

The Definition and Interpretation of Levallois Technology

Harold L. Dibble *and*
Ofer Bar-Yosef

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Chapter 8

The Nature of Levallois

Marcel Otte

University of Liège, Belgium

The Levallois method is considered here as a phenomenon of convergence produced by the conjunction of three factors: the mechanical properties of the raw materials, the conceptual capacities of the knapper, and the functional needs of the group. This phenomenon can thus appear independently countless times and in different places in the course of human evolution. So its particular ethnic significance must be determined in each situation where it is discovered, rather than in a general process of a single invention followed by global diffusion.

In Search of a Form

The fundamental notion of the Levallois method is defining the future shape of a flake through the preparation of a block. This anticipatory preparation may display different variations according to its context, but it always testifies to a capacity for abstraction marked in the rock. It is linked to the way in which materials were transported (Roebroeks et al. 1992) as well as to the methods of tool production that are particular to the Middle Paleolithic (Dibble 1988; Rolland, this volume). The ensemble of the relationships between technology, materials and functions

constitutes the extremely powerful adaptive system of this vast period in the Old World (Otte 1992).

Curiously, the first descriptions and interpretations of Levallois, accompanied by the first drawings of refittings (Figure 8.1) remain largely forgotten (de Munck 1893). Precise definitions were provided by Comont (1909), followed by Bordes' (1953) reconstructions which provided an appropriate sense of technique. This was succeeded by refittings and more advanced dynamic analyses (Boëda 1988). The notion that has been established ever since concerns the process more than the results or the forms (see, for example, the fine synthesis of this terminological evolution in Van Peer 1992).

Everywhere and Always

Seen from a global perspective, the Levallois method can appear independently in humanity's technical history and an indefinite number of times, provided that at least three factors are found in association:

1. Lithic materials with appropriate mechanical laws ("brittle" rocks).
2. Technical needs for a particular form fulfilling potential uses.

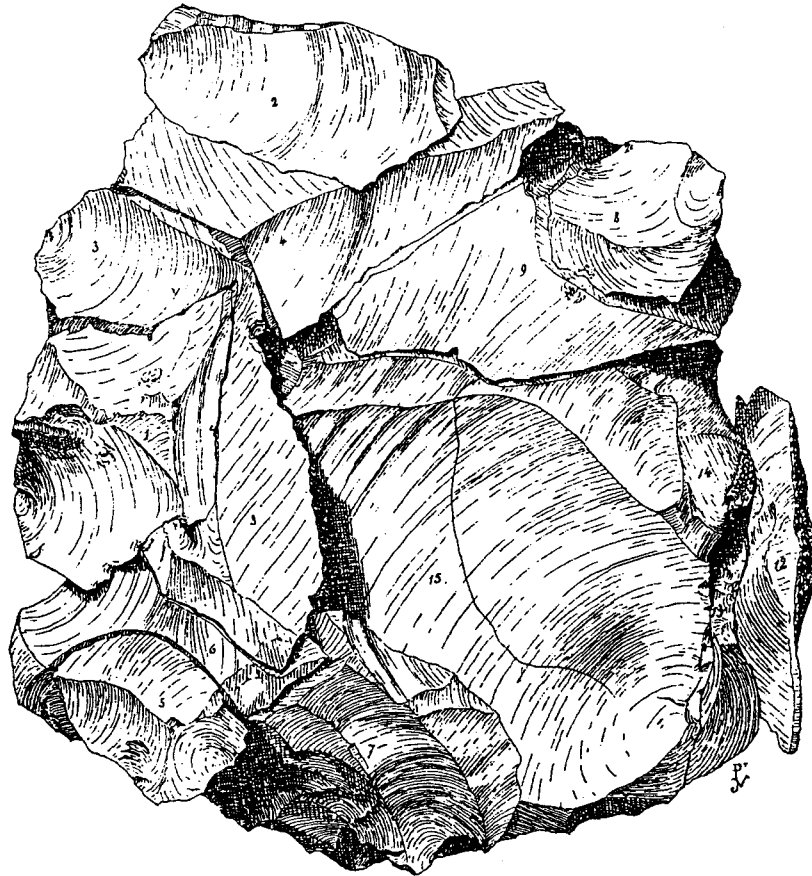


Figure 8.1. The first true Levallois nucleus is Belgian. The figure presents the first refitting of removed flakes, showing the centripetal shaping of the block, the extraction of prepared flakes (the hollows) and the residual nucleus (in the centre). The description accompanying these drawings proves the intelligence of the method in the very earliest period of international prehistory (de Munck 1893).

