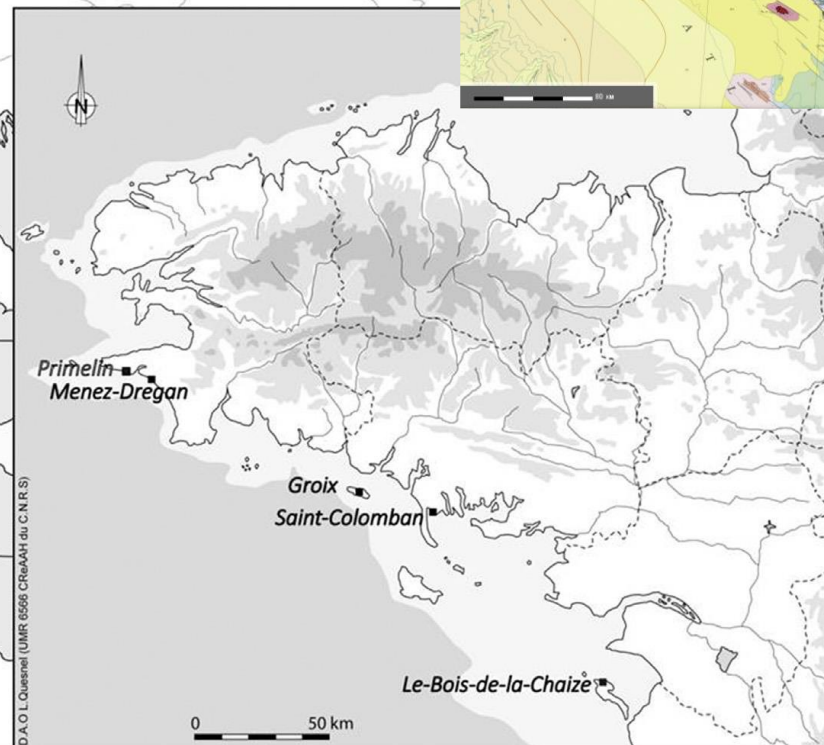
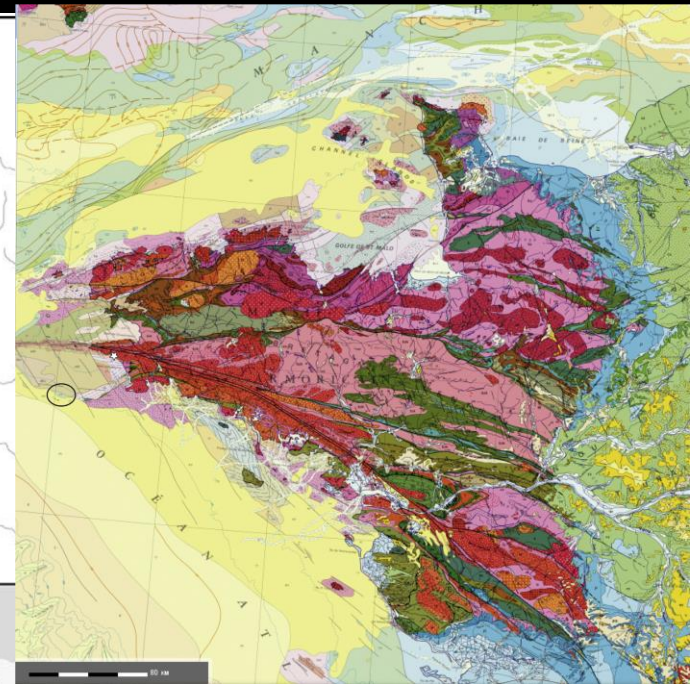
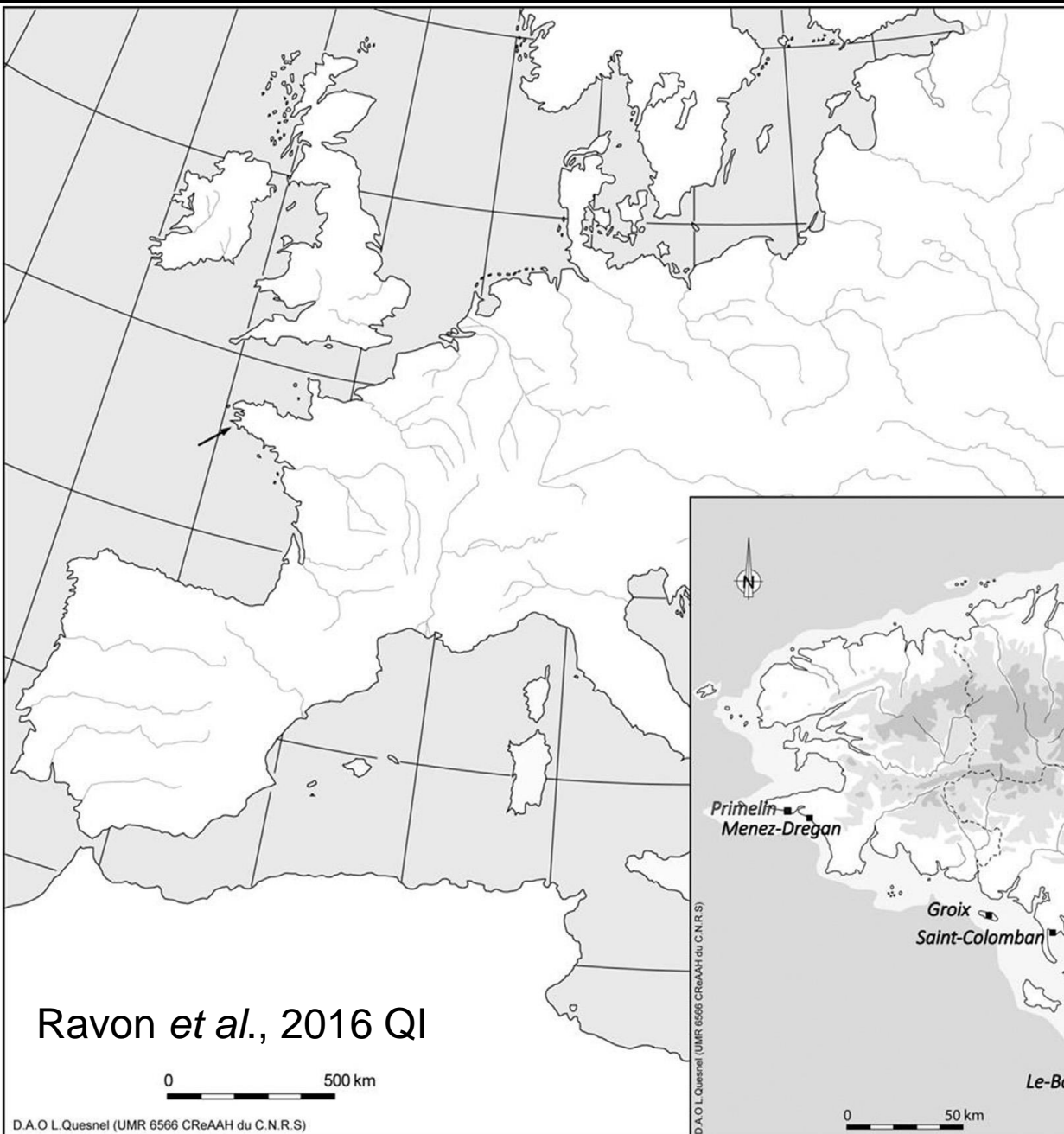


Petit tour d'horizon de gisements pénécontemporains de Menez Dregan

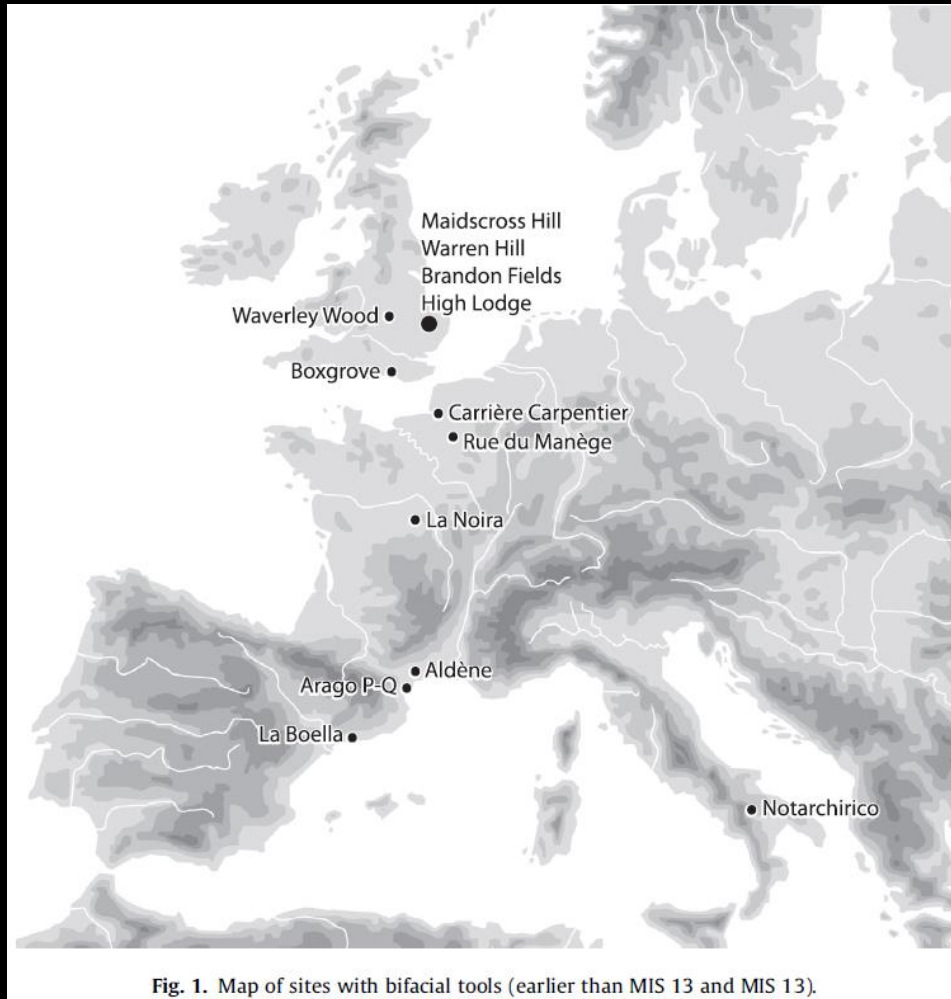
David HÉRISON



Menez Dregan, seul au monde ou au bout du monde?



Avant MIS 9 : l'Europe du vide ou du rare ?

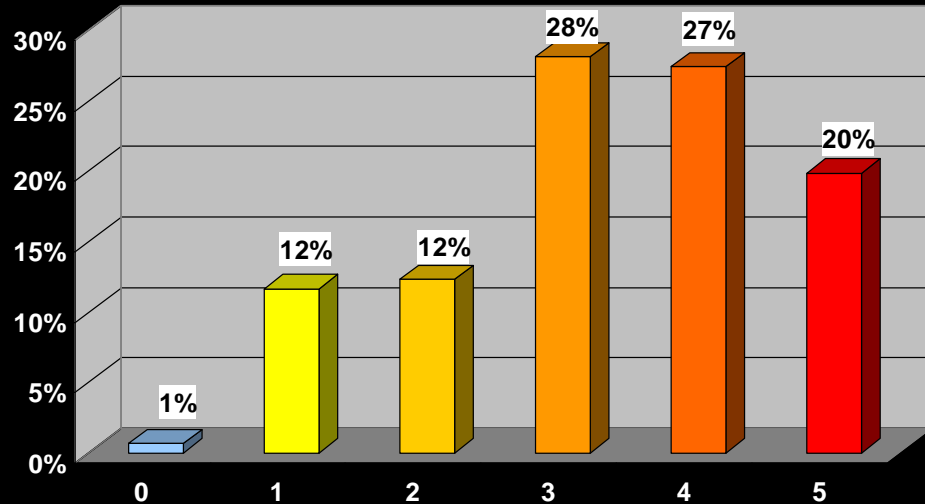


MIS 9 à 6: petit bilan numérique

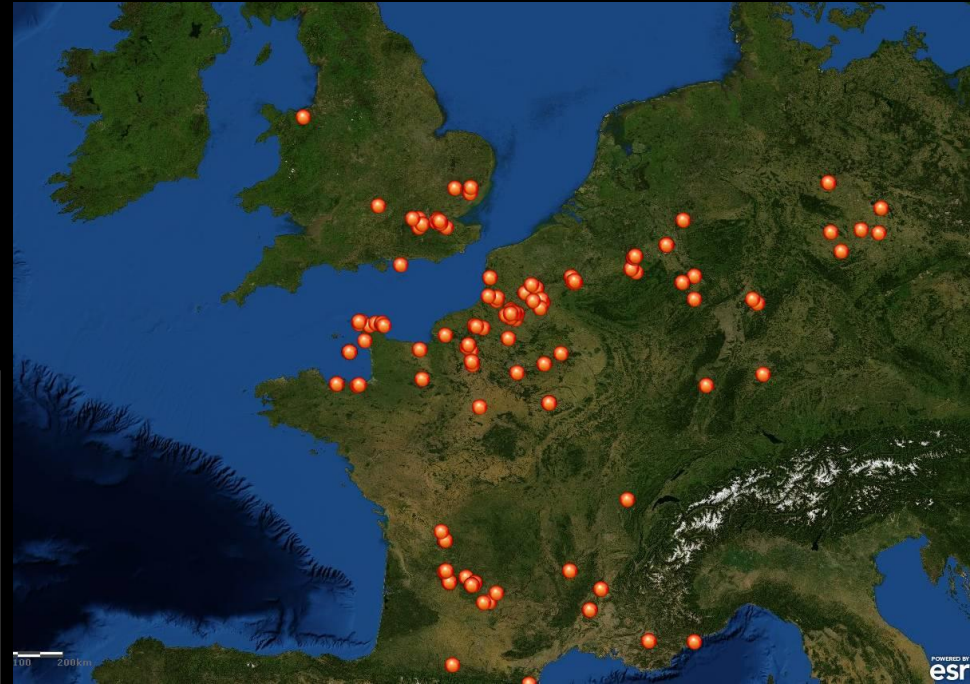
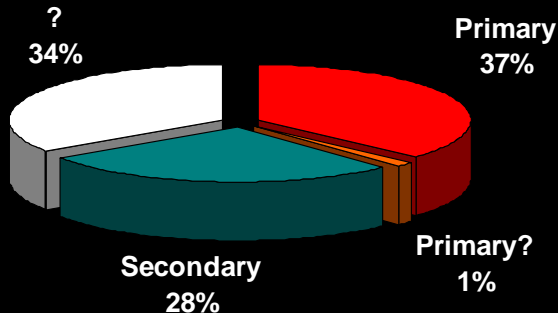
Hérisson *et al.*, Namur 2014, QI (2016)

125 sites
236 occupations

Value of MIS correlation



Context of occupations



Main problems for this time period:

- Not numbers of sites but...
- Very few sites dated and not precisely
- Rare occupations *in situ*

Solutions:

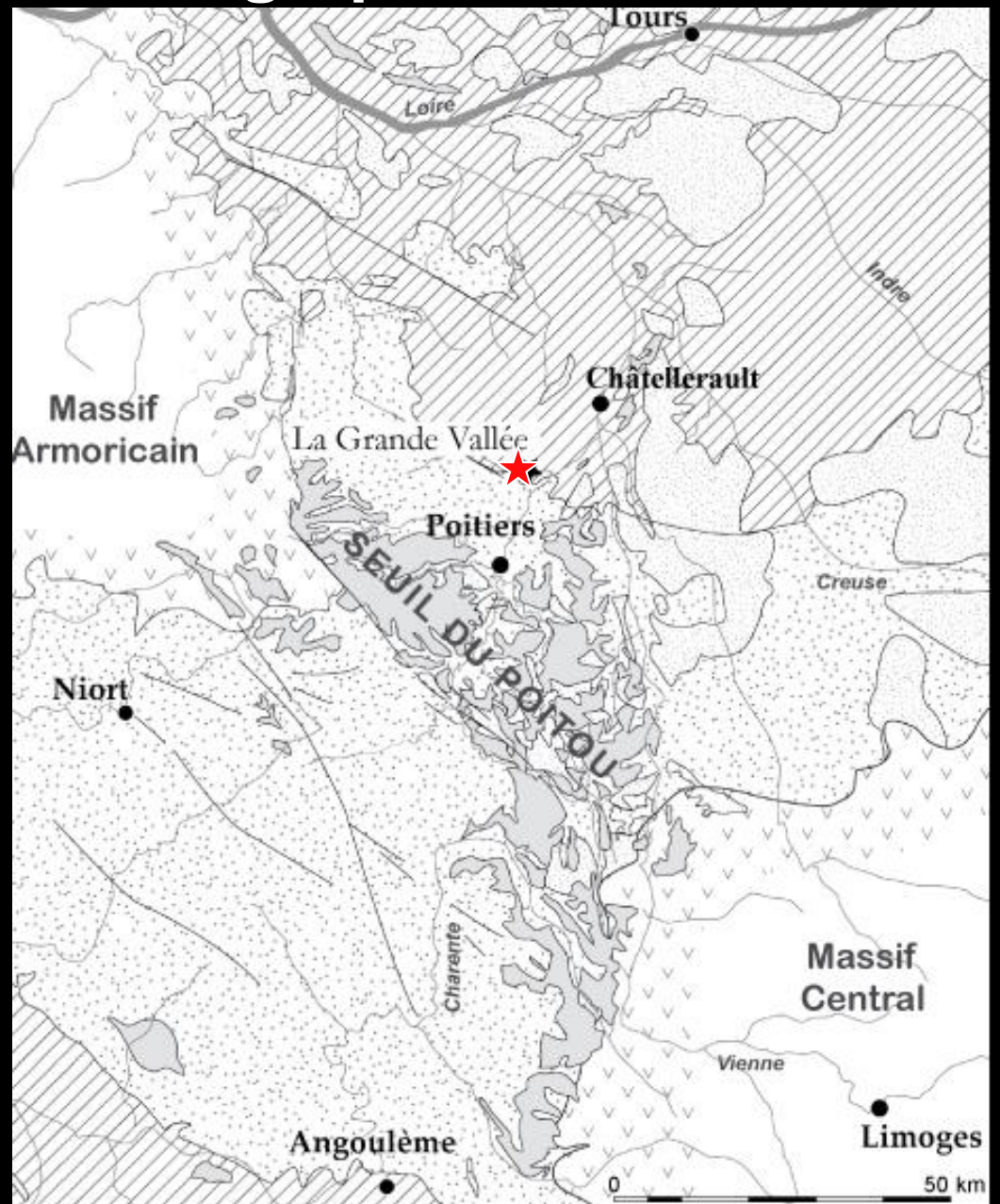
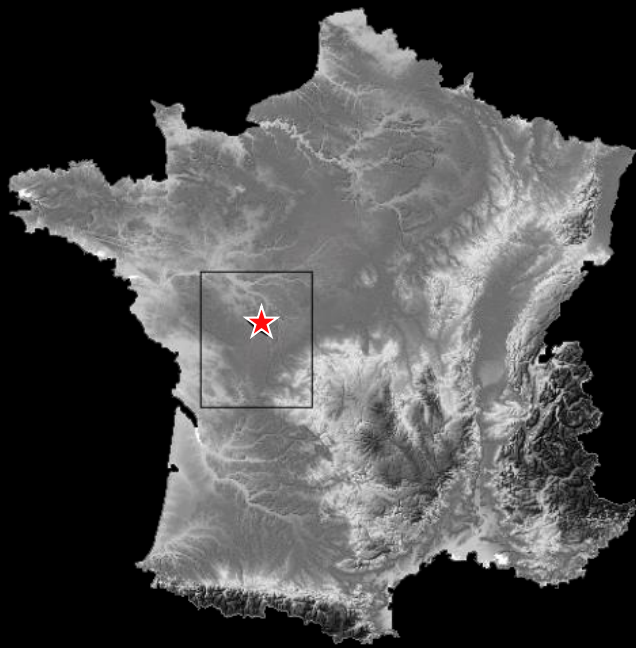
- Focus on occupations *in situ*
- Constructing a reliable chronostratigraphy
- Finding new site

