“Are friends acidic?”: differentiating humiferous Neolithic occupation horizons (Northern France, Belgium, Luxembourg)
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« Are friends acidic? »: differentiating humiferous Neolithic occupation horizons (Northern France, Belgium, Luxembourg)

The main objective is the definition of sub-types of Neolithic surface horizons, contributing to the recognition of specific in situ man-made environments. Such horizons, when dated, are part of the archaeological record. A second point of this study is to compare regional or local evolutions of soils influenced by human activity or to some extent by climate (as here in South Champaign). A third, more general goal is to encourage the discovery and study of more such well-defined horizons. Finally, these results aim at the promotion of the application of field soil characteristics to buried surface horizons.

The field study implies the differentiation of soil forming factors and preservation conditions of the soils in the site. Field approaches are very different in acidic and calcareous soil conditions, both very present in the study area. Taking these differences into account, it is possible to observe and described in the field that allow some hypotheses on the type of surface horizon (is it formed in situ or an upfill, is it bioturbated or ploughed, ...) and adapted sampling to check these. However field soil characteristics are not sufficient - there are for instance no actual traces of the ploughing instruments in the Neolithic case-studies. They almost always call for confirmation by other analytical means.

The general subject of this poster is the use of field soil characteristics as a complement to other approaches of Neolithic buried surface horizons.

Later procedures have included thin section and malacological studies (in calcareous contexts). Laboratory analyses have been used to check for particular anthropic additions including possible fertilizers. For this a reference is given by a large data-basis including the natural soil horizons, grouped by soil-regions. Some cases reflect the initial situations, others slight modifications (burning / adding charcoal), ploughed horizons with or without fertilizing / surface erosion (larger and smaller cultivated surfaces), finally thin activity surfaces with/without accumulation / pollution.

1: Difficulty of reading surface horizons in case of eroding later bioturbations, and/or recarbonation: Manay-sur-Saône (Aube, F), profile P16, on very calcareous silt clay materials.
2: Some of the various processes that can be distinguished by the study of an old surface horizon (after Fechner et al., 1997).
3: Example of an original soil : Rebecq (Brabant wallon, B.), under an old Mesolithic occupation surface, on eroded and newly sedimented decarbonated loess with a two-phased 
4: Reconstructed clay deposition due to the Late Dryas. Hypothetical reconstitution by P. P. Sartieaux (INRAP).
5: Final Neolithic (?) ploughed horizon on thin decalcified marls. Malacology: O. Decocq.
7: Slightly modified original forest soil horizon burning / adding charcoal dated to the Middle Neolithic in Dampierre-le-Château (Marne, F), on super/proficially decarbonated marls. Malacology: O. Decocq.
8: Early Neolithic ploughed horizons without fertilizing in Remerschen (Lux) and Ay-sur-Moselle (Moselle, F). Hypothetical reconstitution of larger fields in relation with houses, by C. Populaire.
10: Final fine horizon without local erosion due to passage nor polluting activities: short-term Late Neolithic occupation in Aougny (Marne, F.).
11: Fine horizons with anthropogenic accumulation of layers and artefacts and polluting activities in the Early Neolithic settlement of Liéusaint (Seine-et-Marne, F). Hypothetical reconstitution of clay deposition due to the abandonment of constructions made with unburnt clay, by C. Populaire.
12: South Champaign: localized cases of soil evolution between Early Mesolithic and Early Bronze age pits.