



Focus article

Please do not shoot the pianist. Criteria for recognizing ancient lithic weapon use



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ABSTRACT

The paper by Rots & Plisson in JAS has initiated an interesting debate about the methodologies applied in identifying lithic weapons. Some of their criticisms are discussed and some clarification of the criteria for recognizing wear patterns is proposed. The relevance of working within a general historical/anthropological model to contextualize ancient weapon use is highlighted.

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Rots and Plisson (2014) raise an interesting question in a recent *Journal of Archaeological Science* paper entitled “Projectiles and the abuse of the use-wear method in a search for impact”. The paper focuses on the methodologies applied in other recent articles to establish the use of Paleolithic lithic projectile weapons.

As they state, use-wear determinations are not easy; they require a long committed training period along with the availability of large reference collections. The experimental programs must take into account not only use-wear experiments but also other phenomena that cause alterations to lithic tool surfaces (knapping, taphonomic processes, etc.). Rots & Plisson claim that some analyses of lithic weapons rely on questionable approaches, basically a simplification of use-wear methodology that does not apply all its principles, to obtain quick results. More specifically they center their suspicions on studies aiming to identify the “first” or “earliest” evidence of projectile use by prehistoric humans.

Debates on the reliability of use-wear criteria have a long history in the discipline. Specific debates on projectile determination criteria are also not new (Plisson and Beyries, 1998; Shea, 1998). These debates normally produce positive outcomes because they allow us to identify the main problems, objectify and refine the criteria and assess the confidence that each one is worthy of. From this perspective, the discussion opened by Rots & Plisson is very

welcome. However, critical approaches need to be careful and scrupulous to build a really productive debate. Many parts of the paper by Rots & Plisson have these qualities but there are some sections where they are lacking. First, certain statements are difficult to accept or need important nuances. Second, they sometimes distort the case a little with criticism that does not always accurately reflect the published ideas of other scholars. Third, there are inconsistencies between the criticisms the authors make and elements of the actual work they carry out (i.e. Rots, 2013).

Rots & Plisson selected a recent paper of which I am the author (Lazuén, 2012a) among those criticized. They characterize the methodology applied as based on (1) use of isolated wear phenomena, (2) tip (...) fracture (...) as the unique “guiding” wear feature to identify armatures; (3) transposed a single experimental reference to microliths to any archaeological situation; (4) not considering lateral edge crushing for Levallois points (the most evident criterion for bladelets as lateral inserts); and (5) a simple extrapolation of (...) published studies. The accuracy of their comments is evaluated and my point of view is briefly summarized.

Use of isolated wear phenomena. Weapon use analysis (as all use-wear analysis) needs a combined study of macro- and micro-traces: “these marks can be observed with stereomicroscopes (up to 80×) to identify the fractures and flaking, and with metallographic microscopes (from 50 to 500×) to analyze the striations and polishing” (Lazuén, 2012a). My study on lithic weapons was part of a wider use-wear study of the analyzed collections (Lazuén, 2012b). In fact, the absence of microwear observation is potentially the

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most dangerous shortcoming in weapon or projectile use analysis (cf. Dockall, 1997). Microscopic examination, conventionally by metallographic microscopy, is an invaluable aid to rule out –or accept– alternative interpretations of macroscopic observed wear, conventionally by stereomicroscopy, caused by other apical uses (e.g. boring, engraving). Potential sources of error such as those

activities signaled in Rots & Plisson Fig. 7 (see Fig. 1B) would not occur in the presence of a microscopic examination. Rots & Plisson indirectly note this matter (section 5, Armature experimentation) but it is important to insist on it. Microscopic observation acts as an unambiguous “demarcation criterion” for relying on all functional interpretations.