La Grande Vallée, Colombiers (Vienne, France)

David HERRISSON, Jean AIRVAUX,
Arnaud LENOBLE,
Daniel RICHTER, Emilie CLAUD,
Jérôme PRIMAULT



Geographic location



Geographic and topographic location

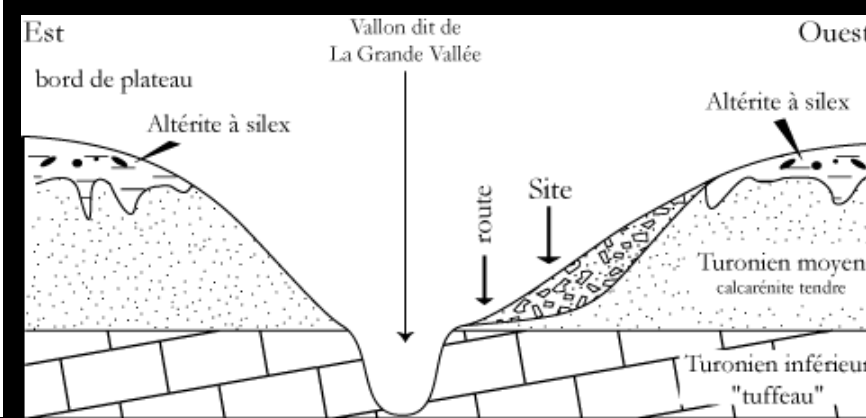
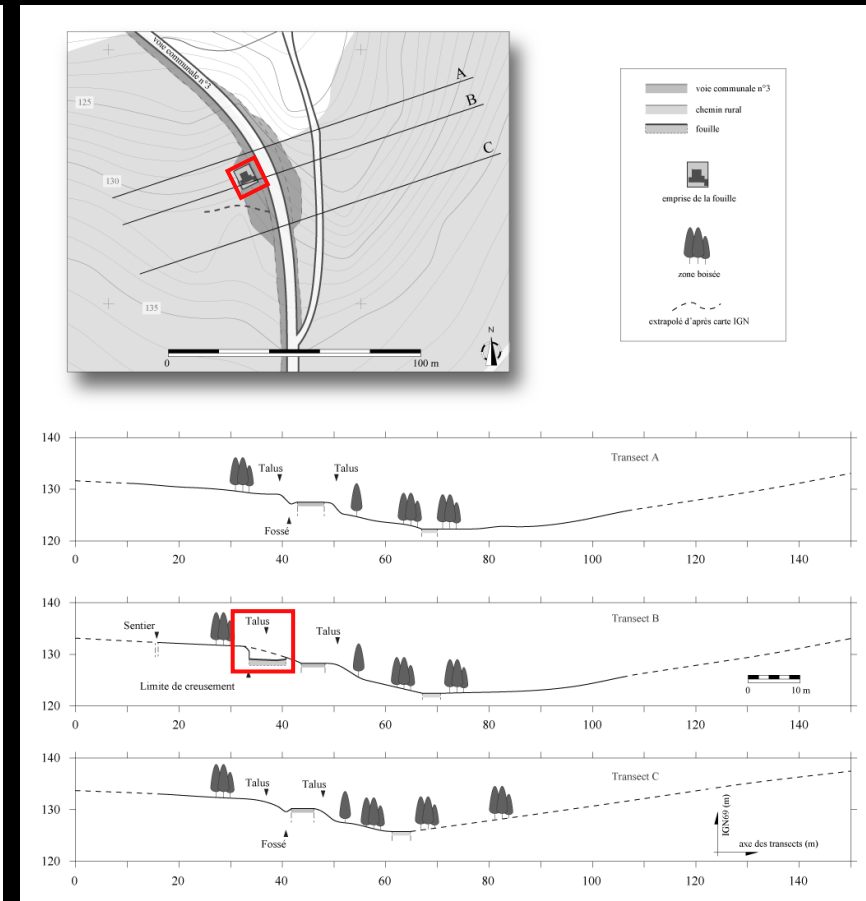
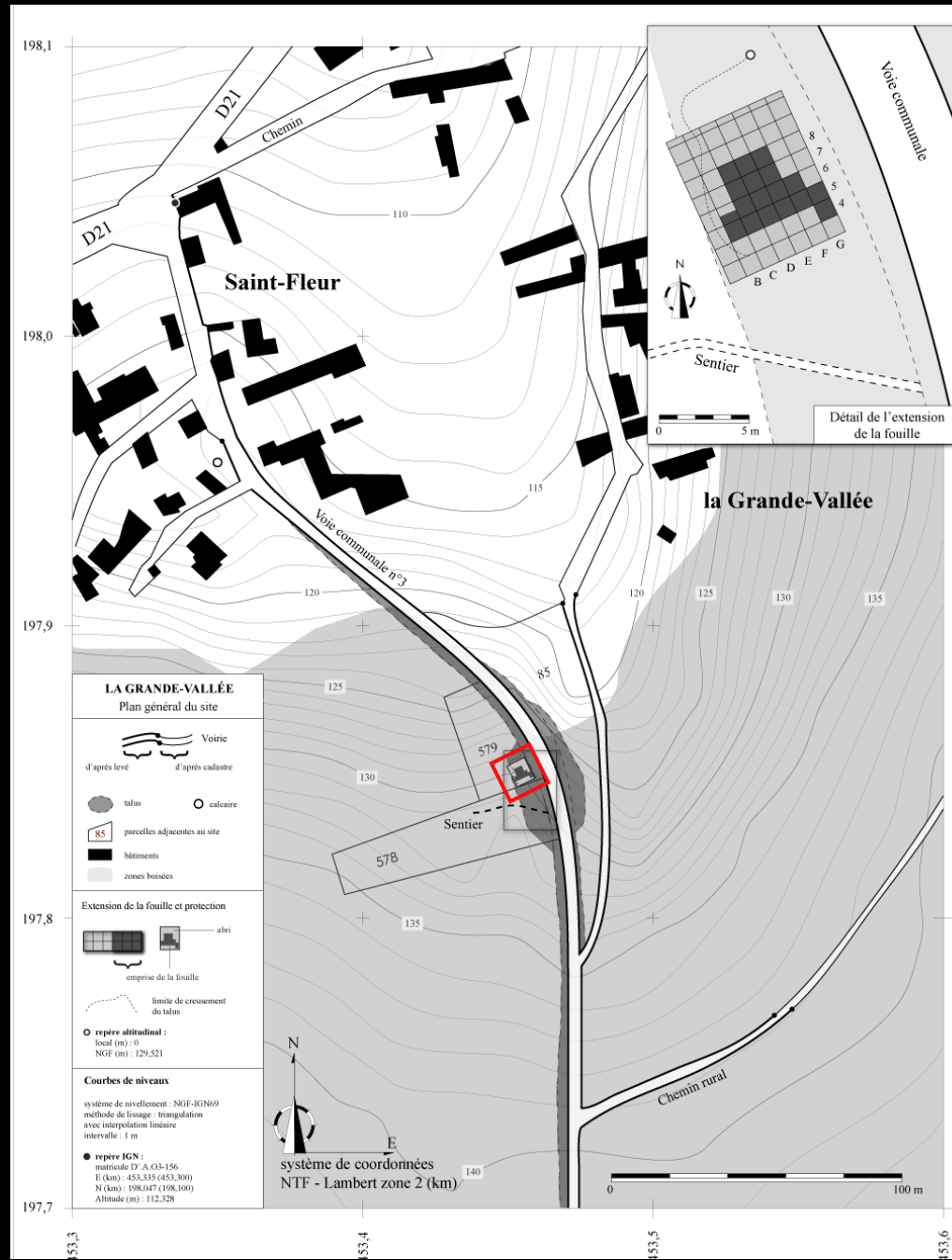


- ★ Gisement de La Grande Vallée
- N Limons de plateau
- CC3 Colluvions issus des calcaires turoniens

- RC3c Altérites à silex du Turonien supérieur
- C3b } Calcaires gréseux du Turonien moyen (3b)
- C3a } et inférieur (3a)

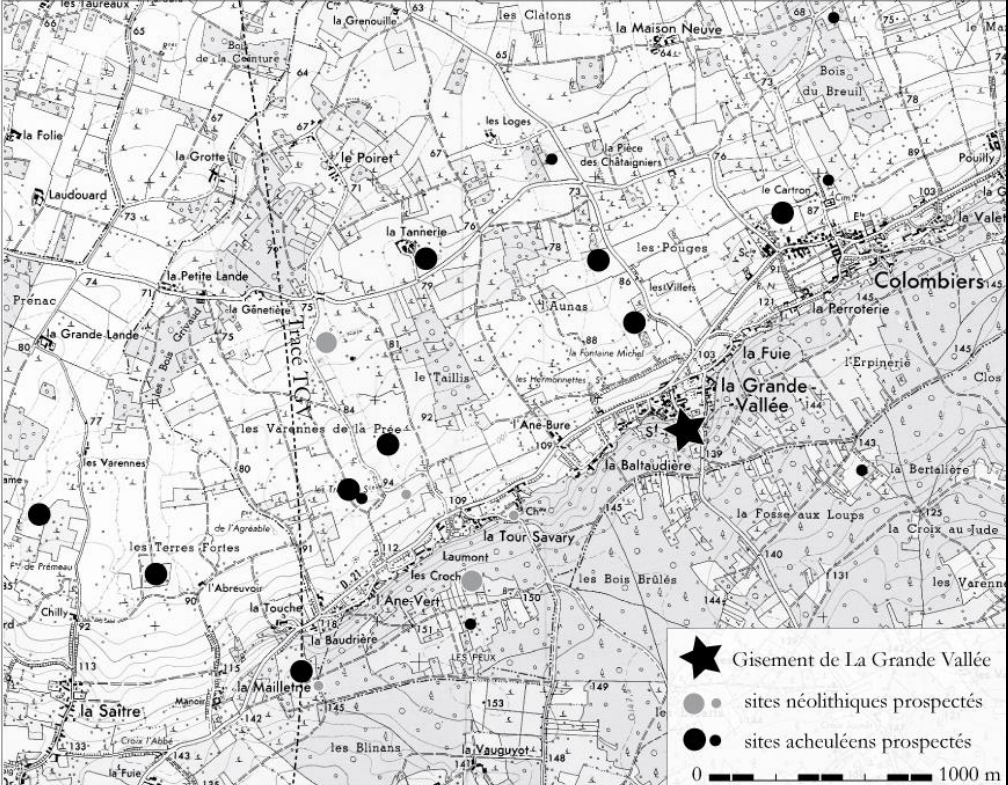
- C1/2b } Sables
- C1/2aS } cénomaniens
- C1/2a }
- J6b Calcaires du Jurassique supérieur

Geographic and topographic location



Discovery of La Grande Vallée

1995



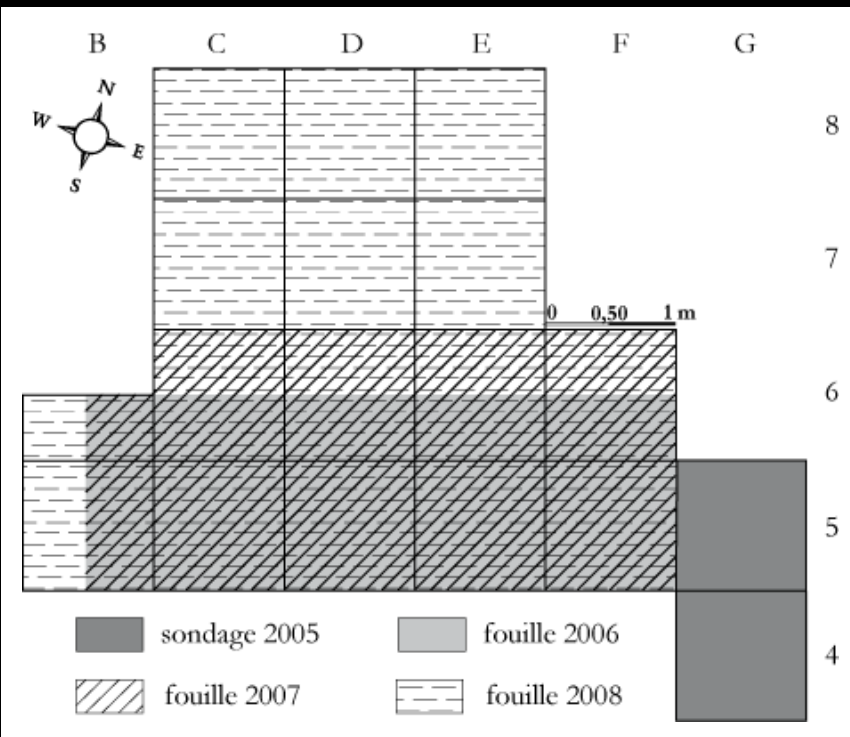
Excavation of La Grande Vallée

2005 : test pit – 2 m²

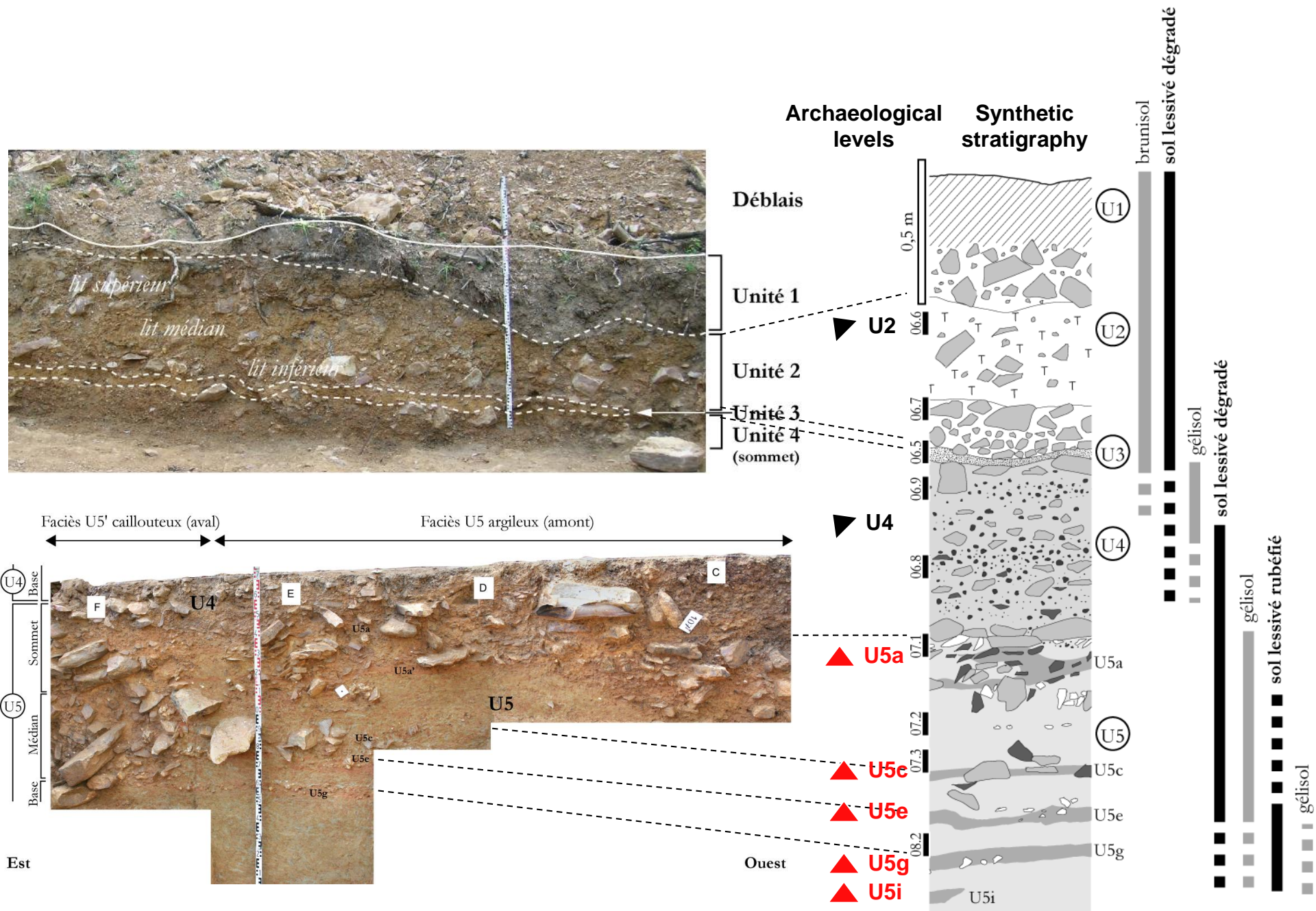
2006-2008 : excavation – 17,5 m²

2008-present : study

End 2016 : monograph



Chronostratigraphic approach of archaeological levels



Chronostratigraphic approach of archaeological levels

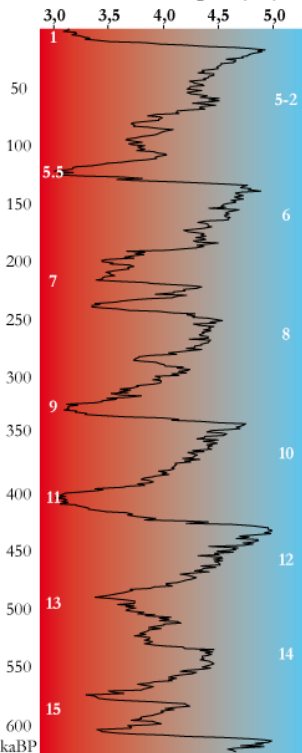
Geomorphological approach

- ✓ 350 ka > U5 > 600 ka
- ✓ 100 ka min. between U5 a-e and U5 g-i

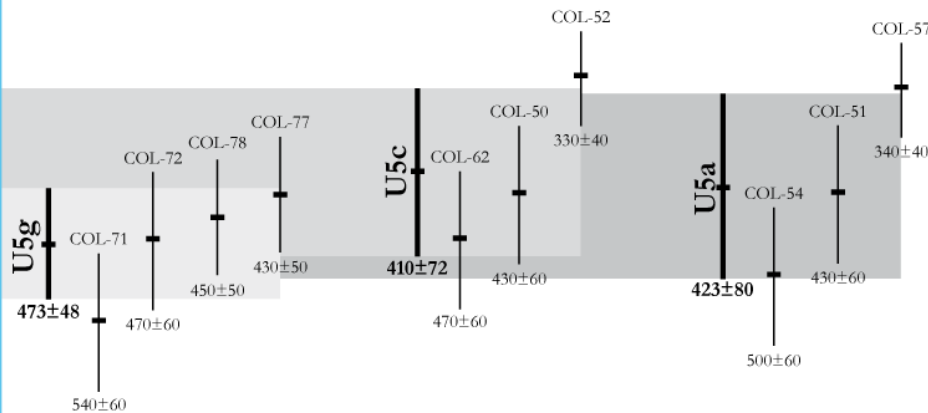
Preliminary results for TL dating on burnt flint

