Unravelling the burin-core dichotomy: Historiographic and technological data to develop a new analytical framework for the study of on-edge artefacts.

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Supplementary materials

The supplementary material consists of this document and an Excel file where we collect the definitions and descriptions of the types of burins following the main typological lists used for the study of Upper Palaeolithic artefacts.

The descriptions were analysed to verify which of them could belong to the technological sphere of burin-cores based on criteria established by other authors (Le Brun-Ricalens and Brou 2003; Pesesse and Michel 2006; Sánchez-Martínez et al. 2022) and the technical attributes presented in this article. The aspects that better informed some burin types could correspond to cores are the detachment of a group of removals and the manufacture of a knapping platform.

Following this method of analysis, we marked in bold the burin types (see Excel file in the external supplement) whose definition refers to cores and homogenised the typological lists following Laplace (1972). We added the preferential burin-core (BCP) and equivalent burin-core (BCE) types to include burins that correspond to cores, and the burin + burin (B+B) category for composite types (Table s1).

Table s1: Correlation of the burin types documented in the list of (Sonneville-Bordes and Perrot, 1956), (Brézillon 1977) and (Demars and Laurent, 2003) adapted to the analytical typology of (Laplace 1972). BCP = Preferential burin-core; BCE = equivalent burin-core; B+B = multiple burin; (U) = undefined. Some types may belong **to** several analytical categories.

Analytic categories	Laplace	Demars and Laurent	Sonneville-Bordes and Perrot	Brézillon
B11	1	1	0	0
B12	1	1	1	4
B21	1	1	3	11
B22	1	6	6	20
B23	1	2	3	8
B31	1	1	5	7
B32	1	1	5	8
BCP	0	5	6	26
BCE	0	0	1	2
B+B	0	0	2	4
U	0	0	0	25

As a result, we observe different burins (26) may be encompassed in burin-cores, which is a category that is not represented in the classic typological lists. This approximation is aimed at visualising burin-cores among the retouched lithic assemblages and inform these artefacts should be kept in mind when analysing core reduction sequences and chronocultural variations along the Upper Palaeolithic.

This situation can be observed in the referential drawings of Vachons and Busqué burins presented by Laurent and Demars, which possibly refers to burin-cores because of the repeated intention of obtaining recurrent bladelets from the lateral edges, the presence of prepared knapping platforms and the manufacture of lateral retouches used to generate burin facets (Figure s1 and s2).

