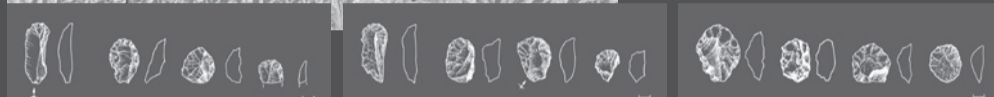


ALPINE RAW MATERIALS AND THE PRODUCTION AND USE OF SCRAPERS AT THE SWISS LATE MESOLITHIC SITE OF ARCONCIEL/LA SOUCHE

Laure Bassin & Marcel Cornelissen



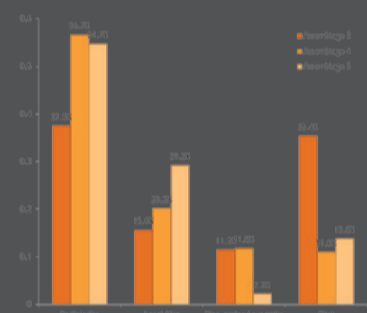
Arconciel/La Souche (Fribourg, Switzerland) is a rock shelter with a well stratified, multi-phased Late Mesolithic occupation (7100–4900 cal BC) and is located in the Sarine valley, at the foot of the Prealps.



Ass. 3, 4 and 5. M. Mauvilly

This poster presents preliminary results of our PhD research combining technological analyses of the lithic industry and the micro wear traces of the northern pre-alpine Late Mesolithic. Here we concentrate on the scrapers from the assemblages 3, 4 and 5 at Arconciel/La Souche (~6500–5500 cal BC). 48 % of tools in the assemblage are scrapers, making them the most abundant tools. This raises questions about how both local and imported raw materials relate to their production and use.

Local and imported raw materials for scraper production at Arconciel/ La Souche



- Ass. 4 and 5: radiolarite was the preferred local raw material for scrapers.
- Ass. 3: flint scrapers are abundant in relation to the general occurrence of flint (7,8% of total [2003-2011] artefacts vs. 35% scrapers).
- Ass. 4 and 5: scrapers reflect general raw material presence on the site.

Proportions of raw materials use to the production of scrapers

Scraper blanks

- From ass. 3 to 5: the choice of bladelets for scraper blanks decreases from 19 to 9%.
- In ass. 3 and 4: core reduction flakes of imported flint as scraper blanks are relatively common (17–28%) in comparison to those of local raw materials (this difference is not visible in ass. 5).

	Prealpine local raw material (~20km)			More distant (>70 - 100km)
	Radiolarite	Local flint	Fine-grained quartzite	Flint
Assemblage 3 (5700 - 5500/5400 BC)	~0.35	~0.65	~0.00	~0.00
Assemblage 4 (6300/6200 - 5700 BC)	~0.15	~0.20	~0.35	~0.30
Assemblage 5 (6600/6500 - 6300/6200 BC)	~0.10	~0.10	~0.10	~0.70

Tab. 2: Tableau synthétique de la gestion des matières premières et des choix de supports pour les grattoirs des trois ensembles étudiés.

- minimal use
- used in proportion to the quantity of recovered raw material
- preferred raw material
- preferred raw material for bladelets
- scraper blanks: predominantly flakes, except for an increase in the use of bladelets in comparison from ass. 5 to 3
- notable use of core preparation flakes in comparison to other raw material

A development in the relationship of the local and imported raw materials at Arconciel/La Souche between 6600 and 5700 cal BC is shown by a decreasing use of local materials and a preference for imported ones. This is accompanied by a change in scraper blank selection.

The variation in traces on scrapers seems to be mostly related to morphological differences. 36 of 38 artefacts were used and wear traces suggest that working edges comprise both distal edges and distal corners. In addition, traces on basal edges and especially their corners indicate many tools would have been hafted. Lastly, there are some indications of a change in use over time.

