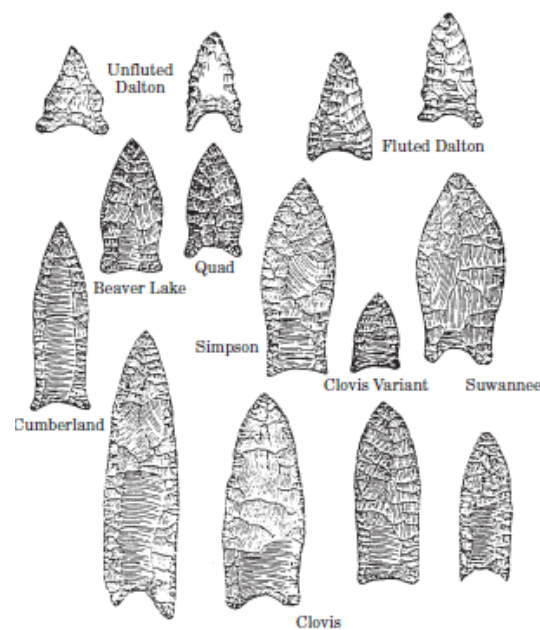


Ideational-Phenomenological Distinction: A Practical Example of Grouping v Paradigmatic Classification

Dunnell 1971 contrasts two methods of arrangement, grouping and classification. Grouping denotes the creation of units in the phenomenological realm, ie, the bringing together of *things* based on the qualities of the things themselves. The figure below (O'Brien et al. 2001) illustrates *typical* specimens from several projectile point units created by grouping.



Contrastingly, classification is the creation of units in the ideational realm, ie, the definition of classes through the necessary and sufficient criteria for class membership. Paradigmatic classifications are dimensional in that each class in a paradigm is defined by the intersection of mutually exclusive modes (eg, green) within dimensions (eg, colour). The figure below (O'Brien et al. 2001) is a paradigmatic classification of projectile points with eight dimensions and varying numbers of attributes per dimension.

Character Character state	Character Character state
I. Location of maximum blade width	V. Outer tang angle
1. Proximal quarter	1. 93°–115°
2. Secondmost proximal quarter	2. 88°–92°
3. Secondmost distal quarter	3. 81°–87°
4. Distal quarter	4. 66°–88°
II. Base shape	5. 51°–65°
1. Arc-shaped	6. <50°
2. Normal curve	VI. Tang-tip shape
3. Triangular	1. Pointed
4. Folsomoid	2. Round
III. Basal indentation ratio*	3. Blunt
1. No basal indentation	VII. Fluting
2. 0.90–0.99 (shallow)	1. Absent
3. 0.80–0.89 (deep)	2. Present
IV. Constriction ratio†	VIII. Length/width ratio
1. 1.00	1. 1.00–1.99
2. 0.90–0.99	2. 2.00–2.99
3. 0.80–0.89	3. 3.00–3.99
4. 0.70–0.79	4. 4.00–4.99
5. 0.60–0.69	5. 5.00–5.99
6. 0.50–0.59	6. ≥6.00

This paradigmatic classification is at the scale of discrete object and the field of lithic point. The definition of both of these and of the dimensions (eg, Base shape) and attributes (eg, arc-shaped, normal curve, etc) used to define classes are arbitrary and must be justified. As the criteria for unit formation is often implicit in grouping procedures, these arbitrary aspects of arrangement often go unnoticed and unjustified.

There are over 62,000 possible classes defined by the intersection of attributes in this paradigmatic classification. In the analysis of lithic points by O'Brien et al. (2001) they found that 491 of these classes had empirical specimens. The classes with the most empirical members (in the figure below from O'Brien et al. 2001) do not perfectly match the groups in the first figure historically used by archaeologists.

Class	Abbreviation	Common type names*
21225212	BQD	Beaver Lake-Quad-Dalton
21214322	CU	Cumberland-Unidentified
21214312	DAQS	Dalton-Arkabutla-Quad-Simpson
21224312	DCSuw	Dalton-Cumberland-Suwanee
21224212	DUCold	Dalton-Unidentified-Coldwater
21214222	DV	Dalton-Vandale
21223223	Ke	Clovis
31234322	KC	Clovis-Cumberland
21221122	Kdoon	Clovis-Doon
12212223	KDR	Clovis-Dalton-Redstone
21223322	Kk	Clovis
31222122	Krus	Clovis-Russellville
11212122	KUA	Clovis-Unidentified-Arkabutla
21212222	KUD	Clovis-Unidentified-Dalton
21235312	QC	Quad-Cumberland
11214312	QD	Quad-Dalton
21215312	QUD	Quad-Unidentified-Dalton

Dunnell, R. C. (1971). *Systematics in Prehistory*. New York, The Free Press.

O'Brien, M. J., J. Darwent and R. L. Lyman (2001). "Cladistics is Useful for Reconstructing Archaeological Phylogenies: Palaeoindian Points from the Southeastern United States." *Journal of Archaeological Science* 28: 1115-1136.