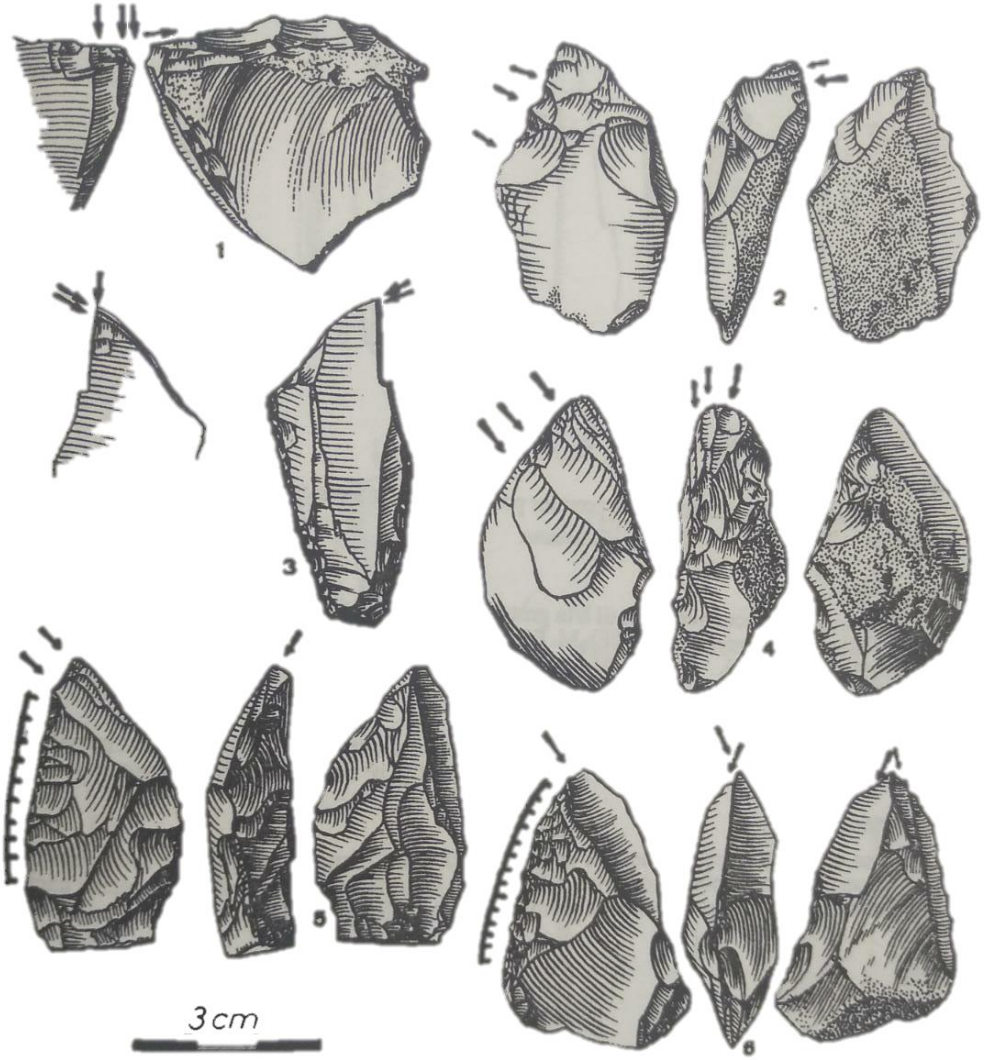

Figure s1: Examples of Vachons burins extracted from (Demars and Laurent, 2003) possibly related to burin-cores. Note the detachment of groups of removals from the lateral edge of generally thick blanks.

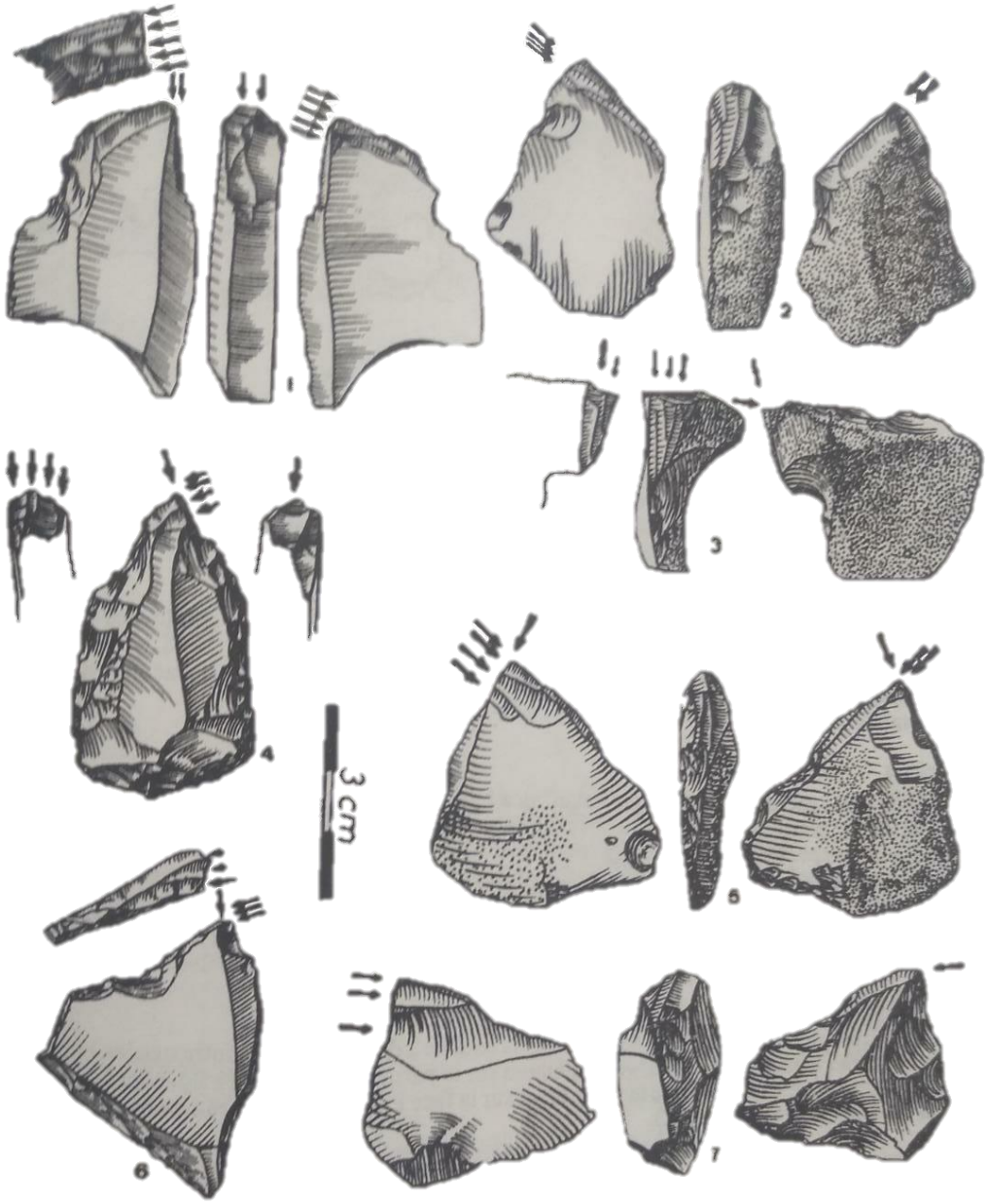

Figure s2: Examples of Busqué burins extracted from (Demars and Laurent, 2003) possibly related to burin-cores. Note the detachment of groups of removals from the lateral edge of generally thick blanks.