3. The conceptual capacities necessary for foreseeing the action, its coordination and its realization in stages.

The convergence in the appearance of the Levallois method explains its extreme dispersal through time and space: Africa (Djibouti, Berthelet et al. 1992; see Figure 8.3), Central Asia (Movius 1953; Ranov 1976; pl. 2), China (Wu and Olsen 1988; see Figure 8.2), Australia (Bordes et al. n.d.; Figure 8.2) and, recently, Japan (Sato et al. this volume). As a further example, one might cite the obsidian blades of the Admiralty islands produced very recently and intended for hafting as daggers or spears (Torrence 1993; Figure 8.5).

Unity and Varieties

Within the similarities of forms and processes caused by convergence, some minor methods reflect the internal variations in the three factors listed above:

types of raw material, conditions of obtaining supplies, and methods of use or hafting.

The conceptual capacity also concerns the tradition of the knappers. Part of the production represents a simple result of education. Considered in a regional framework, these variations take on a particular meaning, supplementary to functions and deposits. Beyond the universal convergences of technique, they produce marginally distinctive features that are particular to a group with no other meaning than that of belonging (the "Nubian" style, the "Victoria West", or the "Halfian"—see Figure 8.4).

When these particularities are induced by the tools, they carry an even more pronounced meaning; a kind of mirror to tradition (for example the blanks destined to be bifacial tools in Eastern Europe or the tools of the Aterian—see Figure 8.4).

One can also consider blades to be special Levallois products, achieved if necessary at any moment of the