After Lisiecki, Raymo, 2005

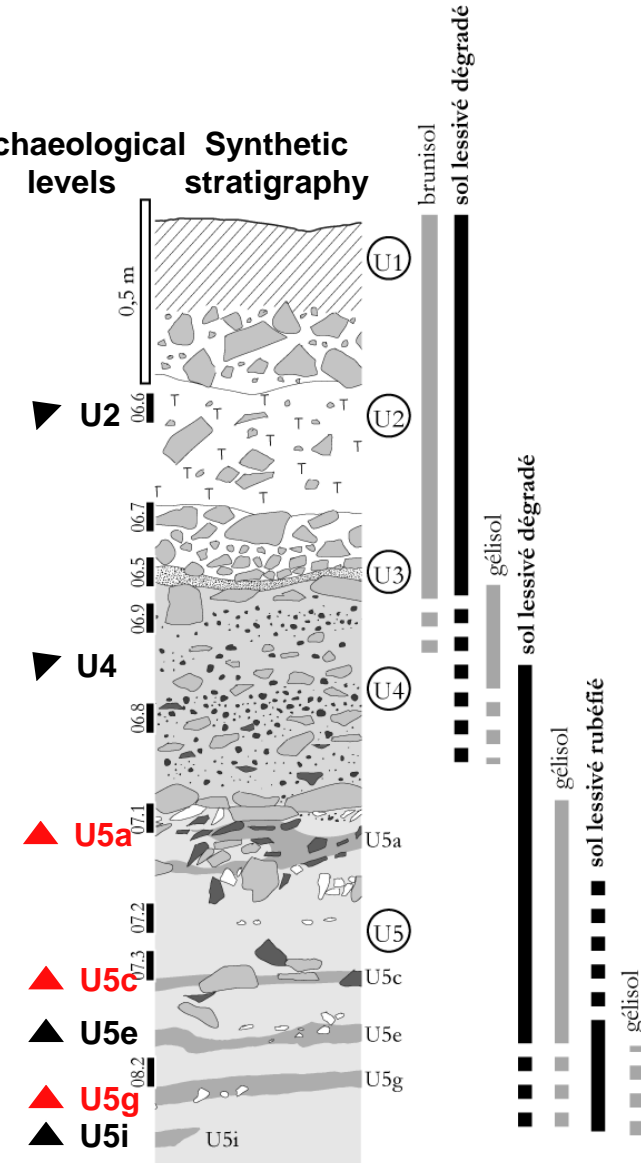
$\delta^{18}\text{O}$ benthique (‰)



Echantillon	Niveau	Carré & sous-carré	D_{interne} (% D_{total})	$D_{\gamma\text{-externe}}$ (% D_{total})	Âge (ka)	\pm
COL-051	5a	D6 s2	9	77	430	60
COL-054	5a	E5 s2	9	78	500	60
COL-057	5a	D6 s4	10	76	340	40
COL-050	5c	E6 s4	5	82	430	60
COL-052	5c	E6 s2	6	81	330	40
COL-062	5c	E6 s1	4	82	470	60
COL-71	5g	-	13	69	540	60
COL-72	5g	-	9	73	470	60
COL-77	5g	-	12	71	430	50
COL-78	5g	-	9	73	450	50



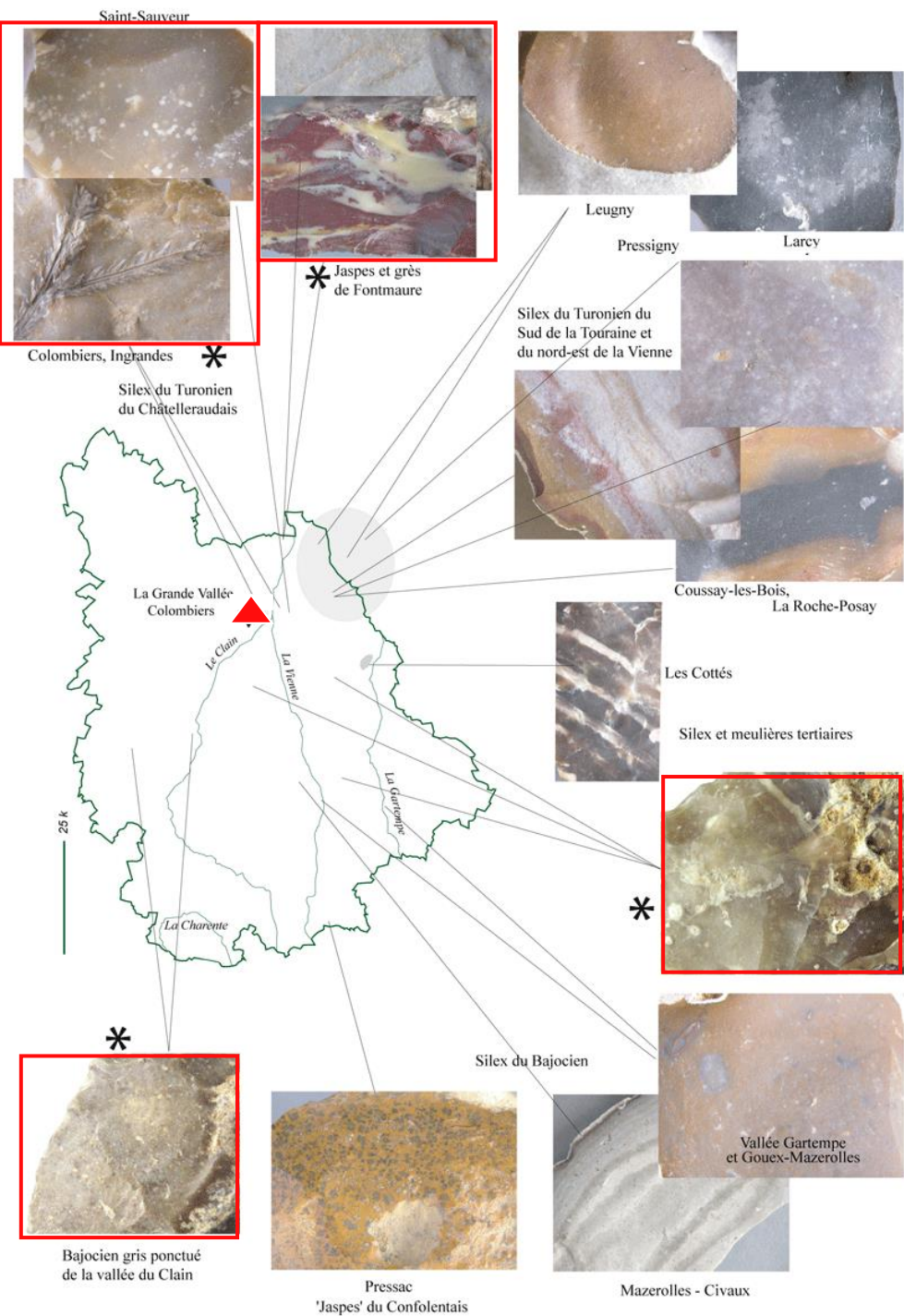
Archaeological levels Synthetic stratigraphy



Raw material procurement

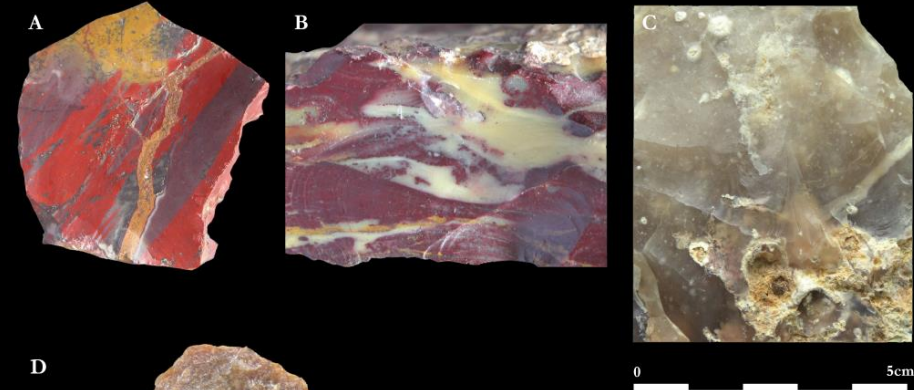
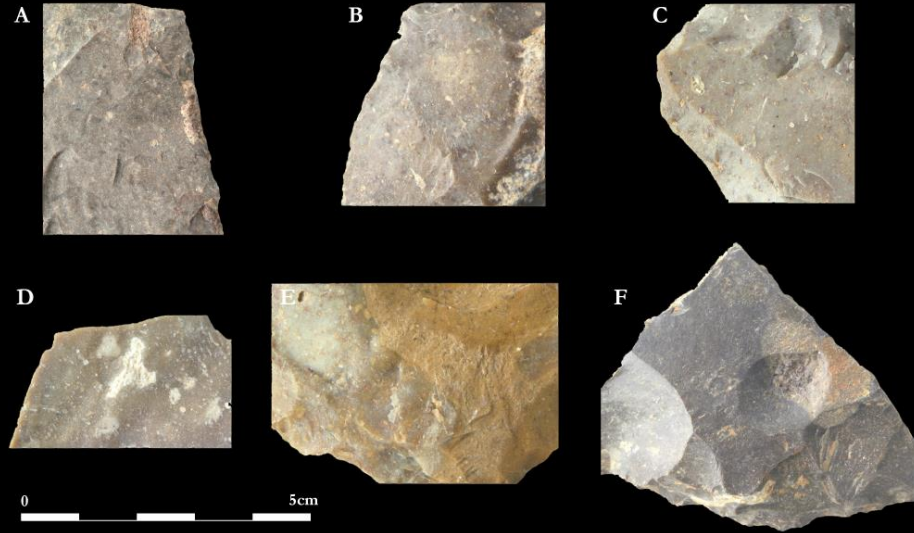
Local Upper turonian flint
> 99 % lithic assemblages





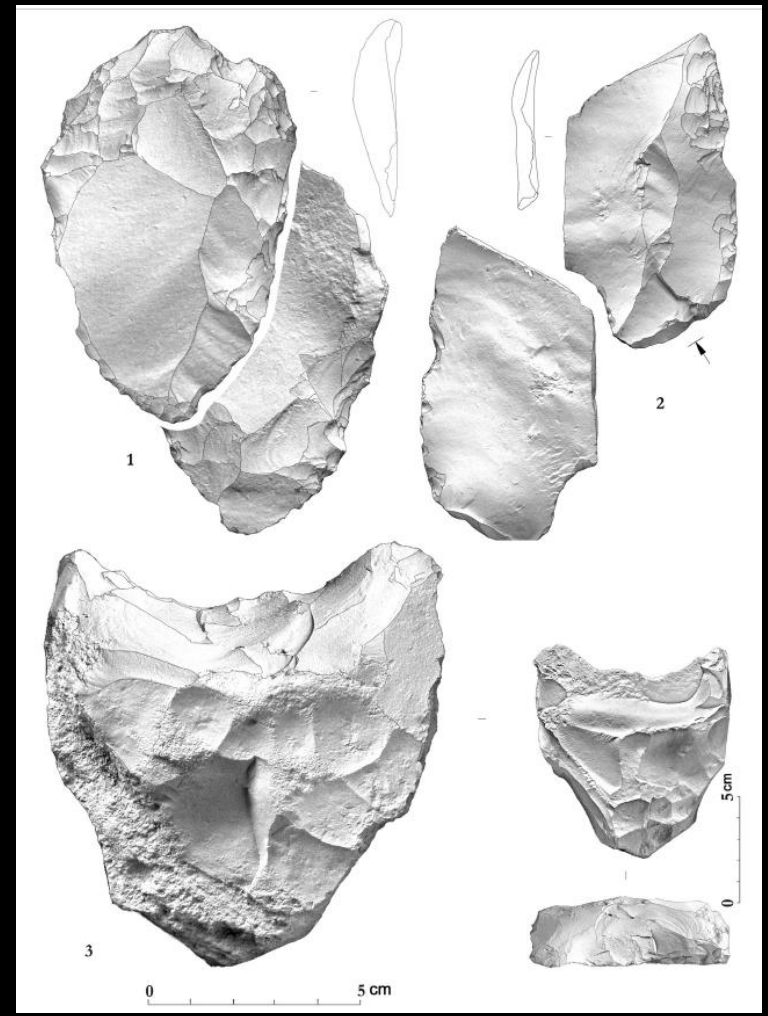
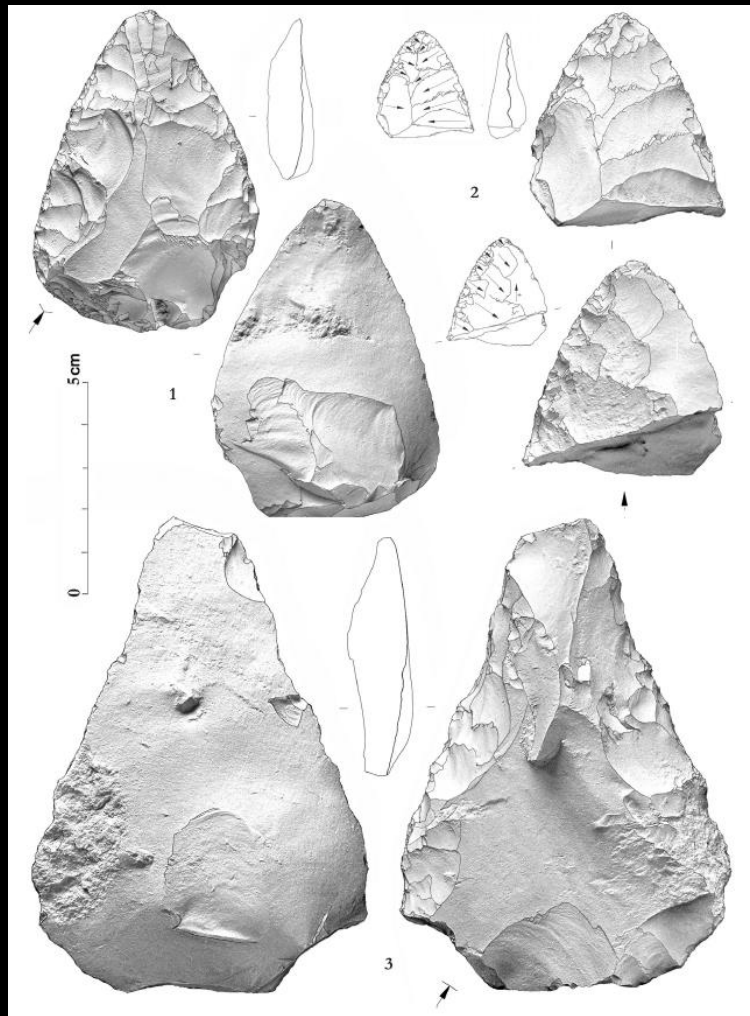
Raw material procurement

Regional raw material
 < 1 % lithic assemblages



La Grande Vallée: lithic assemblages of U5

Archaeological layers	Bifaces	Roughouts	"Façonnage" flakes	"Tranchet" blows	Retouched blanks	Non cortical flakes (>5 cm)	Semi-cortical flakes (>5 cm)	Cortical flakes (>5 cm)	Flakes (<5 cm)	Chips (<2 cm)	Debris	Cores	Hammerstones	Blocks	Total
U5a	42	10	351	2	47	1130	556	621	4640	4176	258	14	1	104	11951
U5c	12	2	82	2	35	218	78	117	610	1167	114	4	0	46	2488
U5e	12	11	168	0	24	221	171	130	709	832	290	4	1	121	2694
U5g	11	3	63	3	11	183	87	92	305	329	124	5	3	51	1270
U5i	0	0	4	0	2	13	5	12	46	60	15	1	0	2	160
Total	77	26	668	7	119	1765	897	972	6309	6565	801	28	5	324	18563



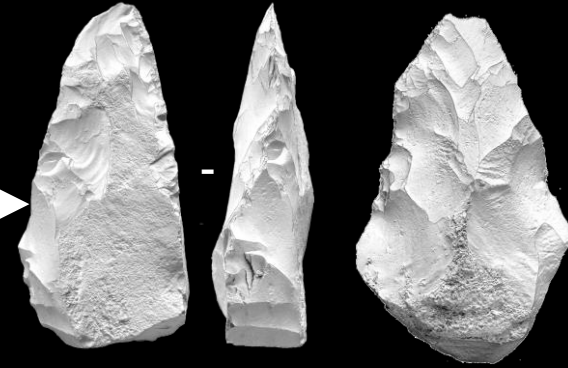
Chaînes opératoires of U5 of La Grande Vallée

Bifaces on slabs or blocks

Selection of a slab or a block



Bifacial shaping



Backed biface

Biface

Bifaces on flakes

Selection of a slab or a block



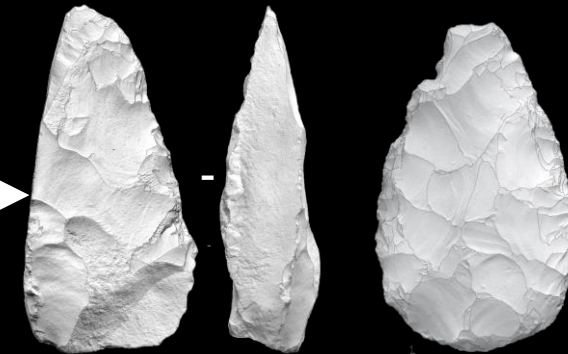
Fracture of the slab or the block



Production of huge flakes by debitage



Bifacial shaping



Backed biface

Biface

Retouched (or not) blanks

Selection of a block



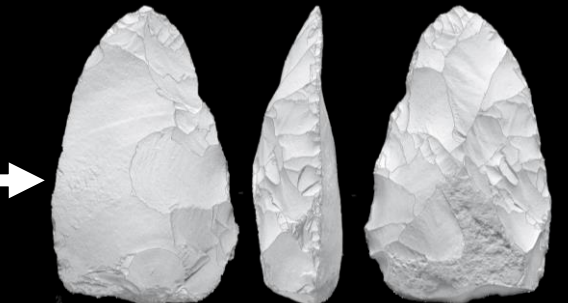
Production of flakes by debitage



Selection of a blank



Retouching or not



Scrapers, notches, 'tranchoirs'