Technological information

The technological analysis of the lithic artefacts from the units 6P and 7P has provided 8589 remains, which have allowed us to illustrate the ideas put forward in this article. Quantitative data on the lithic artefacts from the units studied are shown below, including general technological information (table s2), a list of artefacts related to on-edge reduction method (table s3); and a table with the different types of burins identified (table s4).

Table s2: General list of artefacts from the units 6P and 7P from Cova Gran de Santa Linya. Quantitative data is expressed in absolute and relative values.

	6P		7P		Total	
Category	**N**	**%**	**N**	**%**	**N**	**%**
Core	107	1,9	61	2,0	96	1,1
Core frag.	3	0,1	5	0,2	62	0,7
Retouched tools	416	7,4	229	7,6	645	7,5
Nodules	57	1,0	16	0,5	73	0,8
Hammerstones	70	1,3	37	1,2	107	1,2
Hammerstones frag.	57	1,0	18	0,6	75	0,9
Flakes	823	14,7	479	15,9	1302	15,2
Elongated flakes	125	2,2	59	2,0	184	2,1
Blades	20	0,4	11	0,4	31	0,4
Bladelets	400	7,2	318	10,6	718	8,4
Debris	277	5,0	109	3,6	386	4,5
Unshaped frag.	248	4,4	68	2,3	316	3,7
Fragments	1541	27,6	738	24,5	2279	26,5
Proximal frag.	574	10,3	311	10,3	885	10,3
Medial frag,	338	6,0	186	6,2	524	6,1
Distal frag.	545	9,8	361	12,0	906	10,5
Total	5601	100	3006	100,0	8589	100,0

Lithic artefacts related to on-edge reduction methods have been organised on cores, on-edge blanks and fragmented on-edge blanks, based on previous studies on that issue (See section 2.4 of the main text) (Table s3)

Table s3: Lithic artefacts linked with on edge knapping methods, organised by Cores, on edge blanks, and fragments of on edge blanks. BCP = Burin-core preferential, BCE = Burin-core equivalent, OESL: On edge sensu lato.

	6P		7P		Total	
Category	**N**	**%**	**N**	**%**	**N**	**%**
Core	43	8,2	42	11,5	85	9,6
BCP	28	5,4	29	7,9	57	6,4
BCE	6	1,1	7	1,9	13	1,5
OESL	9	1,7	6	1,6	15	1,7
On edge blanks	169	32,3	180	49,3	349	39,3
Burin spalls	125	23,9	136	37,3	261	29,4
1st phase crested bladelets	16	3,1	23	6,3	39	4,4
2nd phase crested bladelets	15	2,9	10	2,7	25	2,8
Burin tablets	13	2,5	11	3,0	24	2,7
On edge fragmented blanks	303	57,9	140	38,4	443	49,9
Burin spalls frag.	248	47,4	68	18,6	316	35,6
1st phase crested bladelets	34	6,5	30	8,2	64	7,2
2nd phase crested bladelets	19	3,6	28	7,7	47	5,3
Burin tablets	2	0,4	14	3,8	16	1,8
Total	515	100,0	362	100,0	877	100,0

Burins have been classified in broad categories according to whether or not they are organised on a natural surface, a fracture, a truncation (lateral or oblique), or the convergence of two facets creating a dihedral angle. The presence of distal notches has been identified separately from lateral retouch or truncations (Table s4).

Table s4: List of burins recovered from the units 6P and 7P from Cova Gran de Santa Linya. Categories with "*" refer to burins with a distal notch to stop the burin spall removal.

	6P		7P		Total	
Category	**N**	**%**	**N**	**%**	**N**	**%**
Burin on natural surface	2	6,1	3	14,3	5	9,3
Burin on natural surface*	0	0,0	1	4,8	1	1,9
Burin on fracture	1	3,0	1	4,8	2	3,7
Burin on fracture*	2	6,1	0	0,0	2	3,7
Burin on lateral truncation	1	3,0	1	4,8	2	3,7
Burin on lateral truncation*	1	3,0	0	0,0	1	1,9
Burin on oblique truncation	10	30,3	4	19,0	14	25,9
Burin on oblique truncation*	0	0,0	1	4,8	1	1,9
Dihedral burin	7	21,2	3	14,3	10	18,5
Dihedral burin*	2	6,1	3	14,3	5	9,3
Dihedral burin lateralised	3	9,1	4	19,0	7	13,0
Dihedral burin lateralised*	4	12,1	0	0,0	4	7,4
Total	33	100,0	21	100,0	54	100,0

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