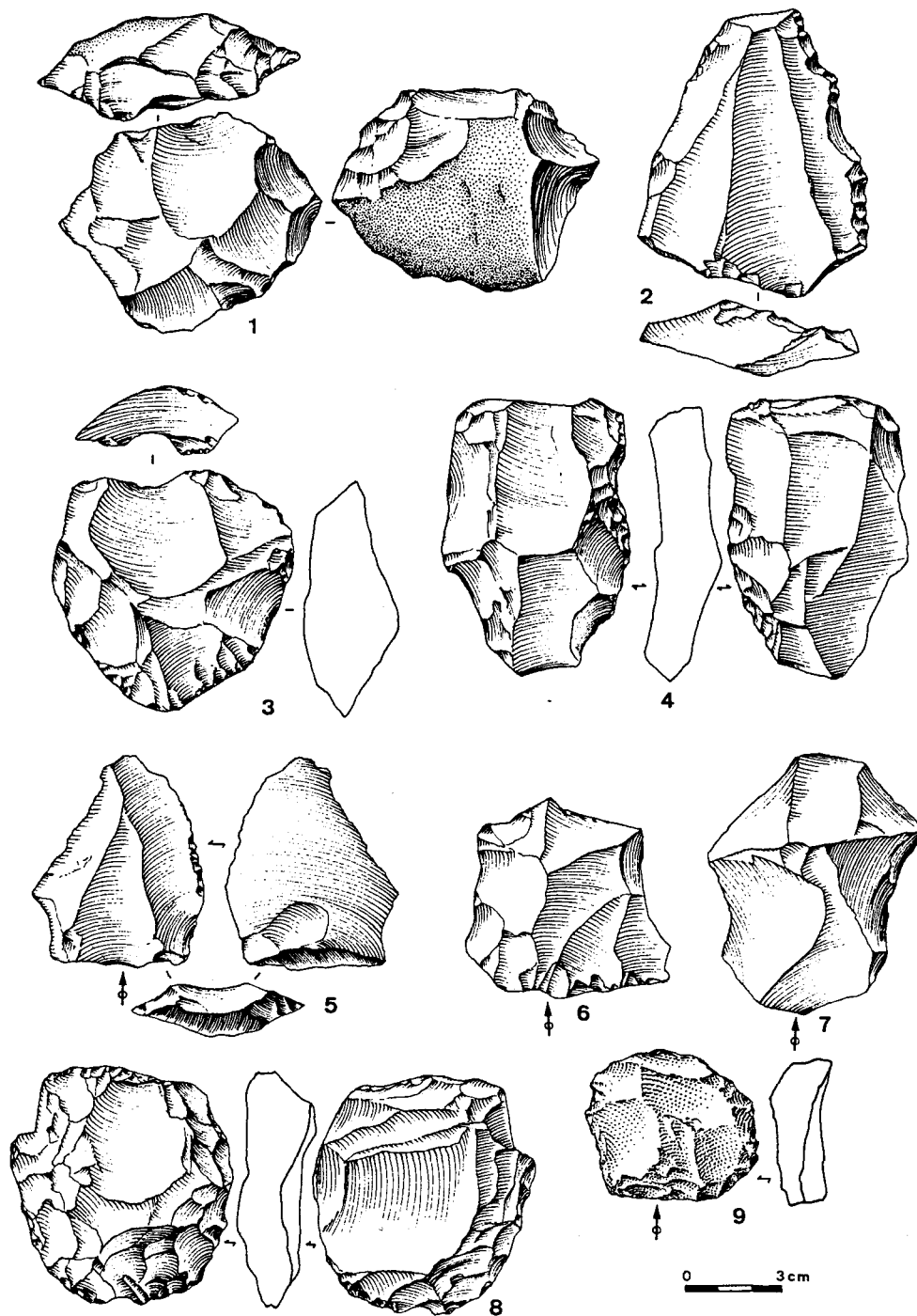


Figure 8.2. The Levallois roundelay (a popular song). The extent of the diffusion of Levallois technology merely corresponds to the universality of the human mind confronted with the same mechanical laws (brittle rocks) in order to meet technical needs. However, secondary characteristics (shapes, dimensions) mark variations in context: specific materials, distances to sources, intensity of occupation, methods of hafting, for example. A scheme as "natural" as the preliminary shaping of a block does not therefore correspond to the impact of a *tradition* any more than does the use of a bow, an axe or a bicycle, although it is, of course, the product of a "cultural" activity. The only value of such vast analogies is the general convergence in all human products, which are intermediate between the biological and the historical. 1 and 2, Siberia (after Medvedev et al. 1990 and Abramova 1989). 3 and 4, Mongolia (after Derevianko and Petrin, this volume). 5, China (after Wu and Olsen 1988). 6 and 7, Central Asia (after Ranov 1976 and Movius 1953). 8, Japan (after Sato et al., this volume). 9, Australia (after Bordes et al. n.d.).