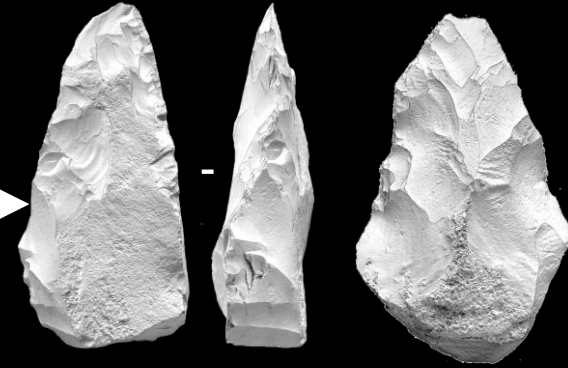
Chaînes opératoires of U5 of La Grande Vallée

Bifaces on slabs or blocks

Selection of a slab or a block



Bifacial shaping



Backed biface

Biface

Bifaces on flakes

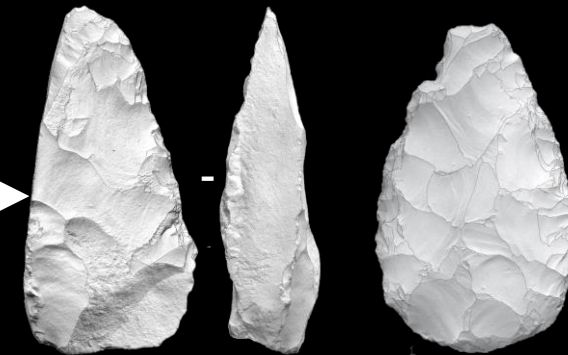
Selection of a slab or a block

Fracture of the slab or the block

Production of huge flakes by debitage



Bifacial shaping



Backed biface

Biface

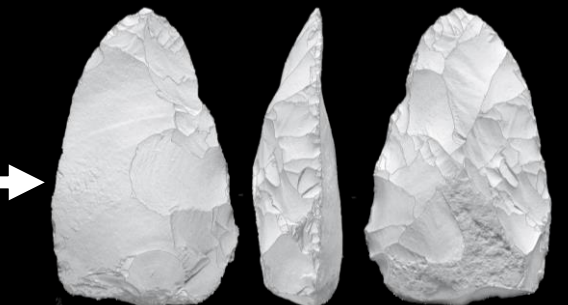
Retouched (or not) blanks

Selection of a block

Production of flakes by debitage

Selection of a blank

Retouching or not



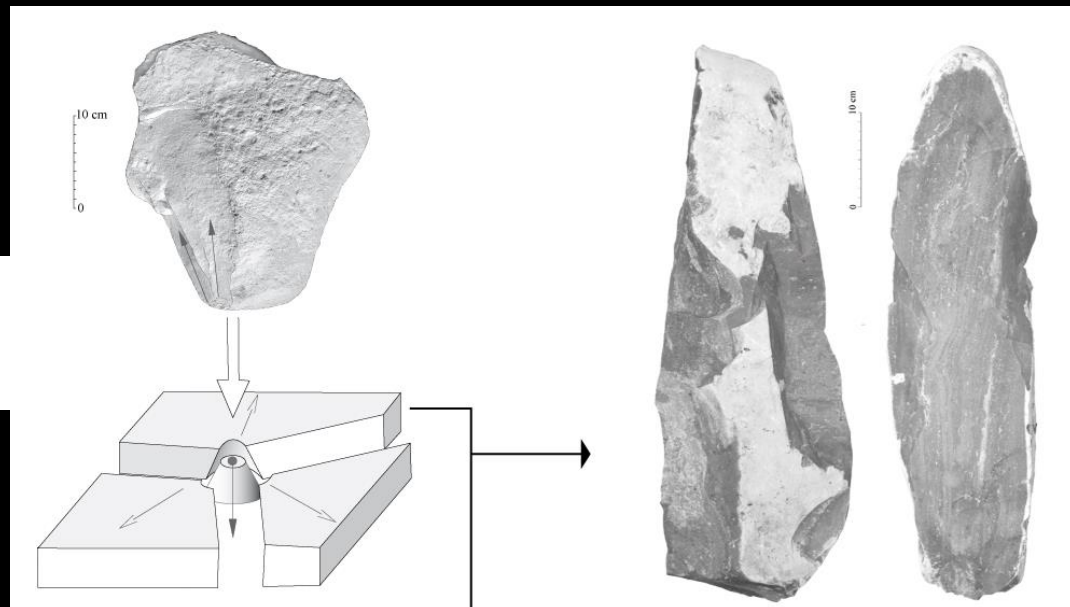
Scrapers, notches, 'tranchoirs'

Chaînes opératoires of U5 of La Grande Vallée

Bifaces on flakes

Fracture
of the slab
or the block

'Percussion
en pleine
plaque'

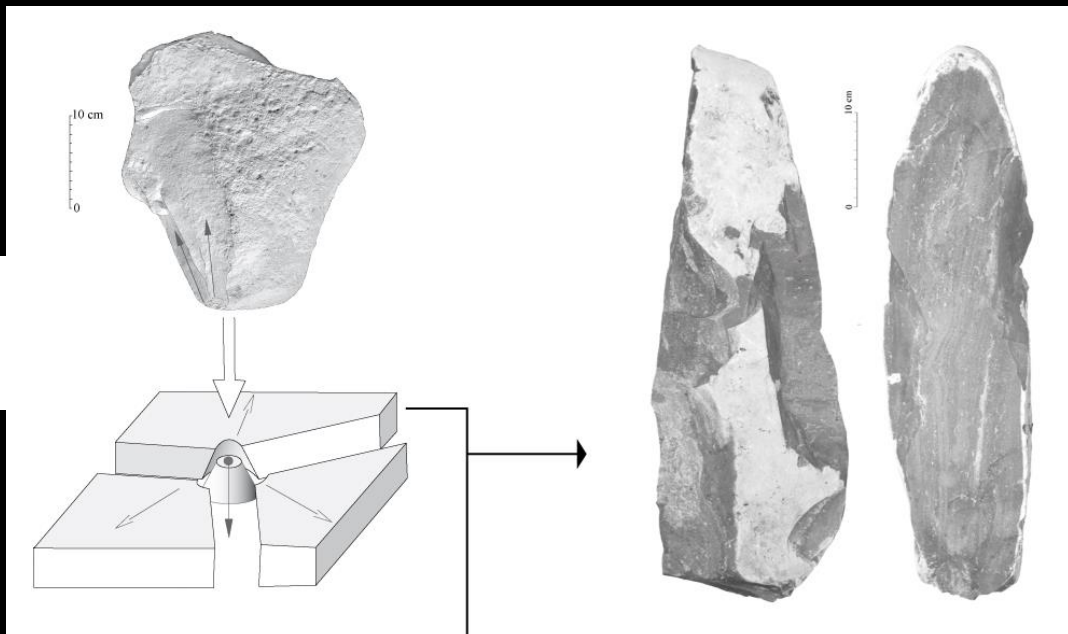


Chaînes opératoires of U5 of La Grande Vallée

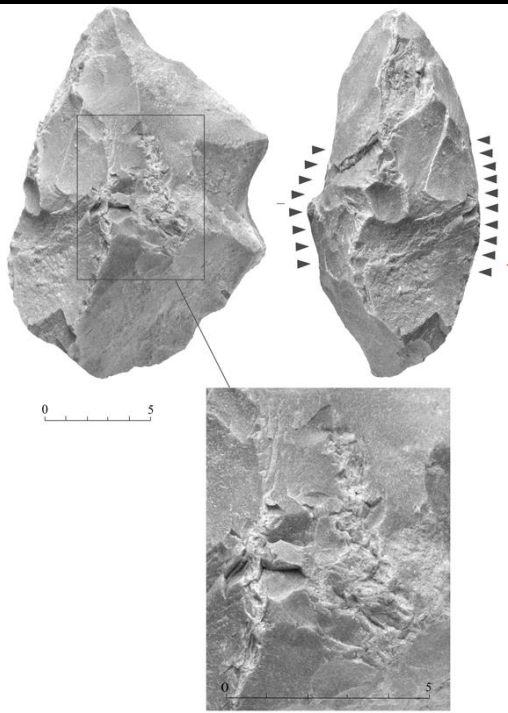
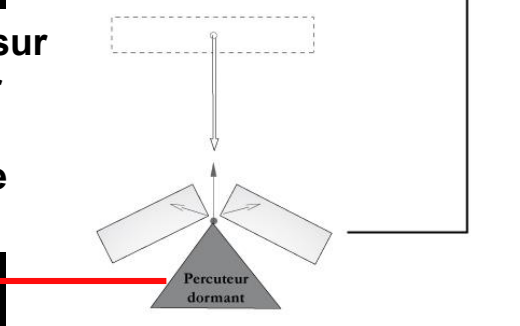
Bifaces on flakes

Fracture
of the slab
or the block

'Percussion
en pleine
plaque'



'Projection sur
percuteur
dormant ;
trajectoire
verticale'

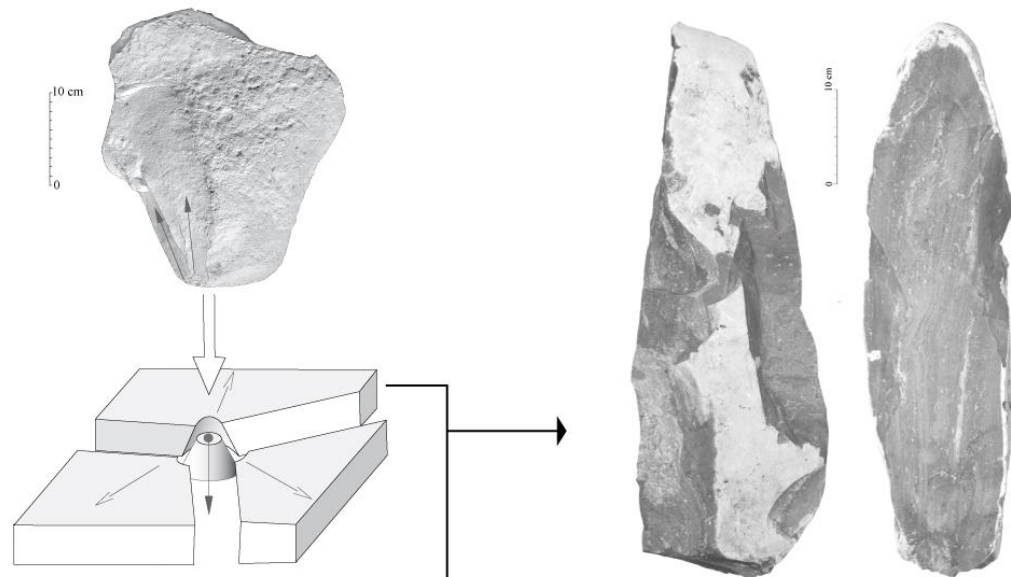


Chaînes opératoires of U5 of La Grande Vallée

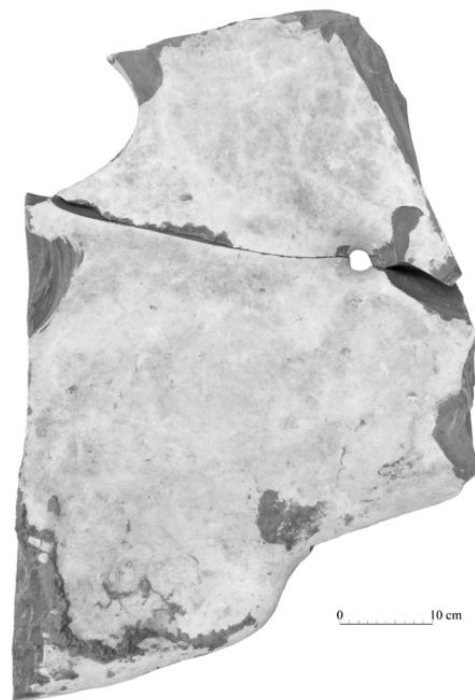
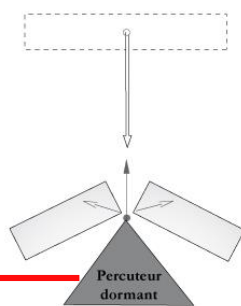
Bifaces on flakes

Fracture
of the slab
or the block

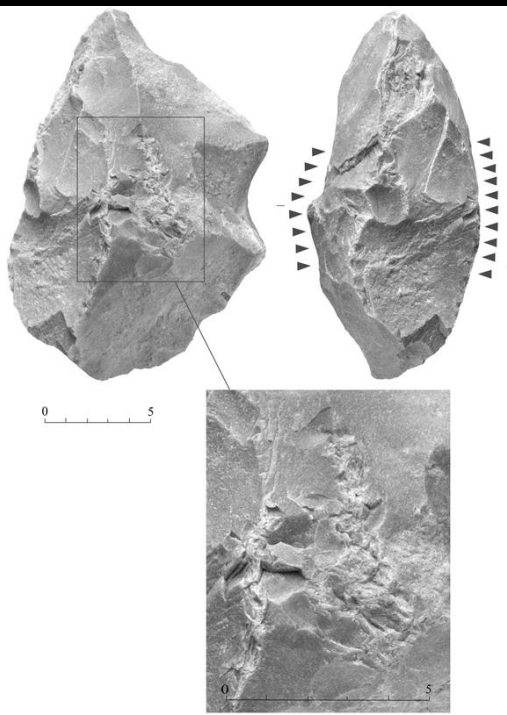
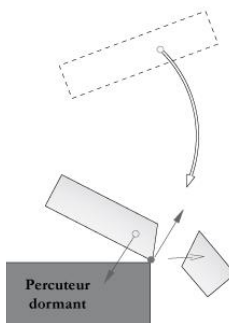
'Percussion
en pleine
plaque'



'Projection sur
percuteur
dormant ;
trajectoire
verticale'



'Projection sur
percuteur
dormant ;
trajectoire
circulaire'



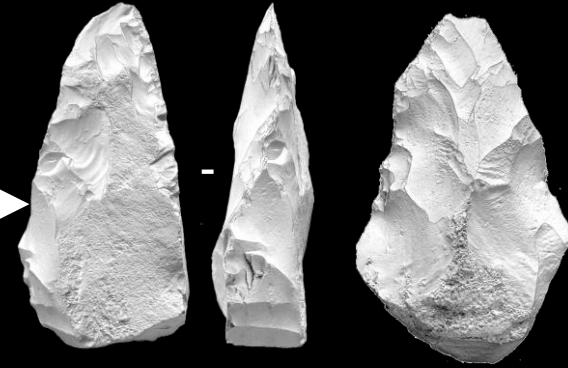
Chaînes opératoires of U5 of La Grande Vallée

Bifaces on slabs or blocks

Selection of a slab or a block



Bifacial shaping



Backed biface

Biface

Bifaces on flakes

Selection of a slab or a block

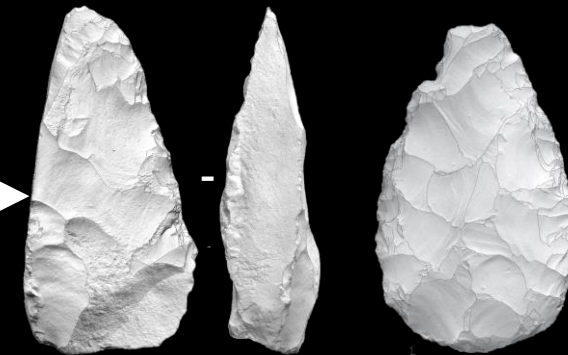


Fracture of the slab or the block



Production of huge flakes by debitage

Bifacial shaping



Backed biface

Biface

Retouched (or not) blanks

Selection of a block

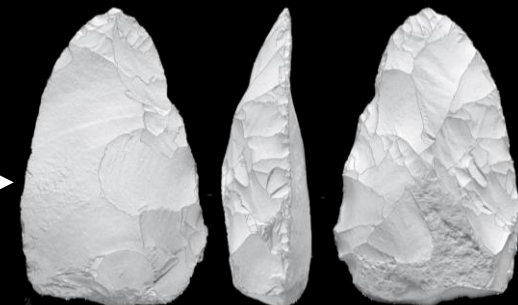


Production of flakes by debitage



Selection of a blank

Retouching or not



Scrapers, notches, 'tranchoirs'

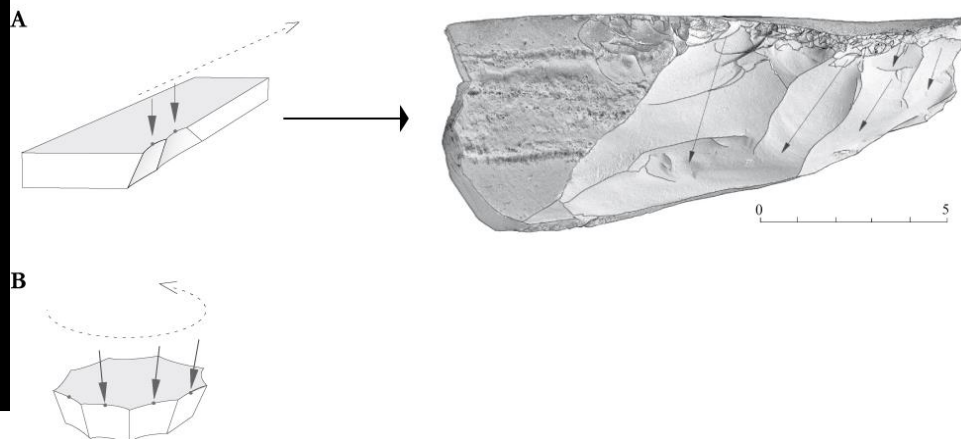
Chaînes opératoires of U5 of La Grande Vallée

