

A morphometric and functional dataset on the lithic points from the Upper Palaeolithic site of Maisières-Canal (Province of Hainaut, Belgium)

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Introduction

The Early Upper Palaeolithic open-air site Maisières-Canal (Hainaut, Belgium), dated to 28,000 BP/31,500 cal BP (de Heinzelin, 1973; Haesaerts & Damblon, 2004; Jacobi et al., 2010), has yielded a notable assemblage of well-preserved lithic points (de Heinzelin, 1973; Haesaerts & de Heinzelin, 1979; Otte, 1976, 1979; Pesesse & Flas, 2012). These artefacts have been a subject of several recent technological and use-wear studies aimed at reconstructing their production sequence (Touzé, 2018, 2019) and function (Coppe, 2020; Coppe et al., 2023; Rots, 2002a, 2002b; Taipale, 2020; Taipale & Rots, 2021). Here, we provide complementary morphometric data for the entire set of the three main morphological types of points (Maisières¹, tanged and shouldered points) and other artefacts (fragmentary pieces and non-pointed tools) included in these studies, together with tool use interpretations as reported in previous published (Coppe et al., 2023; Taipale & Rots, 2021) and unpublished works (Coppe, 2020; Taipale, 2020).

Research context and methodology

Recent work on the Maisières-Canal pointed tool assemblage has involved a technological analysis by OT (Touzé, 2018) and functional analyses by JC and NT (Coppe et al., 2023; Taipale & Rots, 2021). JC focused on projectiles and their delivery systems (Coppe et al., 2023), whereas NT investigated non-projectile functions of pointed tools, identifying multiple hafted and maintained butchering knives among the material (Taipale & Rots, 2021). While the interpretations obtained in the two use-wear studies largely overlap, the analysts had different research questions and followed different analytical strategies. In the present dataset, we indicate from which sub-study the tool function interpretations derive (analyst initials in column “Functional analysis”).

JC's work involved identifying projectile elements based on strict macrofracture criteria and experimental replication (Coppe et al., 2023). His sample is divided into securely identified projectiles (labelled as “Projectile” in the tool function column of the table) that served as the basis for the weapon delivery system analysis (Coppe et al., 2023) and artefacts for which evidence for projectile use was

¹ In his technological analysis (Touzé 2018), OT counted 121 Maisières points, but our dataset includes a total of 123 Maisières points. This discrepancy comes from a couple of pieces bearing what OT initially thought to be tools combining on the same blank a Maisières point and a burin, but JC later interpreted the burin spall-like negatives as the result, in both cases, of damage associated with projectile use. Because it is based on a careful functional examination, supported by reliable experimental data, we consider that JC's interpretation of the two artefacts must prevail.

insufficient or absent (labelled “Unknown”). This division was necessary to ensure that only the points with the strongest evidence for projectile use were considered in the terminal ballistic analysis.

NT’s study combined low and high magnification use-wear analysis on a sample of tools selected after stereomicroscopic screening of the point assemblage. This study reports both definite (“Butchering knife”) and tentative (“Probable/possible butchering knife”) interpretations, together with observations of change of function (reuse) when applicable. Artefacts labelled as “Probable projectiles” in NT’s study showed edge damage that could fit either projectile or knife use and no microwear indicative of repetitive cutting action.

Further methodological detail, together with use-wear documentation, can be found in previous publications and their supplementary information (Coppe et al., 2023; Taipale & Rots, 2021).

Measurement protocol

Artefact length, width, and thickness were measured using a plastic calliper and a goniometer was used for angle measurements. The highest level of morphometric detail is provided here for the artefacts identified by JC as projectile elements using strict criteria (n=27). For them, 21 morphometric parameters were recorded (see Figure 1). This detail was required for closely replicating the observed morphometric variation when knapping the experimental points (Text S5 in Coppe et al., 2023). For the remaining artefacts, the morphometric recording was limited to three basic parameters (maximum length, width, and thickness). OT took all the measurements on the archaeological artefacts. The experimental points were measured by JC.