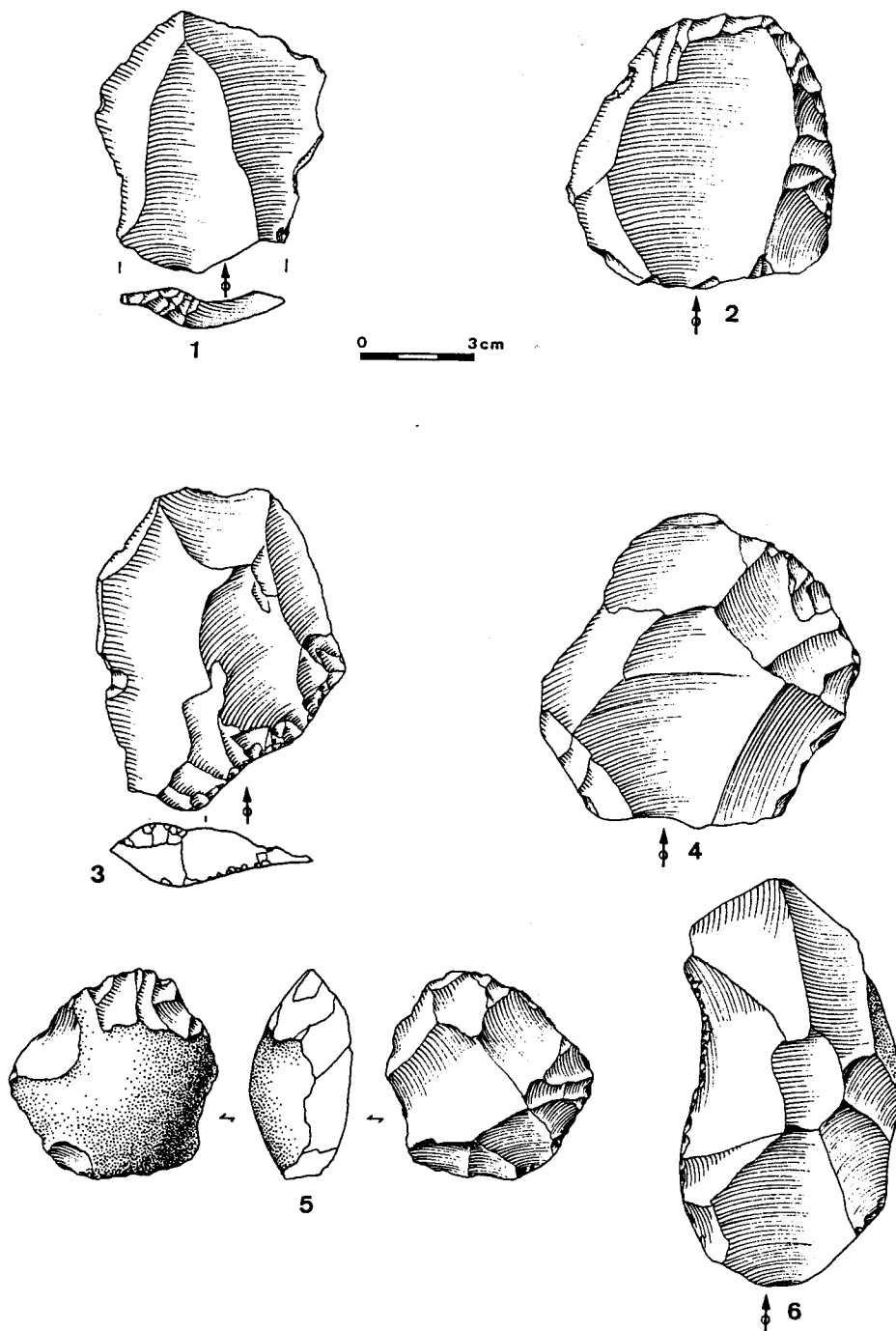


Figure 8.3. The Levallois pursued its path towards the East and skirted the Mediterranean, from François Bordes to Desmond Clark. This time it is the minds of prehistorians which, according to their school and training, “rediscover” similar technical schemes as the colonising expansion goes along. 1 and 2, Turkey (after Yalcinkaya, this volume). 3, Iran (after Dibble and Holdaway 1993). 4, Djibouti (after Berthelet et al. 1992). 5, Orange Free State (after Clark 1990). 6, Burkina Faso (after Millogo 1993).

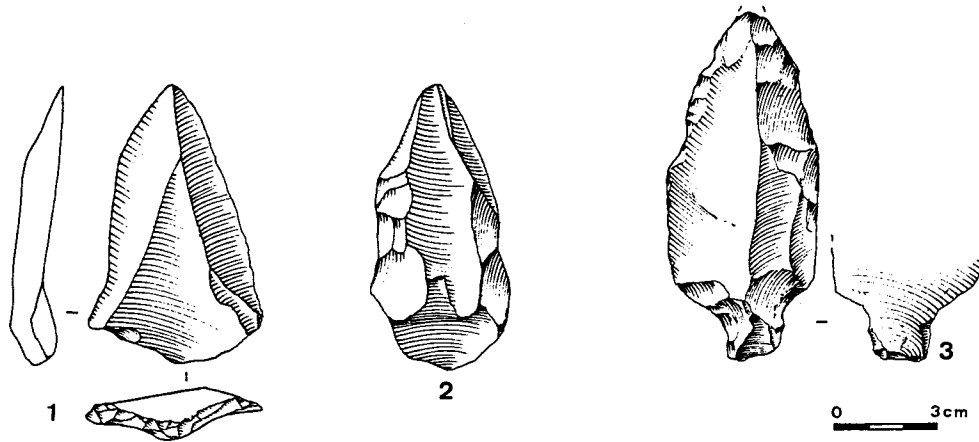


Figure 8.4. Finally, Levallois appears within the ensemble among the secondary methods, and constant regional particularities seem to represent traditional practices: Hummalian, Nubian, Aterian, for example). 1, Kebara (after Bar-Yosef et al. 1992). 2, Egypt (after Van Peer 1991b). 3, Morocco (after Wengler 1990).