Bifaces on flakes

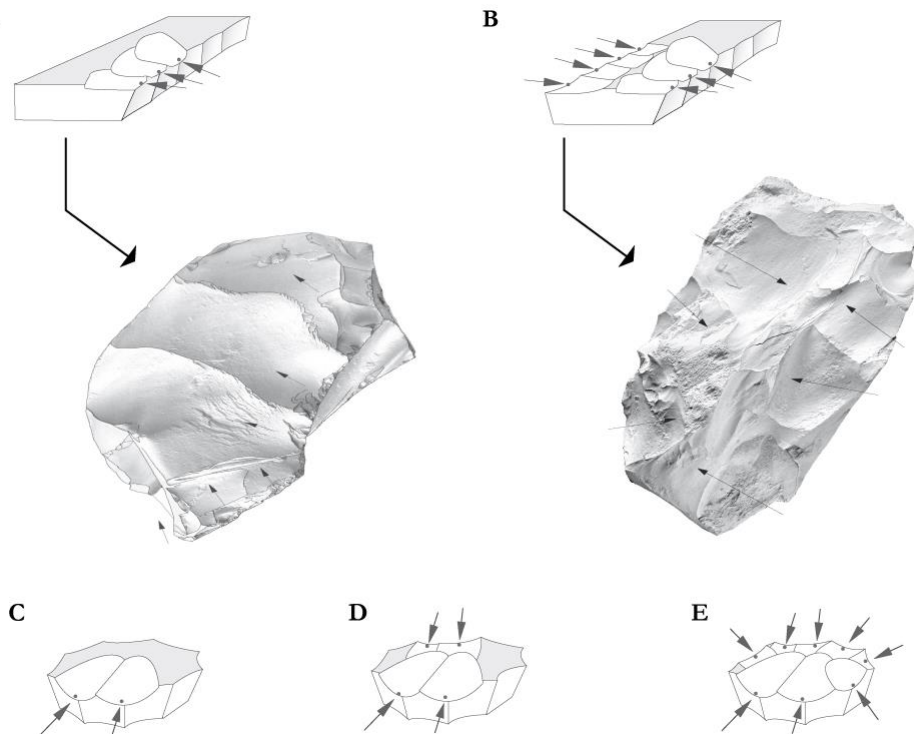
Selection of a slab or a block

Production of huge flakes by debitage

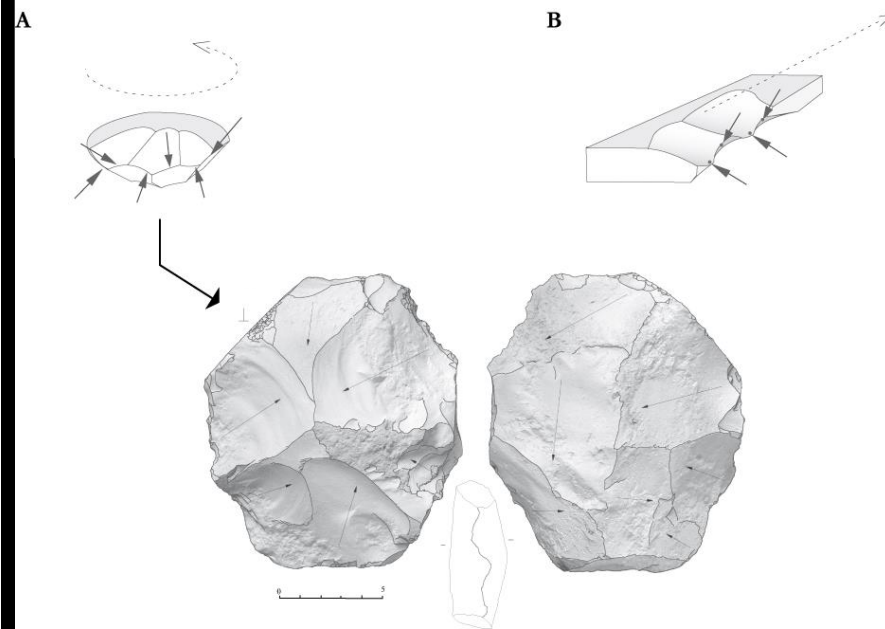
'Débitage identique unipolaire'



'Débitage corrélatif uni-, bipolaire et centripète'



'Proche en proche'



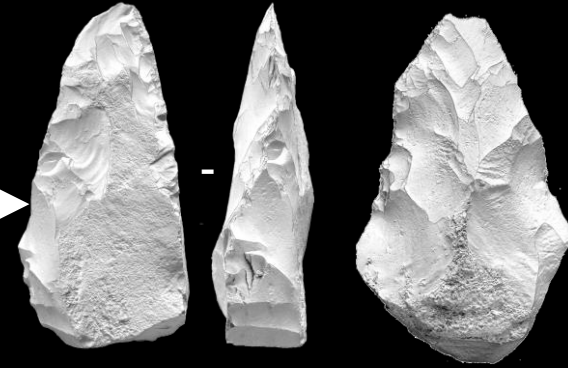
Chaînes opératoires of U5 of La Grande Vallée

Bifaces on slabs or blocks

Selection of a slab or a block



Bifacial shaping



Backed biface

Biface

Bifaces on flakes

Selection of a slab or a block



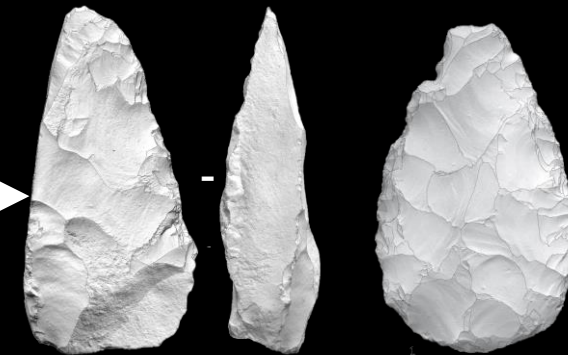
Fracture of the slab or the block



Production of huge flakes by debitage



Bifacial shaping



Backed biface

Biface

Retouched (or not) blanks

Selection of a block



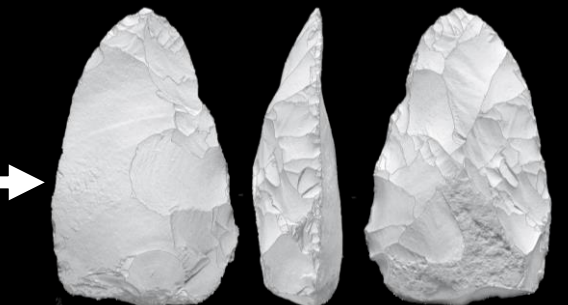
Production of flakes by debitage



Selection of a blank



Retouching or not



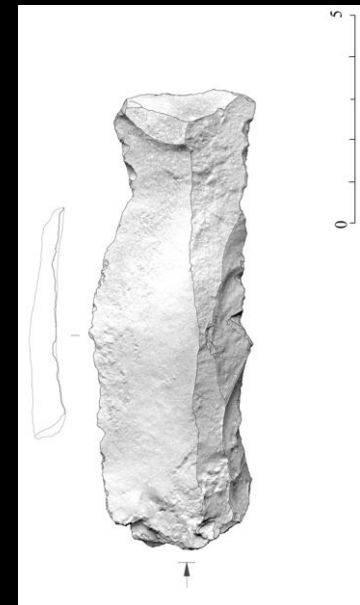
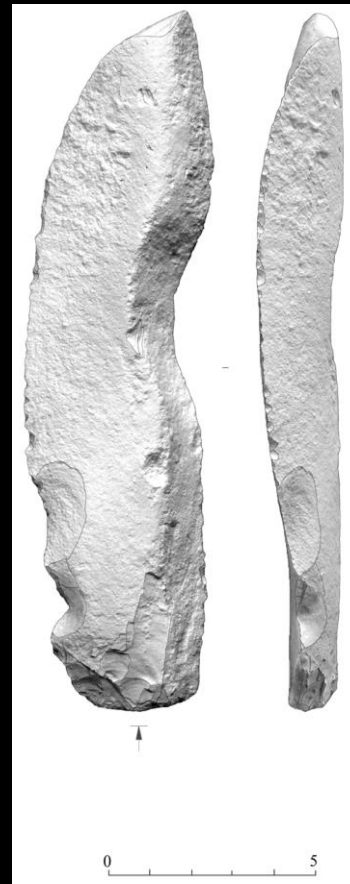
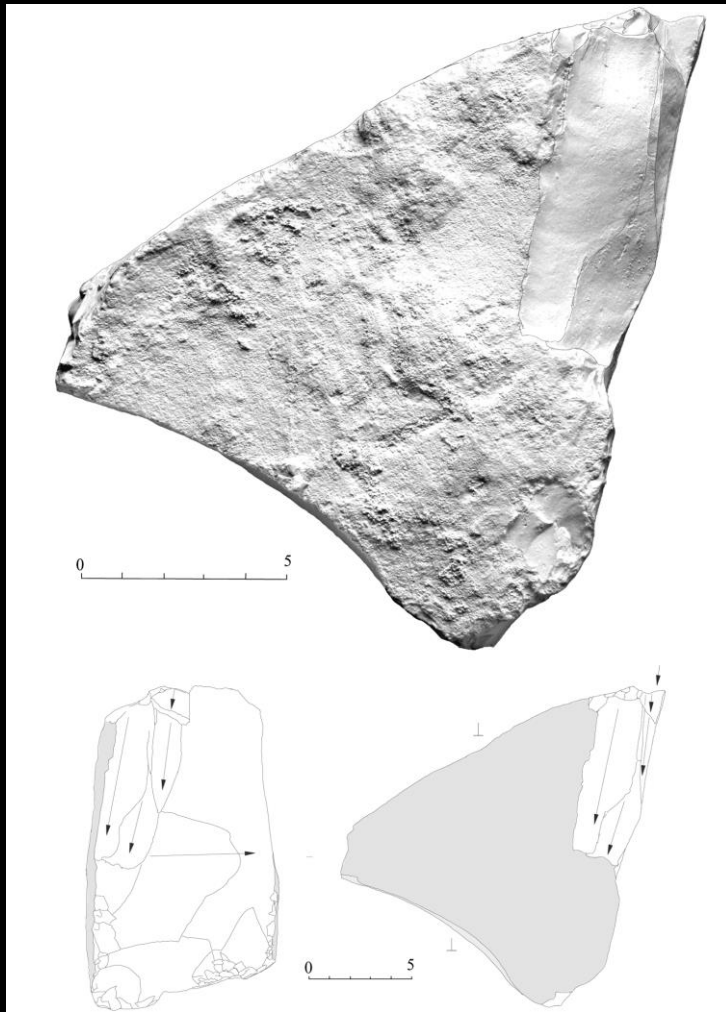
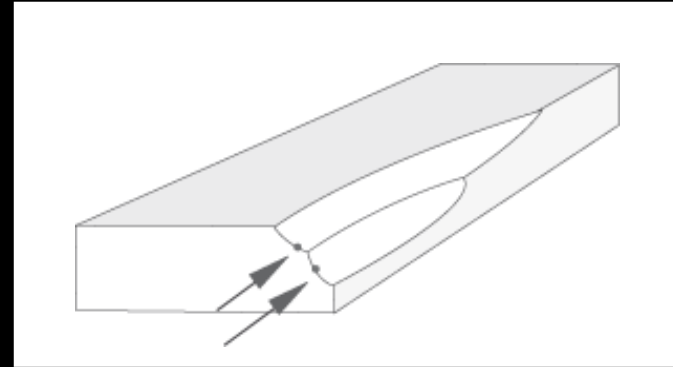
Scrapers, notches, 'tranchoirs'

Chaînes opératoires of U5 of La Grande Vallée

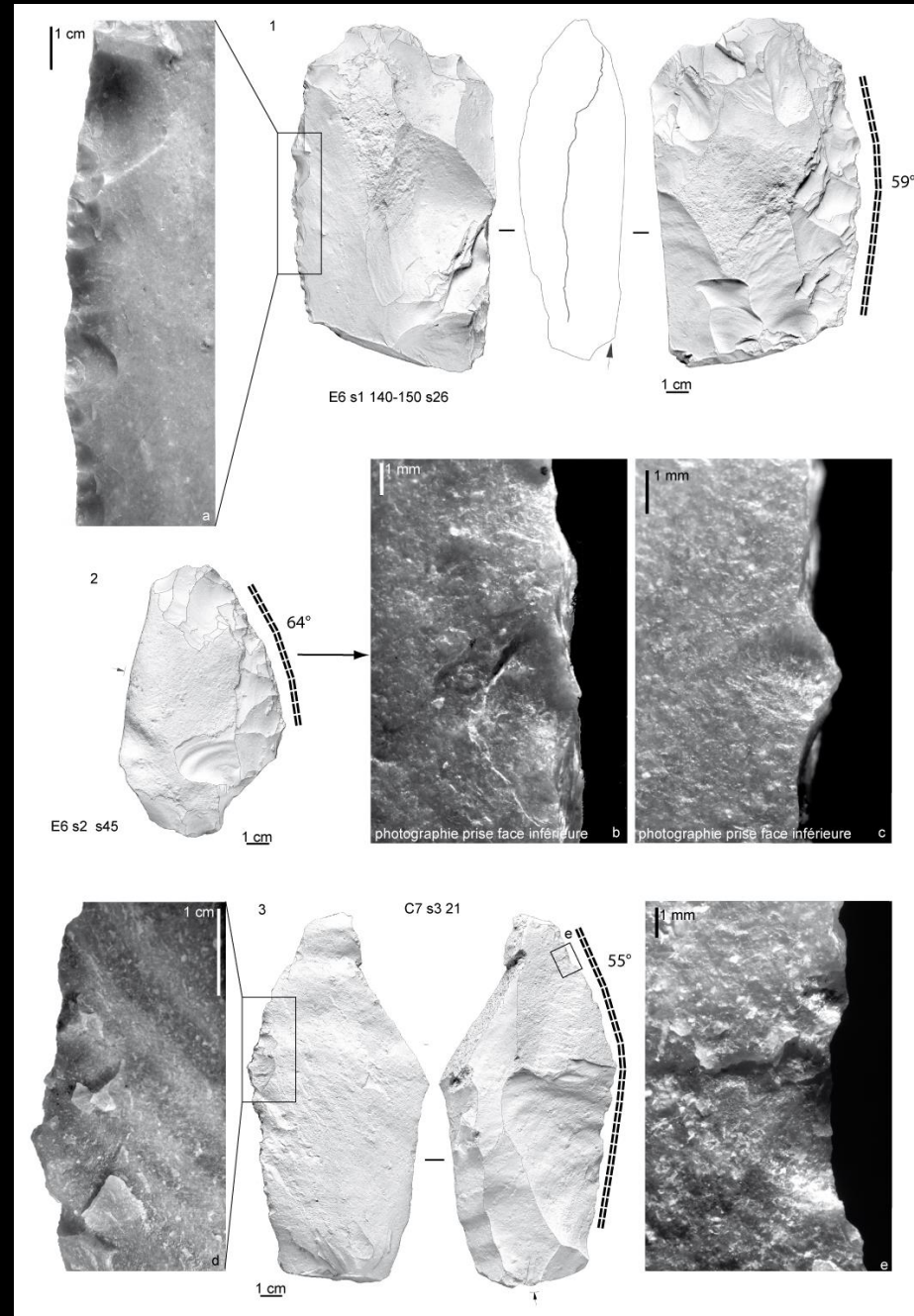
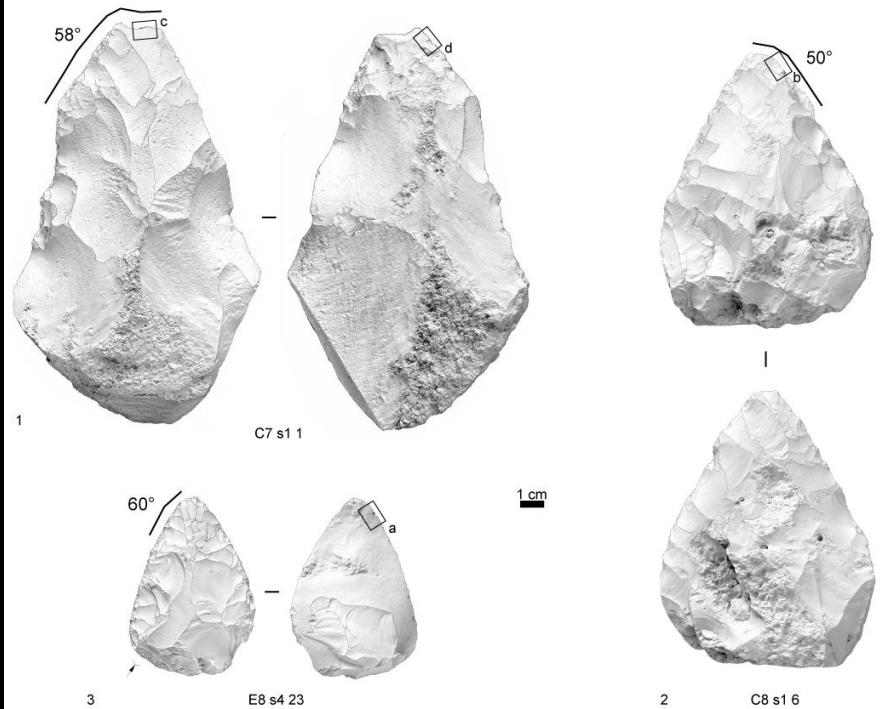
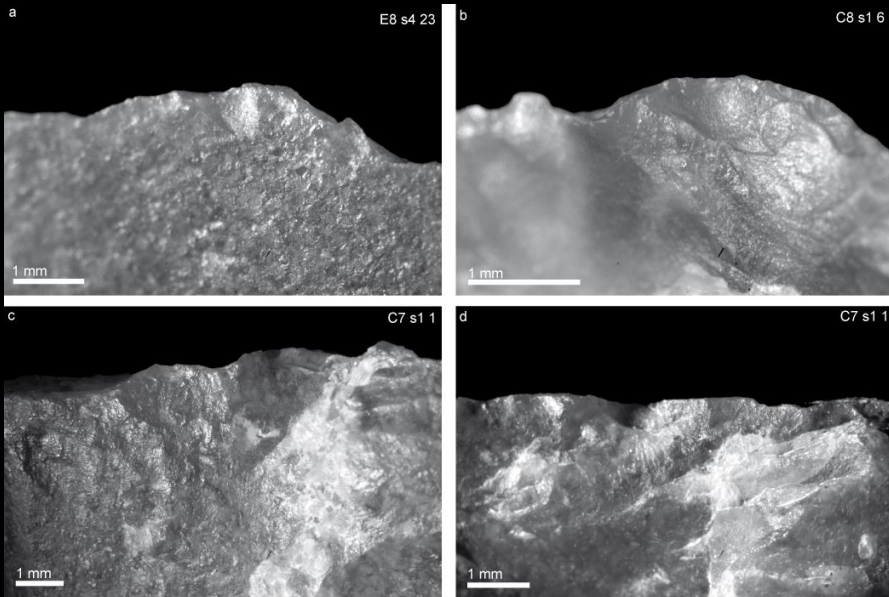
Retouched (or not) blanks

