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An archaeopedological and phytolitarian study of the "Dark Earth" on the site of Rue de Dinant (Brussels, Belgium)

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ABSTRACT

During the excavations of the site of Rue de Dinant in the historic centre of Brussels (Belgium), remains of the first city wall dating from the 13th century have been discovered. *Intra muros* thick dark sediment units predating this wall are observed. These dark units are among the oldest occupation traces so far encountered in this higher, eastern, part of the historic centre of Brussels. In order to characterise them, and to understand the human activities and natural processes behind their formation, an interdisciplinary research, integrating archaeopedology and phytolith study, has been undertaken. This approach permitted us to identify a range of natural and cultural processes leading to the formation of these dark layers, and to characterise different activities. Remains of a hearth, old plough land (cropfields) and grassland have been identified, all activities referring to a rural landscape organisation. Later on, the area changes into an enormous silt extraction area, whereby Dark Earth is thrown into the dug pits. Finally, the construction of the first city wall marks the area as becoming part of the city. The study of Dark Earth shows to be a potentially valuable tool to shed light on the development and spatial organisation of pre-urban Brussels, a historically very poorly documented period.

1. Introduction

In the last decades there has been a growing awareness of the archaeological potential of thick dark homogeneous units often observed in urban stratigraphy. The study of these 'Dark Earths' has so far been concentrated in England (Macphail, 1981; Yule, 1990; Dalwood, 1992; Yule, 1992; Macphail, 1994; Sidell, 2000; Macphail, 2003; Macphail et al., 2003; Dalwood and Edwards, 2004; Macphail and Linderholm, 2004; Goldberg and Macphail, 2006), France (Cammas, 2000; David et al., 2000; David et al., 2003; Cammas, 2004; David, 2004; Galinié, 2004; Fondrillon, 2007), and Italy (La Rocca Hudson, 1986; Brogiolo et al., 1988; Cremaschi, 1992; Christie, 2006: 261–262; Nicosia, 2006), although some research has been performed in Sweden (Heimdahl, 2005) and Belgium (Brulet et al., 2004; Laurent, 2004; Devos and Vrydaghs, 2007; Vrydaghs, 2007).

The definition of 'Dark Earth' is heavily debated. During the international round table on Dark Earth in Louvain-la-Neuve (Belgium) in 2001 (Macphail et al., 2003; Verslype and Brulet, 2004), several authors defined 'Dark Earth' as 'the levels in between the stratifications of antique cities (between the 1st and the 3rd–5th century) and the medieval ones (from the 11th–12th century onwards)' (Cammas, 2004; David, 2004; Galinié, 2004; Macphail and Linderholm, 2004). This definition restricts 'Dark Earth' to urban contexts situated in the ancient Roman Empire and implies a foreknowledge of the chronology of the site. Such a definition involves also that the Amazonian anthrosols 'Terra Preta' predating the Conquista (Lima et al., 2002; Arroyo-Kalin et al., 2003; Glaser and Woods, 2004; Goldberg and Macphail, 2006) cannot be viewed anymore as 'Dark Earth'.

Laurent suggested to extend this definition to all kind of thick, homogeneous, dark coloured deposits marking a transition between two periods of human influence on a site (Laurent, 2004). But again, by being contextual, this definition relies on preconceived ideas.

Heimdahl proposes a broader definition, viewing the 'Dark Earth' as a descriptive term for dark, thick (often 20–70 cm) poorly stratified, organically rich units that occur on archaeological sites (Heimdahl, 2005).

This paper adopts a similar approach by using 'Dark Earth' as a strictly descriptive term for dark, humus-rich, non-peaty, homogeneous units, with a straight to undulating, abrupt to clear, more or less horizontal base. Their thickness can vary from 10 cm to several meters.

Different research protocols have been developed to characterize and identify these units, whose genesis, development and taphonomic processes are often unclear, and whose interpretation and attribution to particular human activities remain problematic. Among the disciplines that are often contributing to the study of