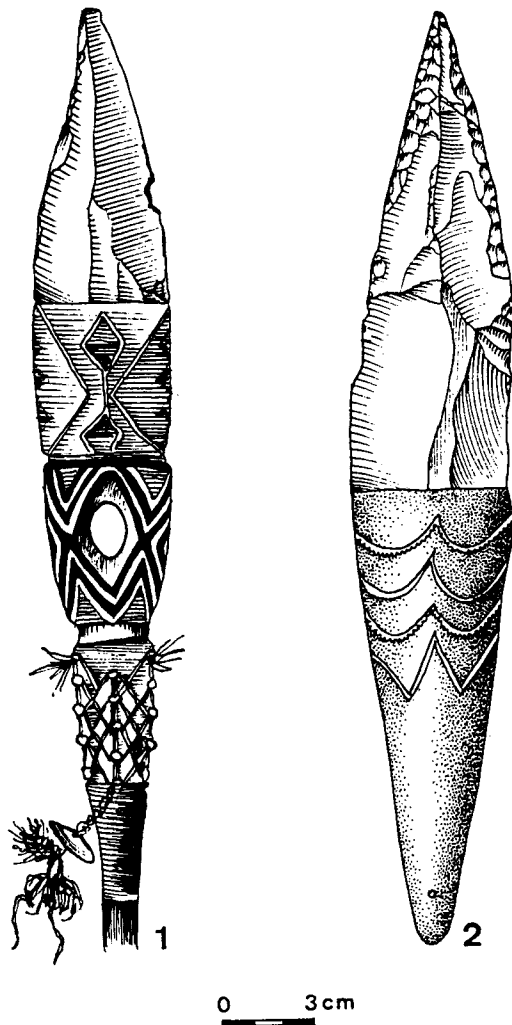


Figure 8.5. Even the Polynesians did not hesitate to reinvent the Levallois method to arm their arrows and daggers. The effect of convergence is marked here by the "Mousterian point," made of obsidian and hafted, as in the Paleolithic of France a hundred thousand years earlier, with plant materials. The tree-dominated environment during the temperate phases of the European Pleistocene favoured such convergences. Arrowhead and daggers from the Admiralty islands (obsidian and plant materials). (After Read 1910 and Torrence 1993).