Production
of flakes
by debitage

Laminar debitage



Morpho-functional analysis of U5 of La Grande Vallée



Etricourt-Manancourt



David Hérisson
INRAP CSNE ; UMR 7194 du CNRS, Paris

Emilie Goval
INRAP Nord-Picardie, Amiens ; UMR 7194 du CNRS, Paris

Sylvie Coutard
INRAP Nord-Picardie, Amiens ; UMR 8591 du CNRS, Meudon

Jean-Luc Loch
INRAP Nord-Picardie, Amiens

Yoann Chantreau
INRAP CSNE ; UMR 6566 du CNRS, Rennes

Pierre Antoine
UMR 8591 du CNRS, Meudon

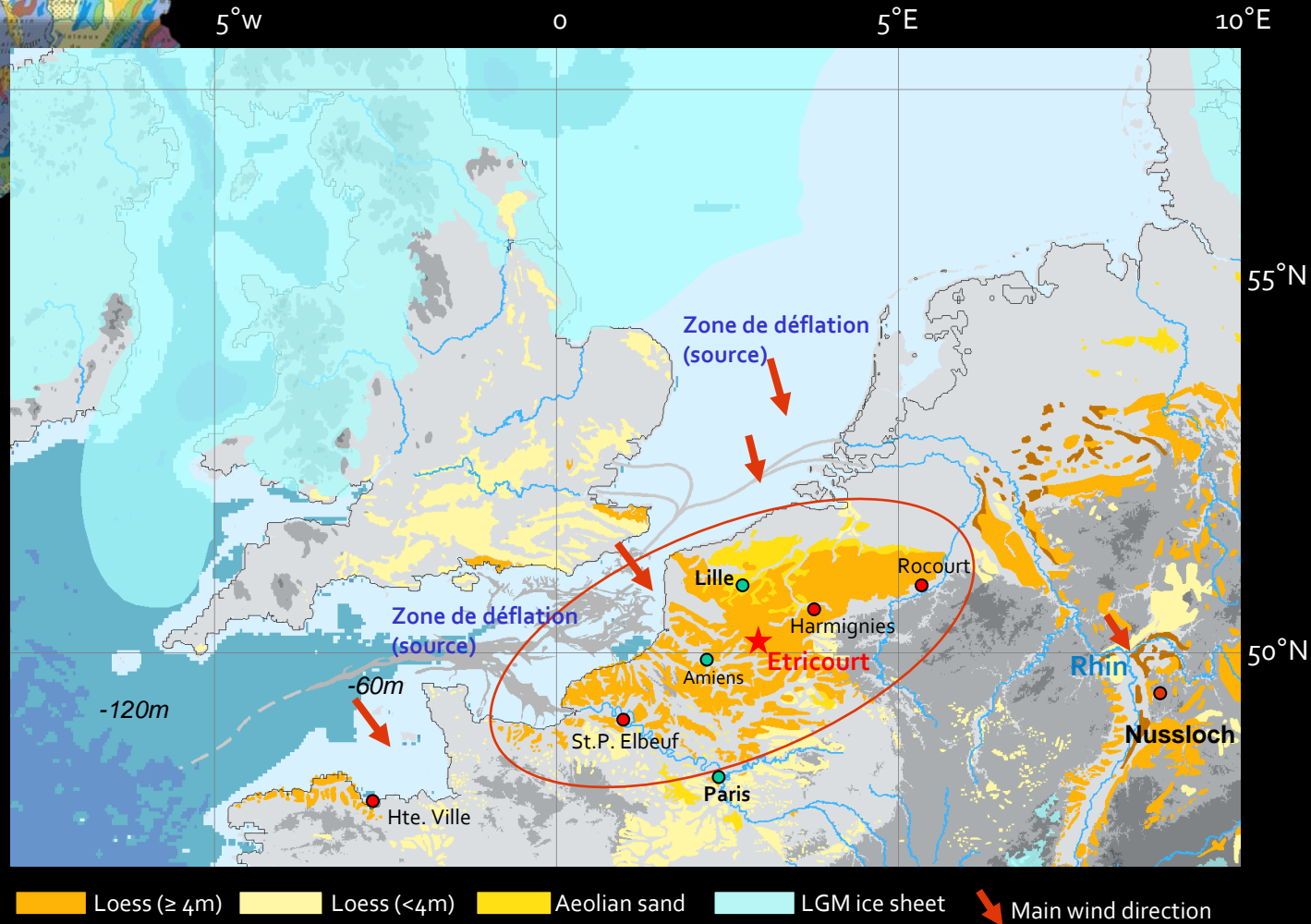
Nick Debenham
Quaternary TL Surveys, Nottingham

Caroline Font
INRAP CSNE

Sanda Balescu
Université de Lille I ; UMR 8164 du CNRS, Villeneuve d'Ascq



Regional geological context

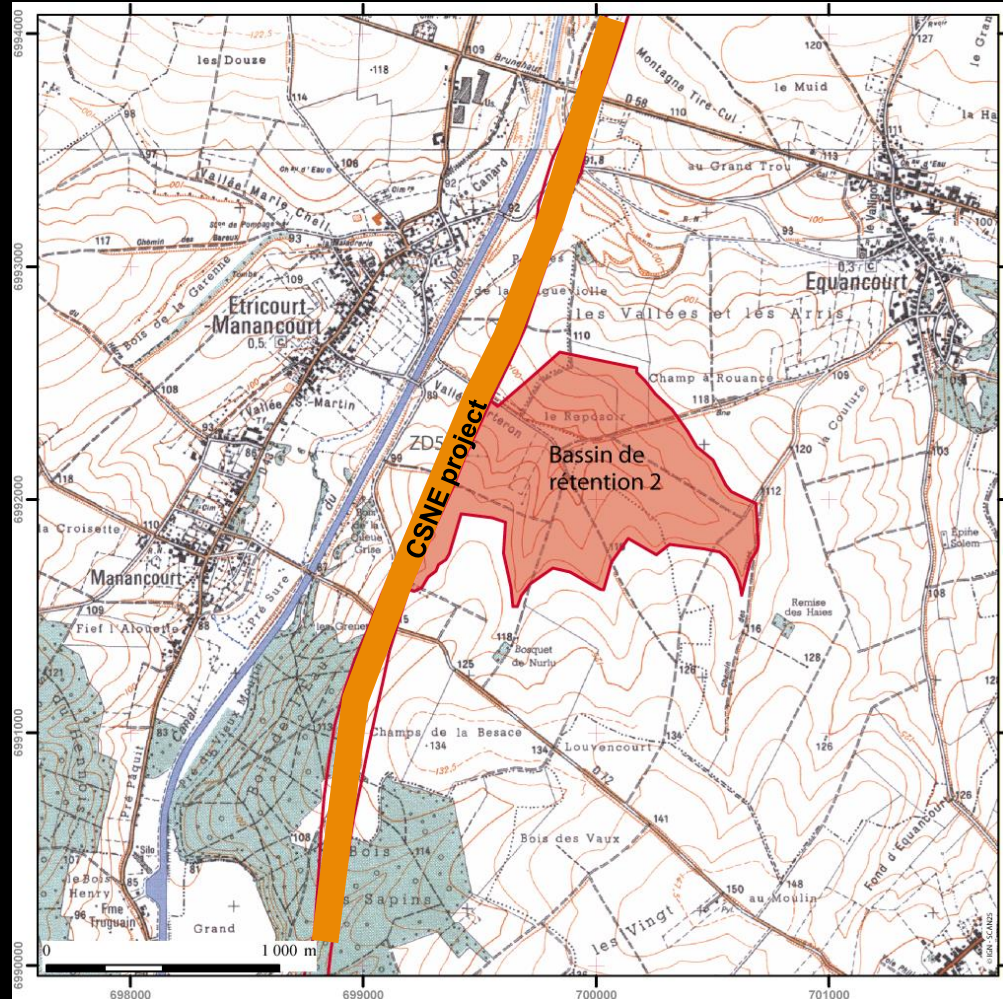
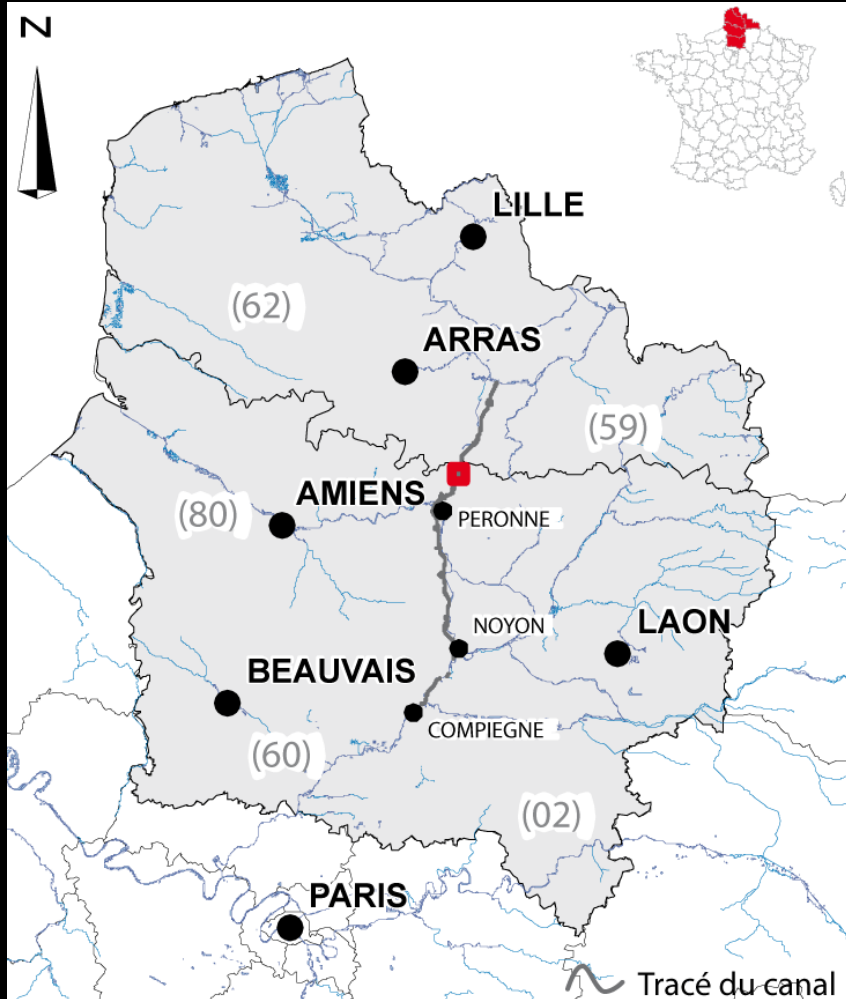


In progress: loess after Hasse *et al.*, 2009 & Antoine *et al.*, 2003, modified; ice sheets after Elhers & Gibbard, 2011

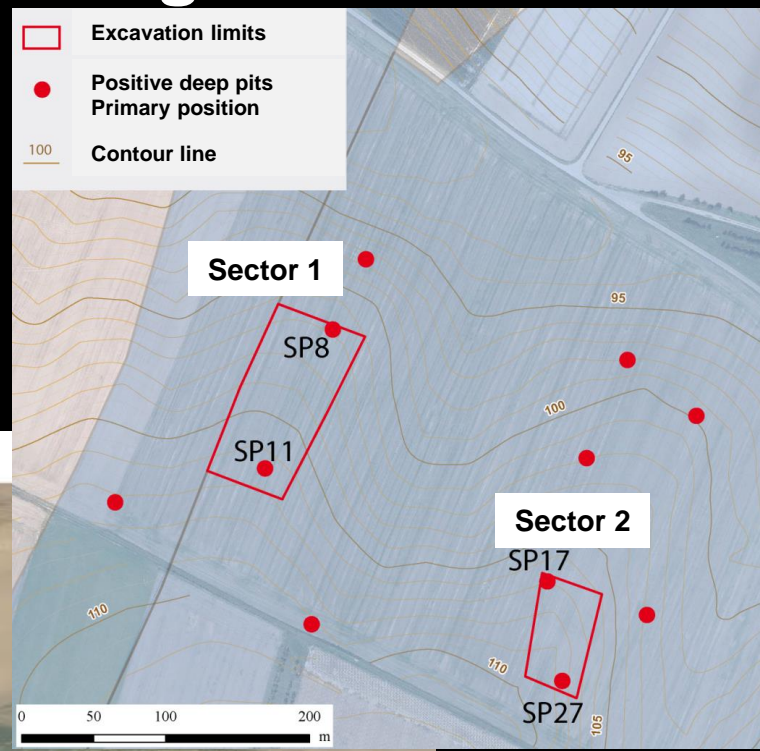
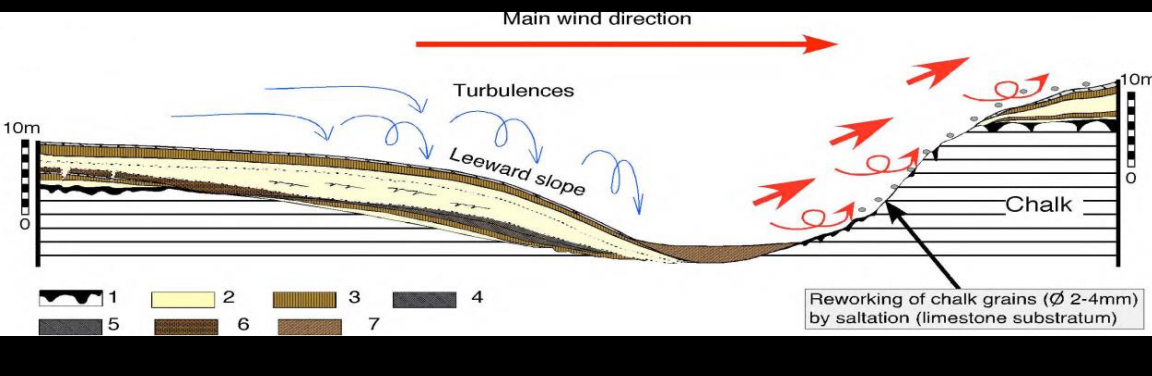
Geographic location of Etricourt-Manancourt

Canal SNE project layout

Retention basin layout at Etricourt



Topographic and geomorphologic context



The excavation

Some numbers:

2012

Six months

5 000 m²

30 000 m³

5 occupations *in situ*
(+ 8 levels reworked)

9 400 m² of occupations *in situ*

3026 artifacts *in situ*



An exceptional stratigraphy



A reliable chronostratigraphical approach based on the sequential analysis

**Continuous column with
high resolution (1 sample / 5 cm)
=> 240 samples on 12 m**

- ✓ Sedimentology
- ✓ Magnetic susceptibility
- ✓ COT (CHN, NF ISO 10694)
- ✓ Micromorphology
- ✓ Loess mineralogy

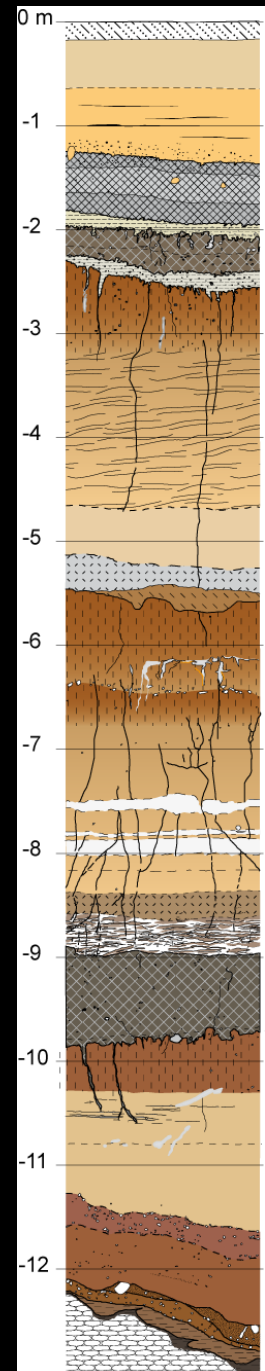
Dating on sediment

- ✓ IRSL (preliminary results)
- ✓ OSL (VSL...to be studied)



