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A joined venture: two Early Neolithic houses re-interpreted by chemical field tests and archaeobotany (Mosel valley, Fr./Lux.)

Scientific contents:
Kai Fechner, Laura Berrio, with the help of Julian Wetthold and Marie-Pierre Petridier



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Main subject: Using field soil tests and characteristics as a complement to botanical macro-remains in Early Neolithic

Objectives are: -the definition of subareas with a specific functional differentiation in Neolithic buildings;
- the encouragement to select adapted cases and methods for further research on this.

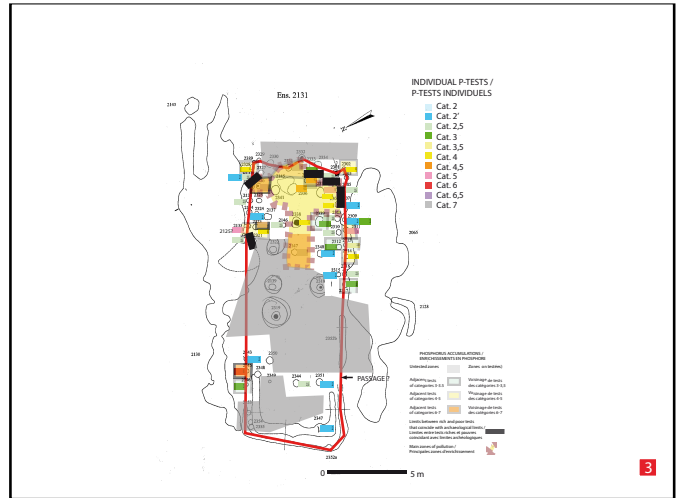
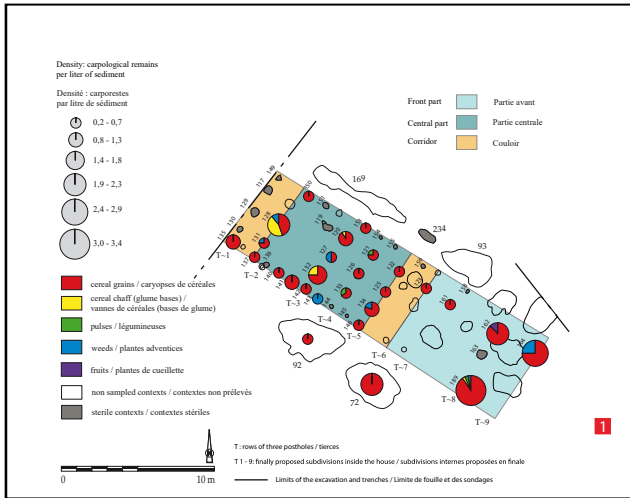
In the field, the study of the factors of soil formation that influence on the preservation of the chemical elements is essential. Strong erosion of the past surfaces, later influence of the water-table (etc.) are reasons not to use certain sites and samples. In some cases, the excavation conditions also play a role. A profile in the natural soil is also to be used as a reference.

Later procedures include the sieving of the the postholes and pits that are rich in botanical macro-remains. The study of the latter indicate that there are often some assemblages of specific species in some parts of the buildings.

An important result is that, for a similar area of a house, botanical assemblages are not identical from one building to another, so that fonctions also can be variable. The same variability is shown by the chemical study of the front parts of different cases: their central corridor can be enriched compared to its aisles, or there can be a clear opposite effect. The cases with continuous strong pollution in the rear part might also be due to variety of causes. Botany is asked here for further distinctions.

Certain parts of the fill of the postholes can sometimes be used as a proxy for the adjacent surfaces (see experiments at Butser farm, Reynolds 1995). Taking into account these methodological limitations, phosphorus tests indicate clear relative enrichments compared to the outside of the buildings and accumulations inside that coincide with archaeological subdivisions.

Soil analyses (esp. total phosphates) and magnetic susceptibility have been possible in some of the tested buildings. Their distributions confirm that there are some areas covered with high amounts of phosphorus correlated



1: Enneyr (Fr.), building M1. Interpretation of the plan of the building M1, distribution of the botanical macro-remains (after Berrio 2023).

3: Bertrange (Fr.): more polluted corridor in the front part of the building as indicated by P-tests in the postholes

2: Enneyr (Fr.), building M1. First attempt at superimposing field phosphorus-tests and carpological data (L. Berrio/ K. Fechner).

4: Altwies (Lux.): less polluted corridor in the front part of the building as indicated by P-tests, laboratory analyses and higher magnetic susceptibility of samples taken on the archaeological stripping. The rear part is polluted more strongly, continuously, as in some other Early Neolithic very long buildings in Champaign and Middle Belgium.