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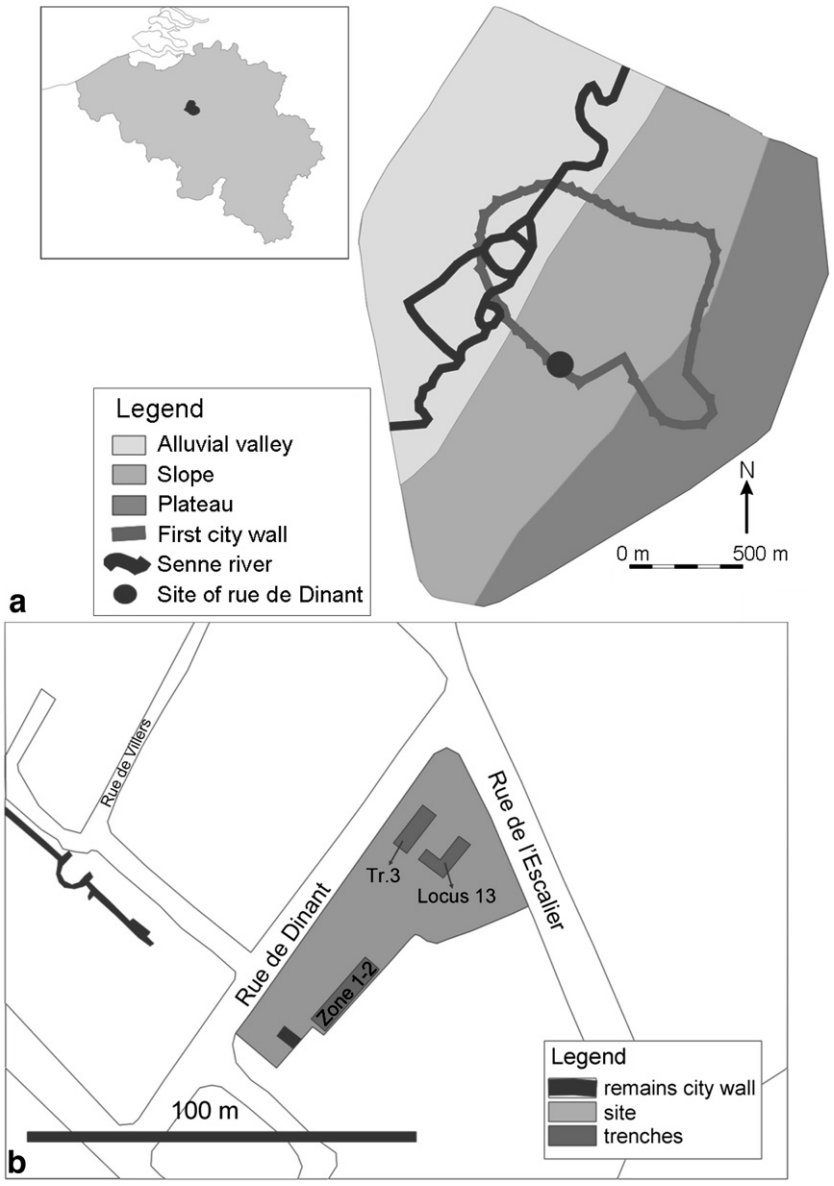

Fig. 1. a: Localisation of the site of Rue de Dinant, Brussels, Belgium (after Cabuy and Demeter, 1995); b: localisation of the different excavation trenches.

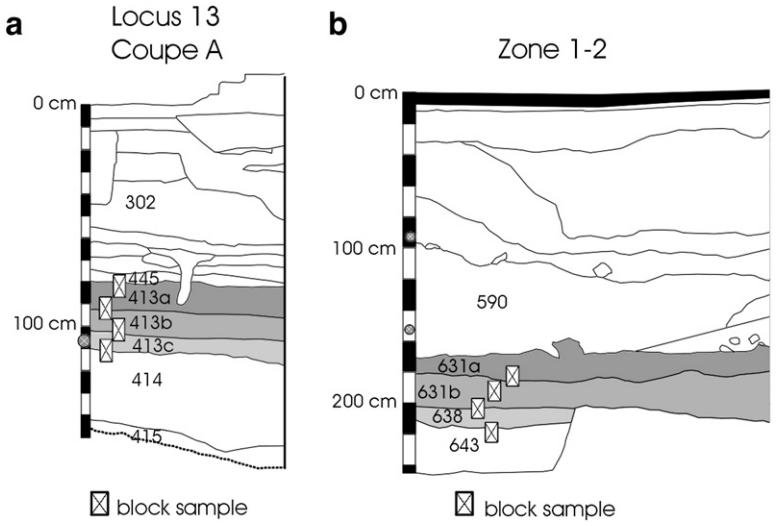

Fig. 2. a: Stratigraphy of trench Locus 13 with indication of the undisturbed block samples; b: stratigraphy of trench Zone 2 with indication of the undisturbed block samples.