'individus. La possibilité de retrouver le reste d'au moins 12 individus est prometteuse et la poursuite des fouilles pourrait aboutir à l'une des plus grandes fouilles récentes d'un site funéraire multiple néolithique du XXIe siècle. Les résultats présentés ici et l'analyse en cours sont susceptibles d'élargir de manière significative notre compréhension des comportements mortuaires du Néolithique en Belgique, ou de la variation de ceux-ci, et de contribuer au débat animé sur la diffusion du Néolithique.

Mots-clefs : Sclayn, Grotte de La Faucille, comm. d'Andenne, Prov. de Namur (BE), sépulture multiple, grotte, Seine-Oise-Marne, Néolithique final, Néolithique récent.

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