Micromorphological analysis of roman roads functioning: Evidence of rhythms of human trampling and vehicle traffic (Northeast of France)
Marie-Caroline Charbonnier, Cécilia Cammas

To cite this version:
Marie-Caroline Charbonnier, Cécilia Cammas. Micromorphological analysis of roman roads functioning: Evidence of rhythms of human trampling and vehicle traffic (Northeast of France). World Archaeological Congress WAC-8, 2016, Kyoto, Japan. hal-01988134

HAL Id: hal-01988134
https://hal-inrap.archives-ouvertes.fr/hal-01988134
Submitted on 21 Jan 2019

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L’archive ouverte pluridisciplinaire HAL, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d’enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.
Micromorphological analysis of roman roads functioning: Evidence of rhythms of human trampling and vehicle traffic (Northeast of France)

Marie-Caroline CHARBONNIER¹,², Cécilia CAMMAS¹,²,³

¹Inrap, ²UMR 5140 Archaeology of the Mediterranean Societies, ³Unit of Micromorphology Inrap / AgroParisTech

Introduction & Objectives

Roads & Streets
⇒Elements that structure town planning
⇒Installation, organization, shifting & persistence related to urban dynamic

Archeological questions
⇒Construction / reflections techniques ?
⇒Identification / location of circulation surfaces ?
⇒Status of the streets & roads ?

Current studies focus on:
⇒The routes and the pattern of the street / roads in urban / rural context (based on historic documents & maps, archaeological sites map)

Lack of studies on:
⇒The sedimentary expression of traffic: typical street improvements, trampled layers or layers related to vehicle traffic

Our objectives are:
⇒To identify & characterize roads / streets from the field to the microscopic scale
⇒Intensity / Frequency of trampling or traffic
⇒Typical pattern of layers & spatial organisation of circulation areas
⇒To specify the anthropogenic activities and the function of these areas

Results: Diagnostics features of environmental conditions, trampling & passage of vehicles

Features related to local conditions
° Degree of wetness / water logging

Features related to local circulation
° Type & Intensity

Components related to human activities in the surroundings
° Multi activities or areas reserved to traffic
Rocks, ceramic, bones, bricks & tiles...

Results: Selected types of functioning

Wheel tracks on scraped soil (Sains-du-Nord)

Superimposed non constructed circulation areas: Fine surfaces of circulation - Iron crusts (Famars)

Ditches on each side of the road:
Functioning of the left one

Ditch filling: Washed & clay silt intercalations, clay silt coatings, sedimentary crust
Action of water (runoff, decantation)
Few anthropogenic components
Few activities, area reserved to traffic

Conclusions

Field work + micromorphological analysis provide useful informations about the nature of the traffic layers and their formation processes. It shed a new light on these layers, and shows that they should not be considered as one massive deposit or superimposition of backfills but should be investigated with the same georearchaeological methods and the same care as others archaeological layers.

<table>
<thead>
<tr>
<th>Micromorphology</th>
<th>Facies: Components and processes</th>
<th>Ways of construction and functioning</th>
<th>Relation type of road or street and soils</th>
<th>Status of traffic layers in the urban fabric</th>
<th>Direct relation with the dynamics of urbanization</th>
</tr>
</thead>
</table>