Abbreviations used in the dataset

JC = Justin Coppe

NA = Not applicable / Not available

ND = No data

NT = Noora Taipale

RBINS = Royal Belgian Institute of Natural Sciences

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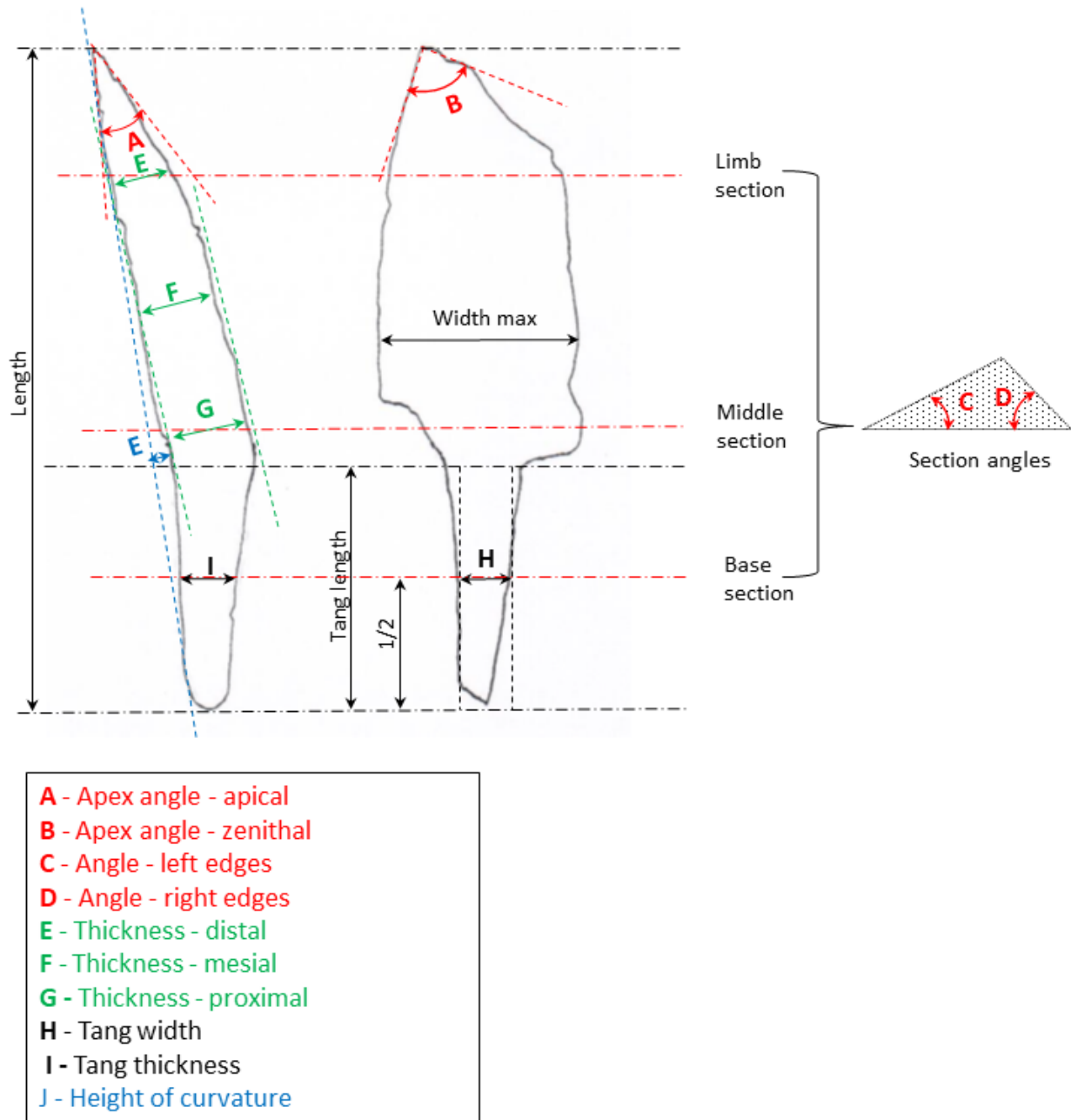


Figure 1 – Location of measurements taken on archaeological tanged points showing projectile damage (n=27).

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