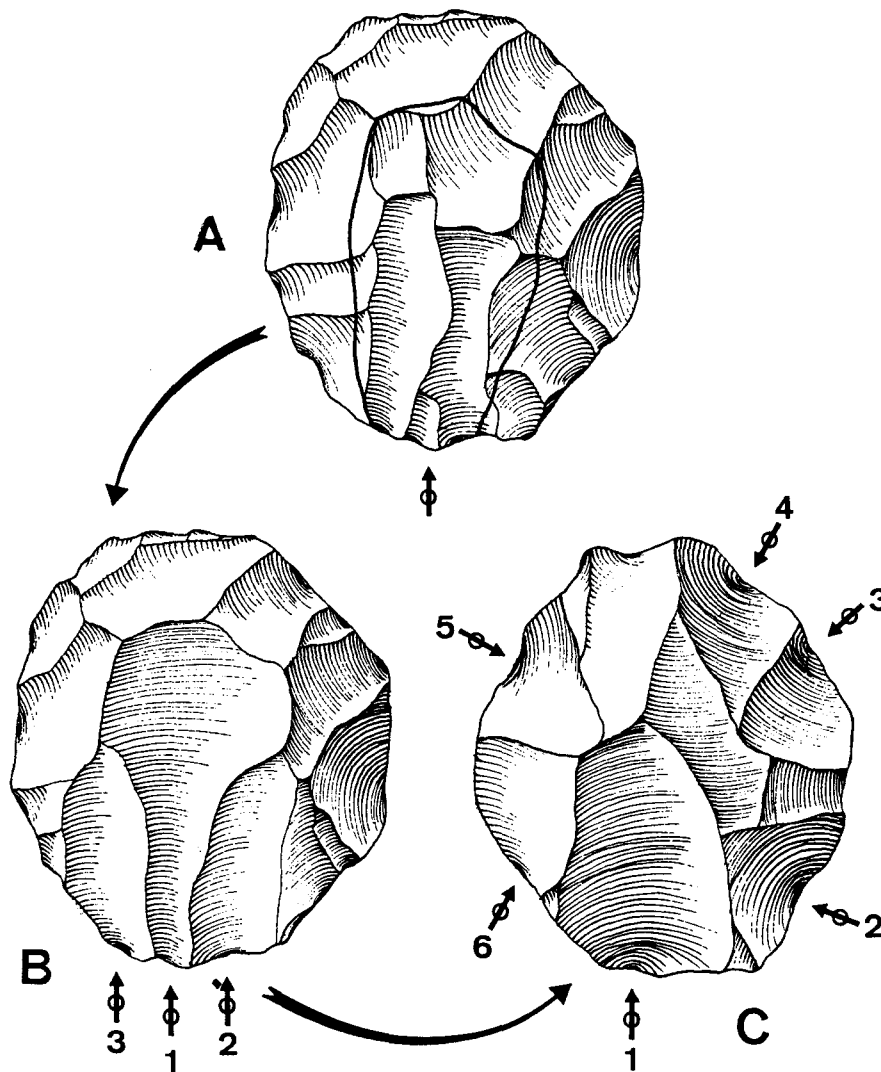


Figure 8.6. The utilisation of a carefully prepared surface (A) does not preclude its re-utilisation when required (B). This Mousterian trick can be repeated by turning the striking platform (C) without causing any great upheavals, except in manuals of prehistory. The first example is the most *orthodox*, and corresponds to the "Levalloisian" which was, moreover, defined by the Abbé Breuil. The third example is a response to a case of deficiency (far from materials; intensive use) and could be called "the Dibble effect" (see also Turq 1989 for the "eastern" areas of the Perigord). Finally, the second (B) overexploits a careful preparation and is the most universal because it corresponds to the "law of least effort" recognized by all sensible beings. The one method can therefore be adapted to situations that are very varied in time, in needs and in availability. It thus reconstructs a "Mousterian system" that is all the more powerful because it is not limited by its own structure (after Dibble and Holdaway 1993; Demidenko and Usik, this volume).

Paleolithic as soon as the opportunity was felt (Otte 1994; Révillon 1993). In this sense, the lithic technique of the Upper Paleolithic is contained within that of the Mousterian, of which it constitutes a mere anecdotal vicissitude.

Evolution

In a few regions one can detect modifications through time which are apparently linked to variations in the mode of obtaining supplies of material which in turn provides an indirect reflection that is

evolutionary in character (Van Peer 1991a). For the rest, the processes are maintained from their acquisition until the massive introduction of bone tools, radicalising one of the tendencies of Levallois.

Culture or Tradition

The essential point here seems to be that of distinguishing everything that is *possible* through cultural capacity from that which is *chosen* by tradition. The possibilities are induced through the strictly cultural interplay between materials, needs and reflection. Analogous biological capacities thus lead to analogous processes such as the Levallois method. Traditional choice is exercised within and after this "pan-human" process. It delimits particular fields that can be achieved everywhere but which are richer in meaning when situated in their own context. The confusion of these two orders, among others, has led certain authors to take up dogmatic positions, accepting only one value or another.

Conclusion

The question of the definition—and hence the meaning—of the Levallois method runs the risk of being badly put if it is separated from its context too radically. Apparently, the technical capacities inherent in Levallois production are very rich and explain its great variability. The immensity of its expansion through time and space already testifies to its universality, that is, its value as evidence of a spirit, not of a context. Beyond this fundamental evidence the "Levallois phenomenon", considered in its particular material accomplishment, requires a contingent explanation which is equally specific. Modes of habitation, of function, education, or style combine to produce, through the cohesive forces of the materials, accomplishments that are remarkable every time. No retrospective law authorises us to limit the field of freedom of action of Paleolithic people any more than of ourselves.

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