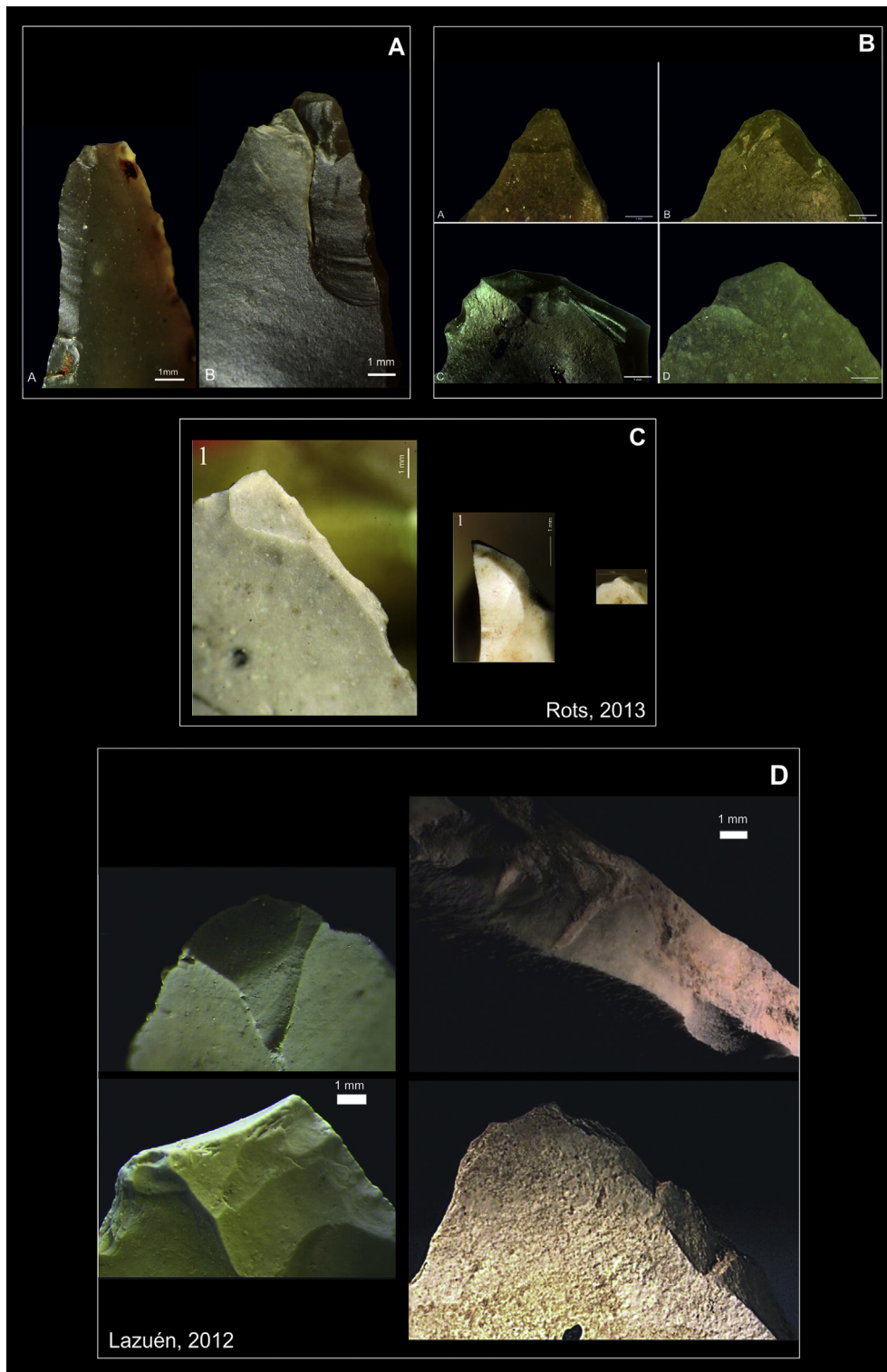


Fig. 1. (A) Rots and Plisson, 2014, Fig. 1, impact scars. (B) Rots and Plisson, 2014, Fig. 7, scars formed by other tasks. (C) Rots, 2013 apical scars interpreted as projectiles in Bache-St-Vaast. (D) Lazuén, 2012a the two smaller scar impacts in Cantabrian collections. All the figures adapted at the same scale, bar scale = 1 mm.

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