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Assemblages with bifacial tools in Eurasia (second part). What is going on in the East? Data from India, Eastern Asia and Southeast Asia

Assemblanges à outils bifaciaux en Eurasie (deuxième partie). Que se passe-t-il à l'Est ? Données sur l'Inde, l'Asie de l'Est et l'Asie du Sud-Est

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ABSTRACT

This second paper is part of a wider review of lithic complexes with bifacial technology, and is devoted to the Asian sector, from India to the south-eastern mainland and the archipelagos and China. For India, sites such as Attirampakham, Isampur, Morgaon and Singi-Talav are described in detail. For China, sites in the Bose Basin, but also Liangshan, Longgangsi and Houfang are included in discussions of technological strategies that are found a long way from East African roots. For the Southeast, discoveries from Thailand and Cambodia are presented, as are some major Indonesian sites (for instance Nebung and the Sangiran dome).

Mots clés :
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RÉSUMÉ

Cette deuxième partie concerne l'Inde, le Sud-Est asiatique (continent et archipels) et la Chine. Pour l'Inde, les sites d'Attirampakham, Isampur, Morgaon et Singi-Talav sont détaillés. Pour la Chine, les sites du bassin de Bose, mais également Longgangsi et Houfang, permettent de discuter des stratégies technologiques loin des racines africaines. Pour le

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Asie du Sud-Est
Technologie

Sud-Est, les découvertes en Thaïlande et au Cambodge sont examinées, de même que celles sur certains sites majeurs indonésiens, comme Ngebung et le dôme de Sangiran.

1. Introduction

This second paper is devoted to what is going on in the East. Recent discoveries in Asia indicate that assemblages with bifacial tools cover large areas of Asia from the Middle Pleistocene to the Upper Pleistocene, from 800 ka to 40 ka (Fig. 1). These series are assigned to the Acheulean or local traditions although the question of their origin is subject to widespread debate (Movius, 1944, 1948, 1949). Despite at times the lack of reliable data, key sites have been selected in India, Southeast Asia and China in order to review the different technological strategies in relation to their chronological and stratigraphic frameworks.

2. Bifacial tools east of the Levant (second part)

2.1. South Asia

Acheulean sites or at least "Acheulean" occurrences are numerous in South Asia (Gaillard, 2006). They are characterised by handaxes and cleavers comparable to those found in Africa. Although they have been known for a long time, the crucial question of their chronology remains unresolved in most cases; due to generally thin stratigraphic sequences and poor faunal preservation. However, improvements in fieldwork and progress in dating methods over the past two decades point towards a Lower Pleistocene timeframe for the onset of the South Asian Acheulean.

Interestingly, one of the main sites described one and a half centuries ago (Foote, 1868) has recently become the reference point for the early out of Africa Acheulean. The Paleolithic localities along the Attirampakkam Stream, a small tributary of the Kortallayar River, have been under reinvestigation since 1999 (Pappu, 2001) and several trenches and horizontal excavations have been opened. The deepest trenches yielded quartzite artefacts and measurements of the $^{26}Al/^{10}Be$ ratio of these tools assess their burial age. The results provide an average age of 1.51 ± 0.07 Ma, corroborated by reverse paleomagnetism (Pappu et al., 2011).

At Attirampakkam, the Acheulean industry is made from local fine to coarse quartzite. Apart from the large cores from which large flakes were detached, which are missing from the site, all the stages of lithic production are present. Trench T8, for example, provided 3528 artefacts from Acheulean levels (layers 6 to 8), of which 95% are ordinary debitage products (< 10 cm), alongside a few flakes resulting from handaxe shaping. The remaining 5% are mostly large flakes (> 10 cm), half of which were shaped into handaxes (1.4% of the assemblage), or cleavers (0.6%) with a few trihedrals ($n = 6$), while the other half was minimally retouched or used (Pappu et al., 2011).

The rich complex of sites in the Hunsgi and Baichbal valleys allows researchers to trace technical evolution from the Early to Late Acheulean in this sector of north-western Karnataka (Paddayya, 2008) and to present hypotheses regarding the seasonal movements of Lower Paleolithic populations (Paddayya, 2014). Quartzite is not available in these valleys, except in the form of pebbles from the overlooking Trappean plateau. Silicified limestone is thus used instead, especially at Isampur in the Hunsgi Valley. A few faunal remains have been preserved and the ESR dating of three enamel samples from bovine teeth resulted in a mean age of 1.2 Ma.

Trench 1 yielded 13,043 artefacts, of which 92% are "incidental" products (flakes and debris including products >5 mm from sieving). The industry results from the exploitation of silicified limestone slabs, up to 1 m long, directly quarried at the site itself. Knappers started the reduction sequence on protruding slab corners and these opening removals on the profile then served as striking platforms for flake production, using unifacial or bifacial methods. The resulting flakes (excluding the "incidental products") are mostly side-struck (technically short). Altogether, they average 18 cm long. The shaped tools in this assemblage comprise 48 handaxes, 15 cleavers, 18 knives, 3 discoids, 14 chopping-tools and 65 scrapers. Half of the handaxes (26/48) are made from slabs or cobbles, while the other half (22/45) are made on flakes. Cleavers and knives are on flakes, except two cleavers on slabs. These larger tools are mostly in silicified limestone while the scrapers, usually on flakes (49/65), are in chert or quartzite (Paddayya et al., 2002, 2006).

Isampur is one of the "core activity spots" in the Hunsgi Valley beside many small sites and "non-sites" (occurrence of one or several artefacts). Acheulean-making human groups settled directly on raw material sources. Cleavers are made on flakes, whereas handaxes are often made on other opportunistic blanks.

Morgaon (Pune district, Maharashtra) is one of the rare Acheulean sites in the Deccan Trap region, as basalt is generally subject to weathering and the slightest reworking completely destroys basalt artefacts (Mishra, 1982). They can thus only be preserved in situ (Deo et al., 2007; Mishra et al., 2009). The stratigraphic sequence is of alluvial origin suggesting that Acheulean-making populations settled near a stream. The main Acheulean level is at the surface of black fissured clay, about 2 m thick. A few more fresh and abraded artefacts occurred in sandy pebbly gravel above the clay, including two well-preserved cleavers. Below the clay lies gravel with cobbles and boulders where some laterite pebbles indicate former lateritic formations, now eroded away from the landscape. Such formations are widespread in the western part of the Deccan Traps and often yield Acheulean artefacts (Rajaguru et al., 2004). They usually lie on weathered basaltic bedrock, as at Morgaon.

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