It can be concluded that between 6600–5400 cal BC the way raw materials are used to produce scrapers changes. While the use of local materials remains the same, there is a significant change in the reduction sequence of scrapers on imported flint. Also the choice of blanks changes, with an increased importance of bladelets. The end-forms, however, remain the same. The use wear traces too, show limited change with time.

These results are part of the ongoing Gestures of Transition-project and are to be extended to other artefact categories and additional stratigraphical units. A deepening of the integration of the use wear analysis and the chaînes opératoires and technology studies will provide new evidence of behaviour, artefact use-life and possible external cultural influences at the Mesolithic-Neolithic transition just north of the Alps.

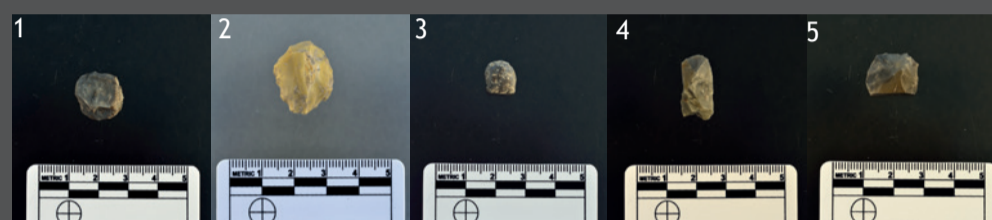
Raw materials

Most of the lithic assemblage (21'402 artefacts, inventory completed for excavation campaigns 2003–2011) is produced on three raw materials which outcrop in the nearby Prealps and can also be found in the Sarine riverbed:

- Radiolarite (39 %), abundant in the region, inferior knapping qualities.
- Local flint (21 %), inferior knapping qualities.
- Fine-grained quartzite (27 %), grainy metamorphosed sandstone, quite good knapping qualities.

The remainder of the raw material comes from far away:

- Flint (5%), from the Jura Mountains, the Geneva region or France, good knapping qualities.
- Rock crystal (<1%), from the Alps, peculiar knapping qualities.



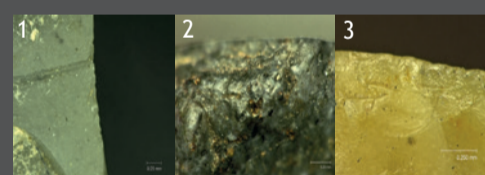
1. round, radiolarite; 2. pear-shaped, imported flint; 3. claw-shaped, fine-grained quartzite; 4. elongated, radiolarite; 5. halfmoon, radiolarite

Use wear analysis

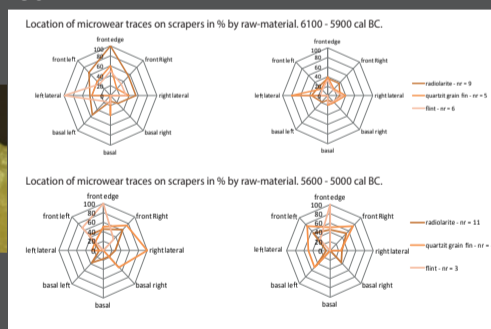
A selection of 38 scrapers was studied with a so-called pragmatic approach to microscopic use wear analysis. It combines low and high power magnification (10–200 x) and focuses on the determination of the used part of the tool, direction of use and, to a lesser extent, intensity of use.

While both development and readability of use traces varies with local raw materials, on imported flints traces are relatively clear. It appears most observed differences in tool use are caused by artefact morphology. Whether raw material also influenced use could not be established with certainty.

The pronounced lack of traces on the basal end of the oval scrapers suggest a variation in use or hafting between round and oval scrapers. One of the few differences between earlier and later assemblages is the distribution of polish on dorsal and ventral surfaces, indicating dissimilar uses. Where the direction of use could be established it was basal-frontal or diagonally.



1. microfracturing, radiolarite
2. polish w. linear features, fine-grained quartzite
3. rounded edge, imported flint Scales: 0.250mm



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Poster PDF
<http://wp.me/peQLI-pk>

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