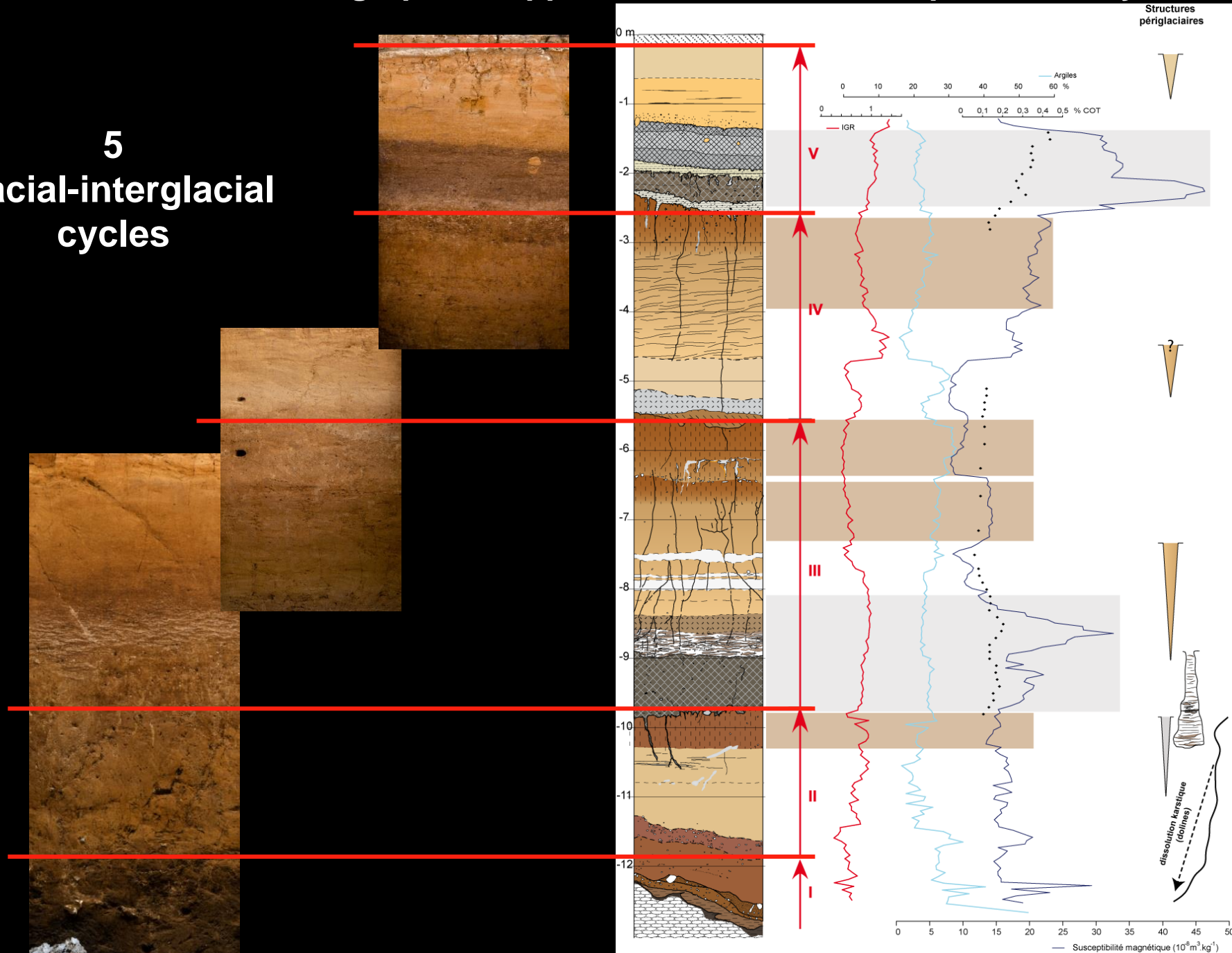
Dating on artifact

- ✓ TL on burnt flint

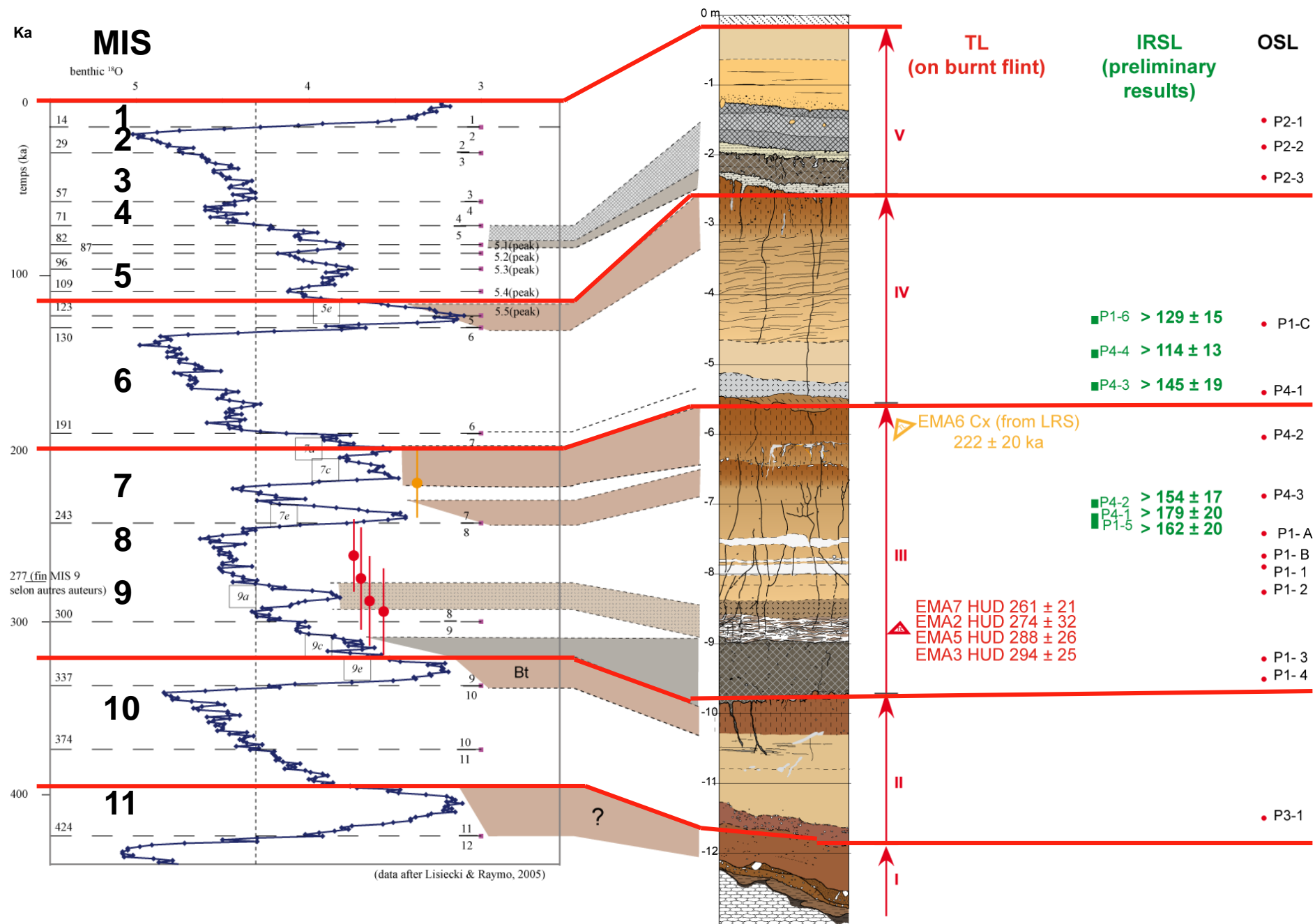


A reliable chronostratigraphical approach based on the sequential analysis

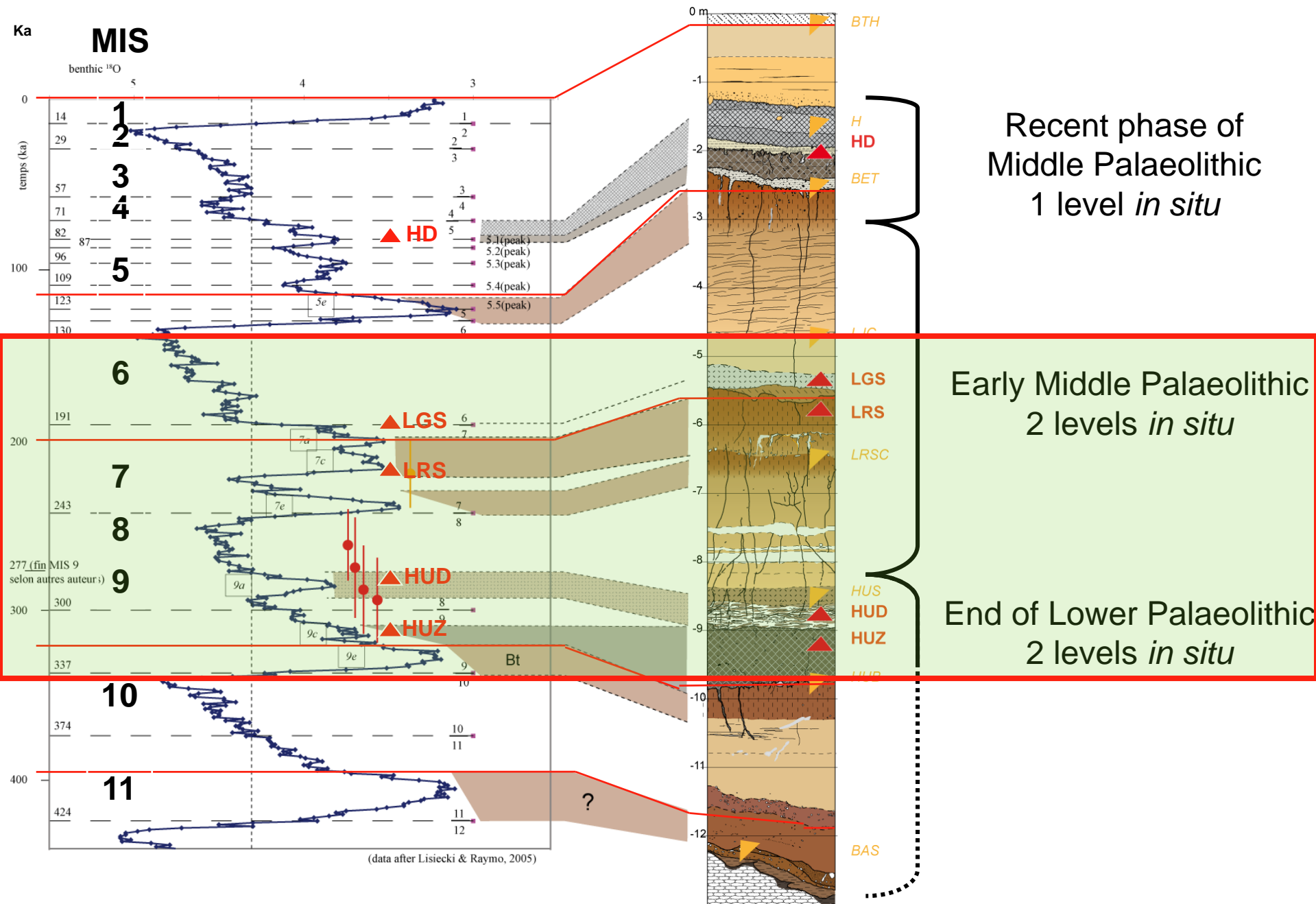
5
glacial-interglacial
cycles



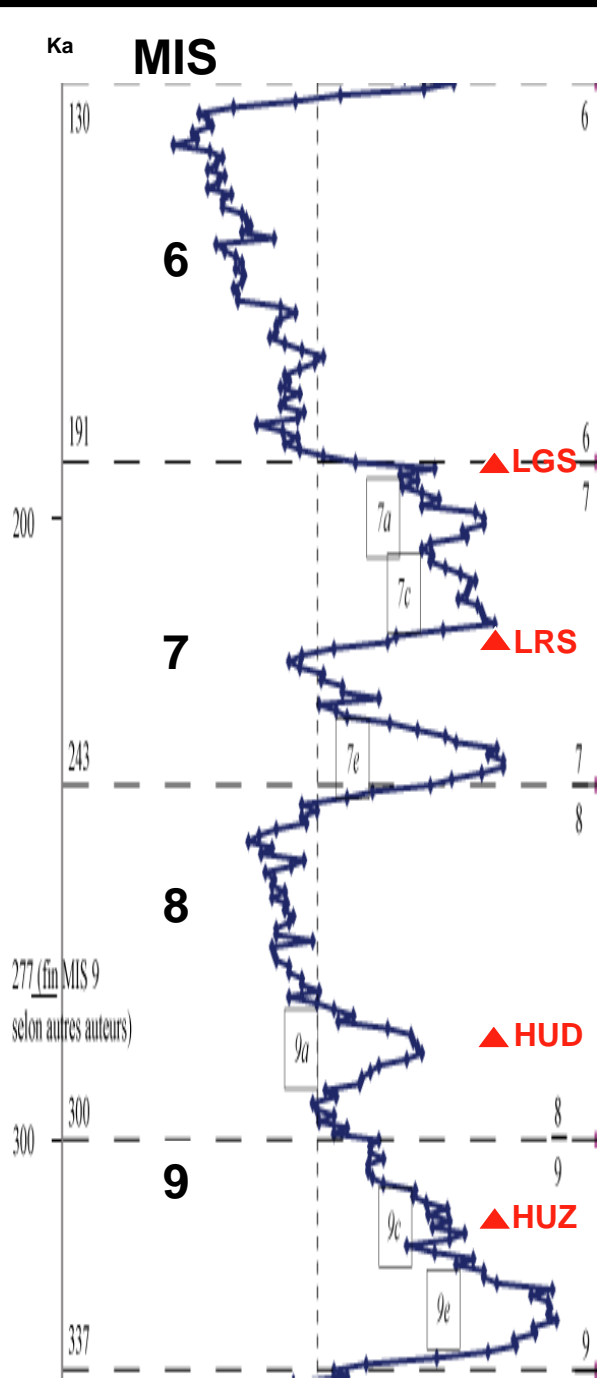
A reliable chronostratigraphical approach based on the sequential analysis



Chronostratigraphic position of human occupations

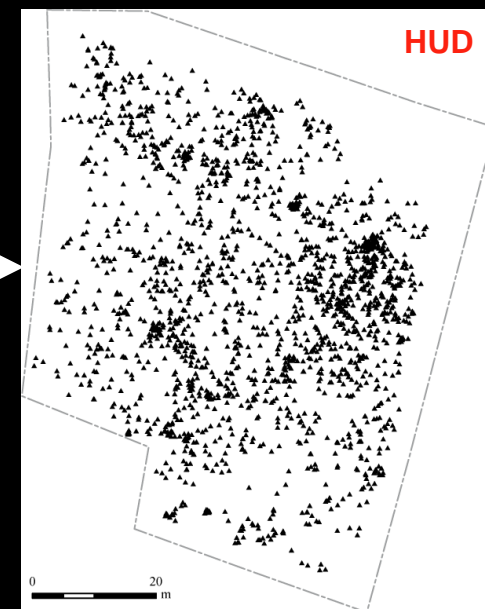
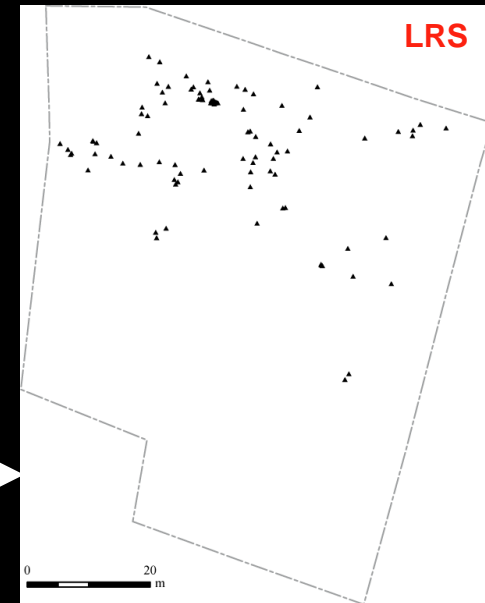


Characteristics of saalian human occupations of Etricourt

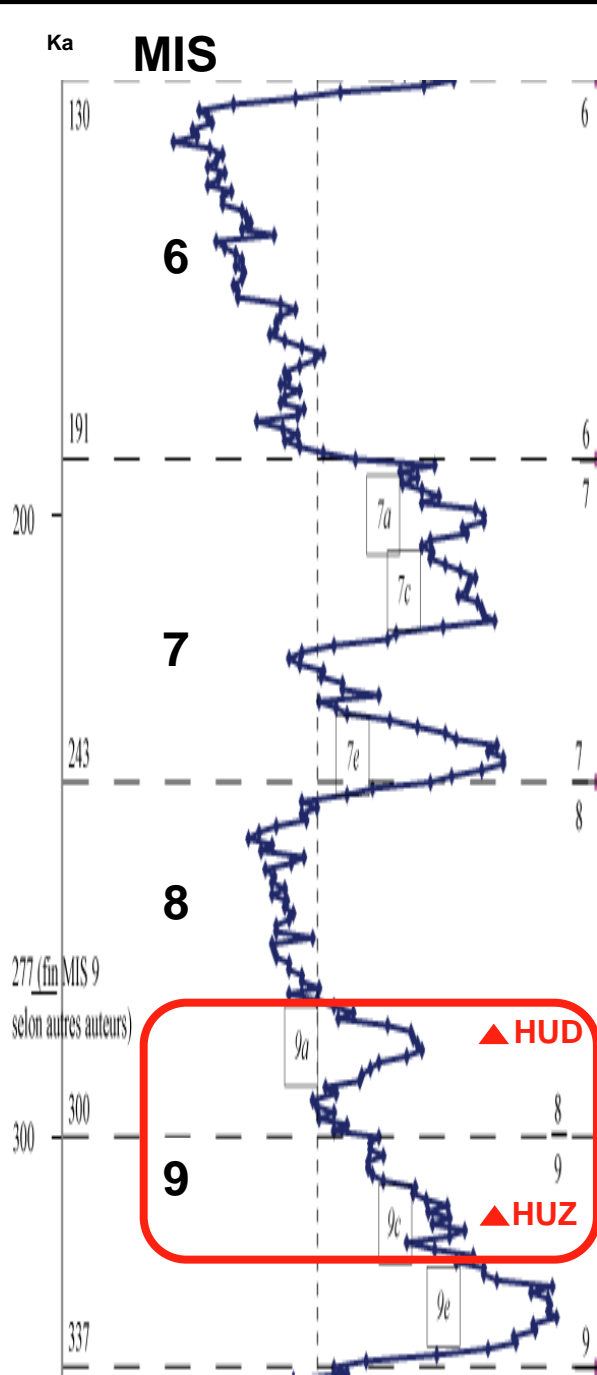


Area	Artifacts	Refittings
1 500 m ²	74	
2 100 m ²	141	6 refittings 20 artifacts
4 300 m ²	2 402	56 refittings 229 artifacts
400 m ²	190	7 refittings 23 artifacts

Distribution

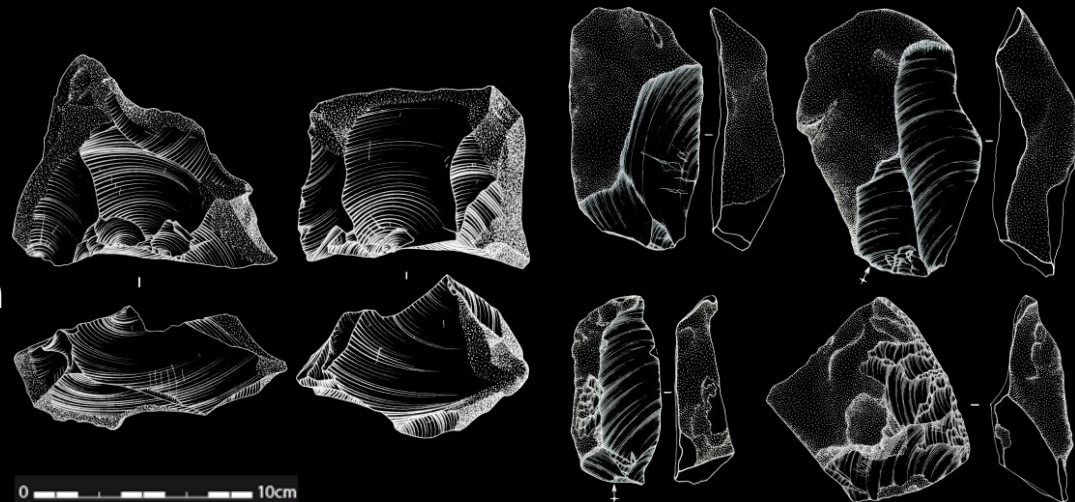


Characteristics of saalian human occupations of Etricourt

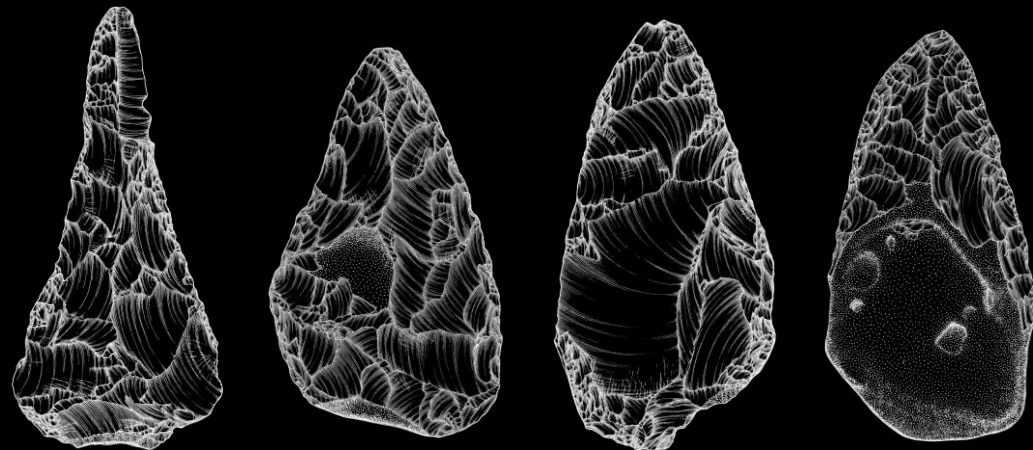


**Cortical
back knife**

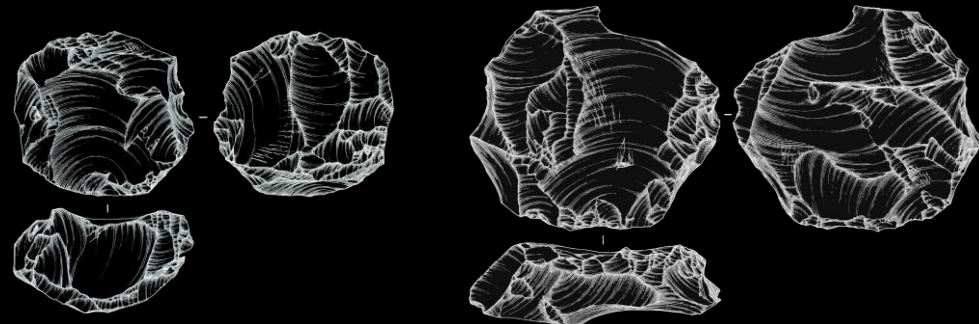
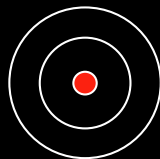
**SSDA-
Clactonian**



