Archeology and microscopy: Geoarcheological and micromorphological approaches of traffic axes in France

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Streets and roads remain underrepresented in studies of soil micromorphology as the sedimentary expression of traffic remains poorly investigated in the archaeological context.
Geoarchaeology, and more specifically micromorphology, is applied to gain an understanding of archaeological stratigraphy, site formation processes and the dynamics of soils and landscape from the city district to territory.

Investigations should address the characterization of traffic areas, as well as their method of construction and organization, in order to restore the formation processes.
1. Street and road development methods

a. Cultural factors
1. Street and road development methods

b. Environmental factors
2. Formation processes of traffic axes
2. Formation processes of traffic axes

Monophasic pattern (Sains du Nord street)

Stratigraphic survey of section 5 and location of the studied samples (US 26 = US 1040/1041; US 42 = US 1058) at Sains-du-Nord
2. Formation processes of traffic axes

Monophasic pattern (Lieusaint lane)
2. Formation processes of traffic axes

Polyphasic pattern (Metz road)
2. Formation processes of traffic axes

Polycyclic pattern (Esclavolles-Lurey road)
3. Thematic analysis: a section of street in *Durocortorum* (Reims)

a. Study area and archaeological context
3. Thematic analysis: a section of street in Durocortorum (Reims)

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b. Material and methods
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3.3 Results

Vehicule traffic

Pottery sherd in a rut (PPL and XPPL)

Fragment of pottery (PPL and XPPL)
3. Thematic analysis: a section of street in *Durocortorum* (Reims)

### 3.3 Results

**Vehicule traffic**

**rut**

**Levelling, vehicule traffic**

Fragment of pottery (PPL and XPPL)

Fragment of charcoal (PPL and XPPL)

Fragment of flint (PPL and XPPL)
3. Thematic analysis: a section of street in *Durocortorum* (Reims)

**3.3 Results**

- **Vehicule traffic**
- **Repair**
- **rut**
- **Pavement ?**

- Fragment of bone (PPL and XPPL)
- Ferruginous impregnations (PPL and XPPL)
- Fragment of pottery (PPL and XPPL)
3. Thematic analysis: a section of street in *Durocortorum* (Reims)

3.4 Discussion

Relevé stratigraphique de la coupe 11 au 1/20 © Inrap
Conclusion

- Field observations and interpretations together with the results of micromorphological analyses facilitate a better understanding of the construction, maintenance and use of traffic axes.

- Models of formation processes:
  - Monophasic model: permanent maintenance due to the status or continuous use of the street or lane.
  - Polyphasic and polycyclic model: rhythmic use and rebuilding.

- Present study allows us to distance ourselves from the vision of a road or street as a paved area and sheds new light on traffic axes. It shows that they should not be considered as one massive deposit or superimposition of backfills, but should be investigated with the same geoarchaeological methods and the same care as other archaeological layers.
Thank you for your attention