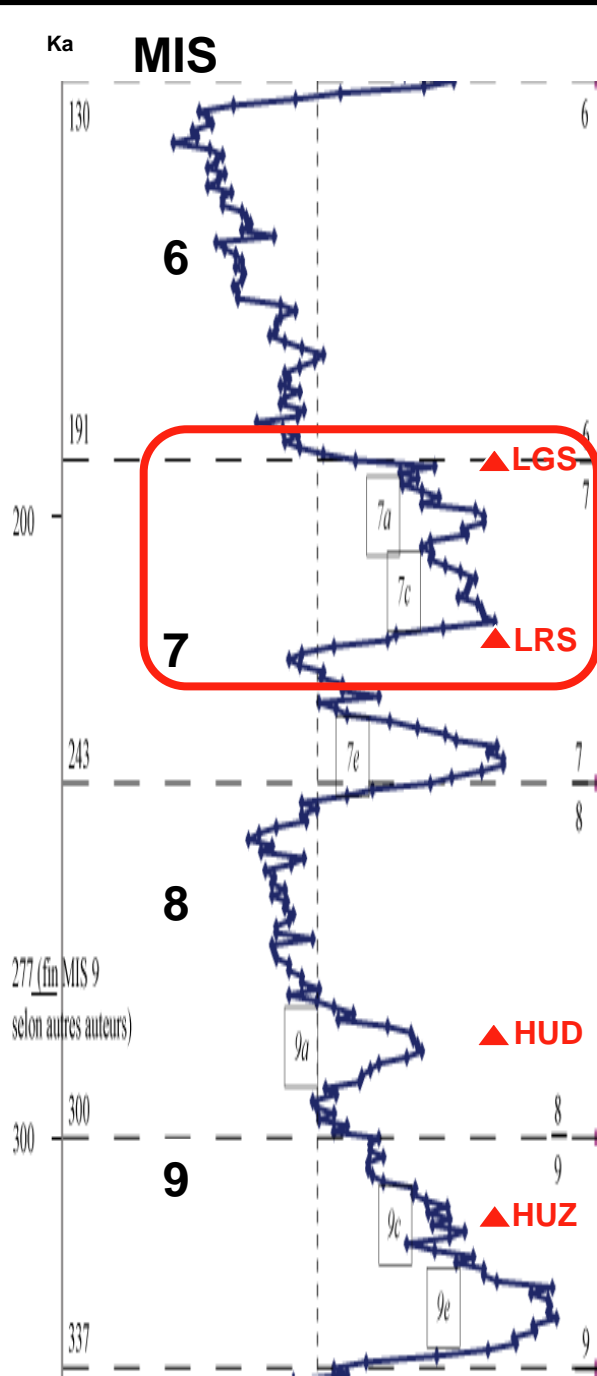
**Bifacial
shaping**



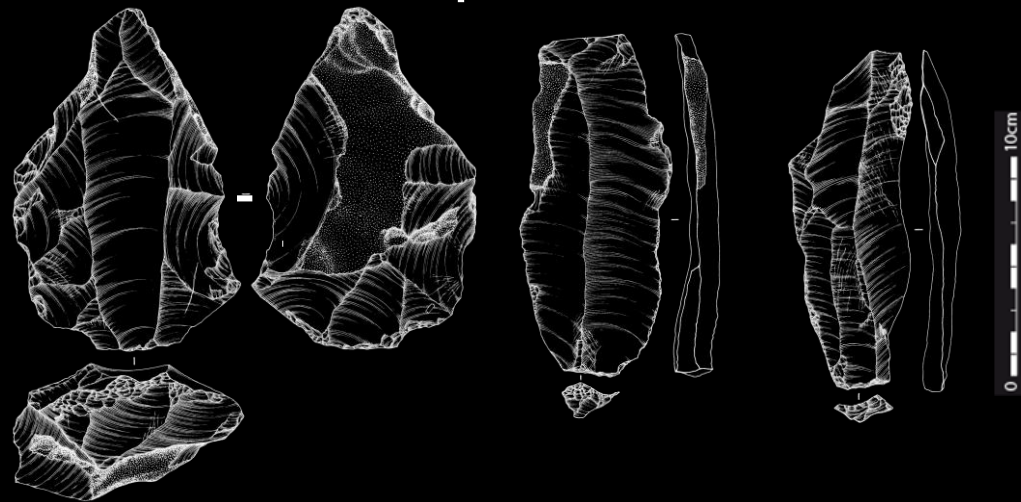
**Levallois ?
in progress**



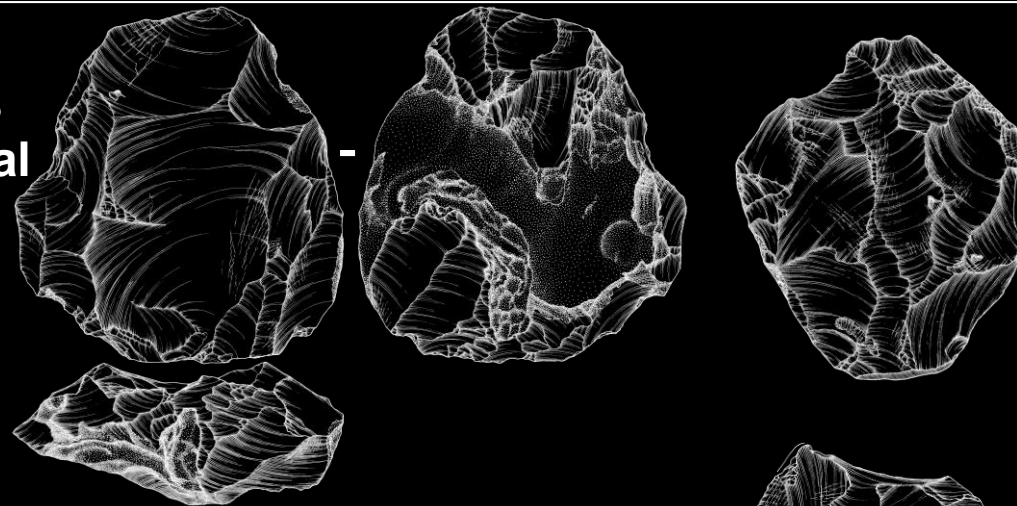
Characteristics of saalian human occupations of Etricourt



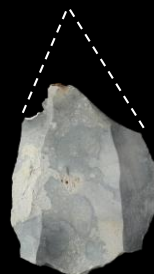
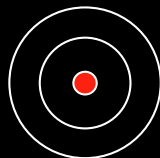
**Elongated
Levallois
flakes**



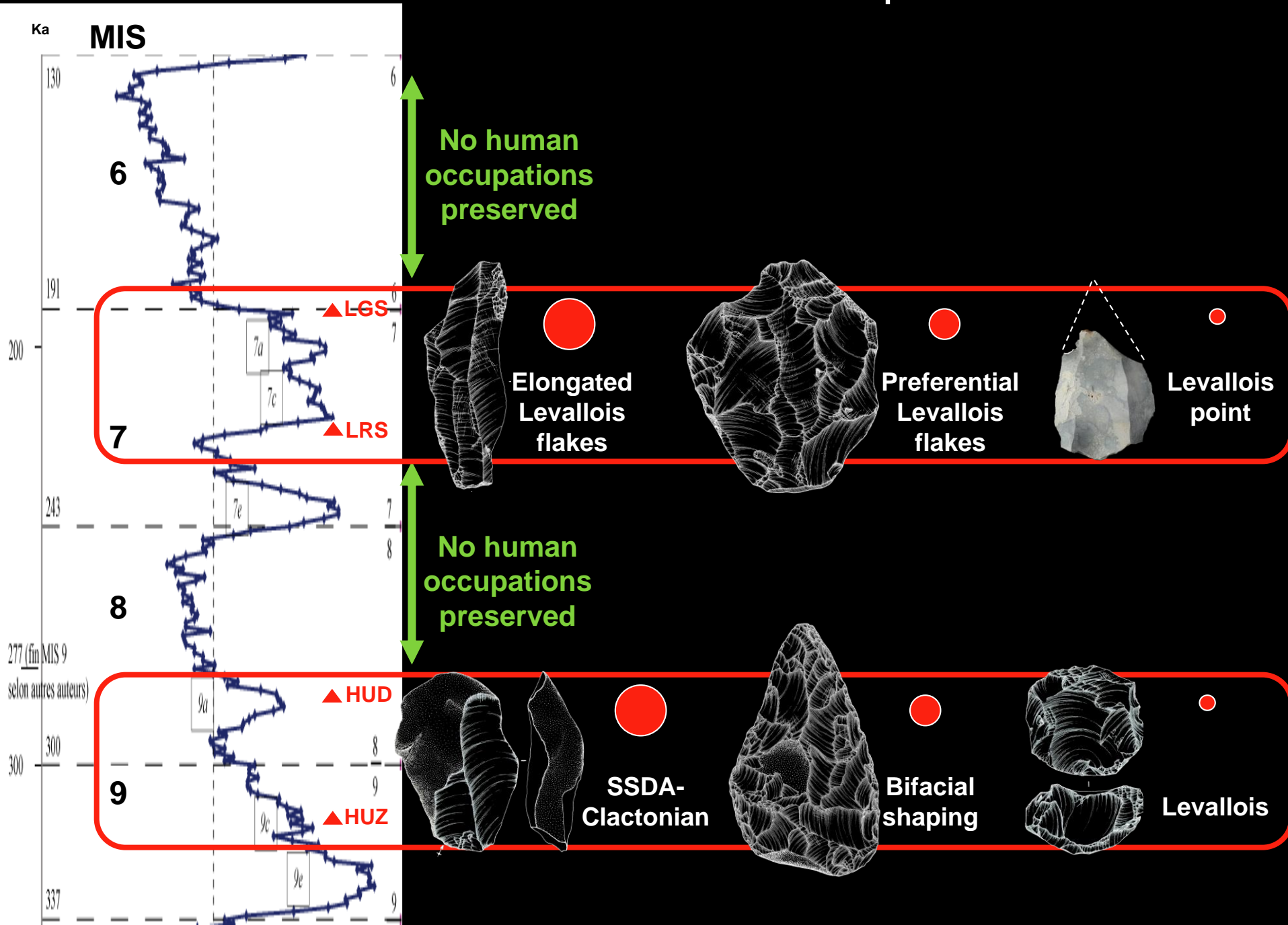
**Levallois
preferential
flakes**



**Levallois
point**



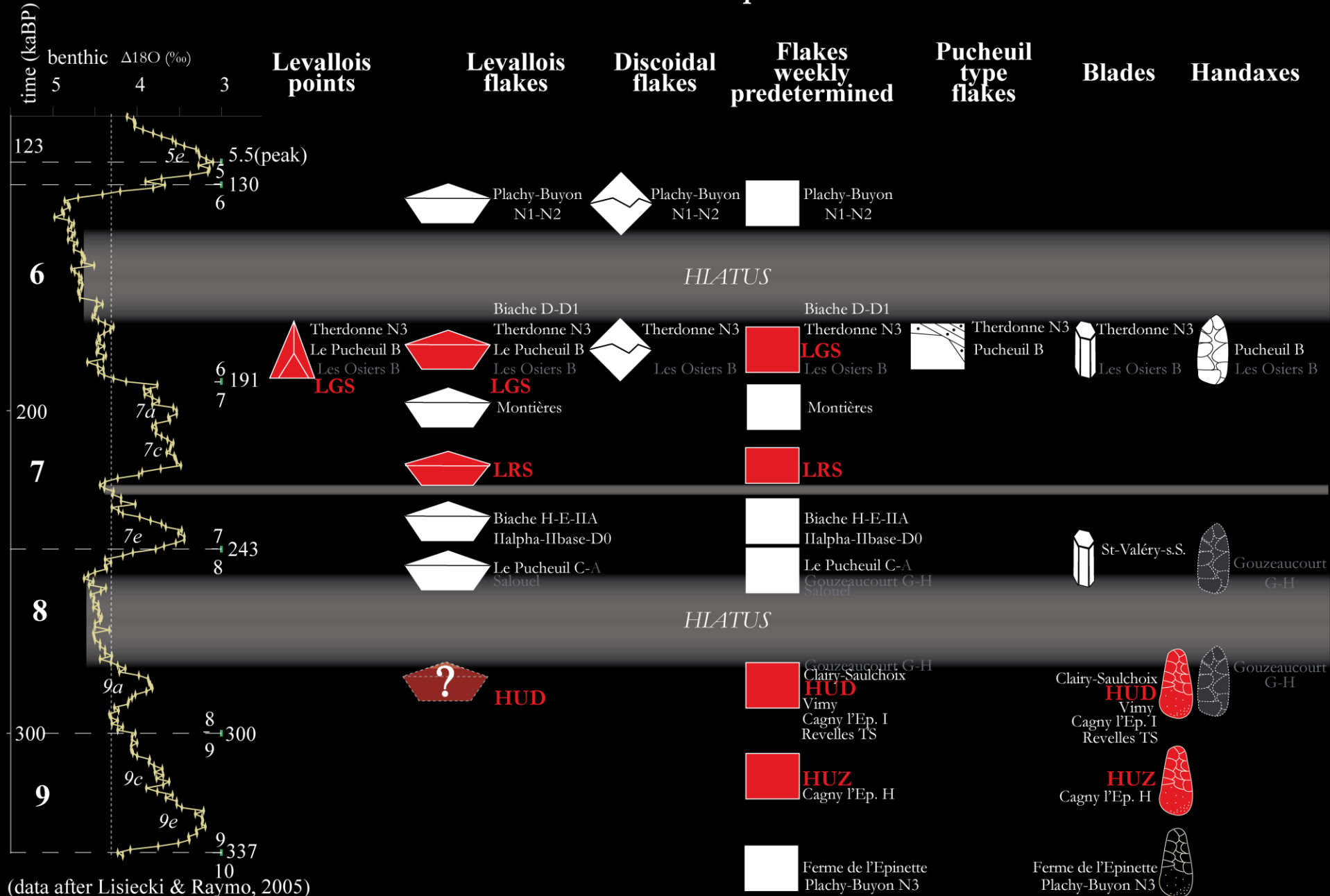
Characteristics of saalian human occupations of Etricourt



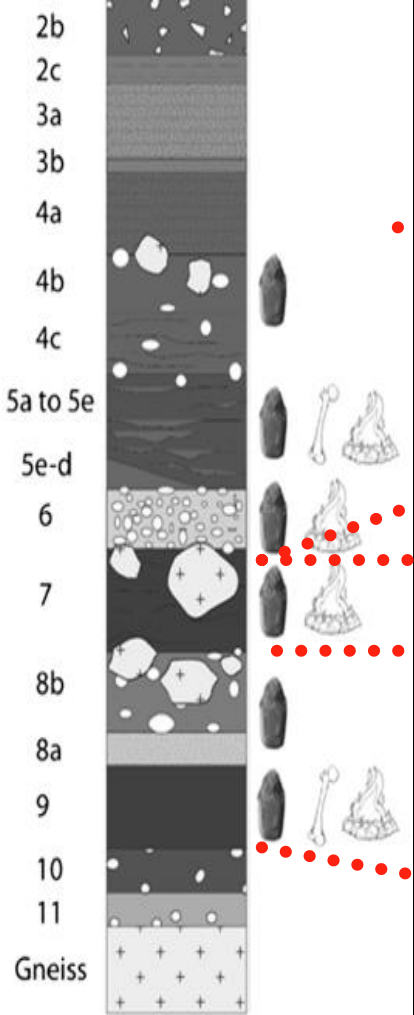
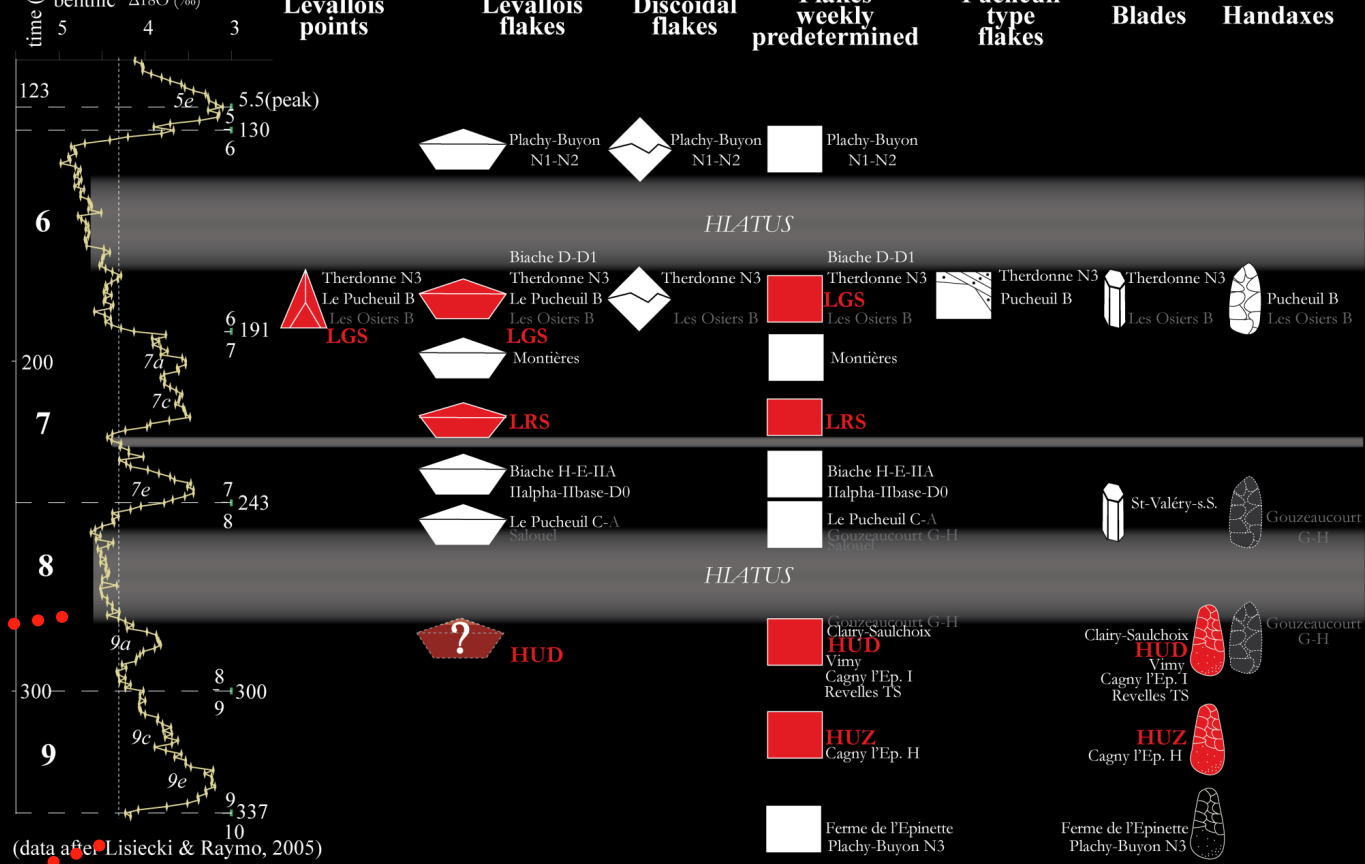
Saalian human occupations in Northern France

Hérisson, Loch, 2014, modified

Chaînes opératoires



En partant de Menez-Dregan...



(data after Lisiecki & Raymo, 2005)

Merci de votre attention