Firestones in the near Eastern Neolithic

Peder Mortensen

Abstract – Firestones or strike-a-lights made of flint exhibit a characteristic kind of wear, seen as a series of sharp, irregular blow-offs and scars within restricted areas of the edge. They are well known from the Stone and Bronze Ages of Northern Europe. In the Near East firestones have been identified at several Neolithic sites (Çatal Höyük, Aşıklı Höyük, Labweh and Beidha). It is suggested that the method of making fire by striking a piece of flint or sulphur against another piece of flint was generally used in Anatolia and in the Levantine Neolithic, whereas the apparent lack of firestones – and of tanged arrowheads as well – in the Zagros and in the Hassuna/Samarra chipped stone assemblages might suggest that in the Neolithic we are dealing with two different, regionally determined lithic traditions: a western tradition, prevailing in Anatolia and the Eastern Mediterranean, and an eastern tradition covering Northern Mesopotamia and the Zagros.
INTRODUCTION

It is generally acknowledged that fire has played a crucial role in craft specialization, technological innovation and experimentation as well as in the daily life of human beings since the early hominid past. Nevertheless, very little is known about how fire was produced by our early ancestors. We may assume that it happened in the same way as we know from the original populations in Australia, Africa and South America, where until recently two methods of making fire seem to have been practised.

One method involved intensive chaffing of two pieces of wood, often in the shape of a wooden stick used as a fire drill against a dent in a piece of wood, which was usually held in position by the feet of the man or woman making fire. The wooden stick could be turned rapidly between two hands or by means of a bow-drill in such a way that the friction between the two pieces of wood would finally produce a smouldering fire in the dent.

By another method two pieces of mineral were struck against each other in such a way that sparks of fire flew from each blow. Before the introduction of iron among primitive people, the minerals used for firestones or strike-a-lights were predominantly flint or some kind of quartzite combined with pyrite or lime-sulphur. To catch the sparks and make the fire blaze up a piece of touchwood, tinder fungus or some other kind of easily flammable material was required.

Making fire by means of a fire drill usually did not leave any material traces which could be traced by archaeologists, whereas firestones made of flint are well known from the Stone and Bronze Ages, especially in Northern Europe. In Scandinavia the handles of flint daggers were often used for striking fire, and in a number of well preserved burials, especially from the Danish Early Bronze Age, firestones were found in the shape of miniature daggers of flint, kept in a sheath of skin. In other burials one or two firestones of flint were kept in a leather pouch occasionally with bits of sulphur as well.

Flints used as firestones show a characteristic kind of wear, produced by rubbing or striking a piece of flint or pyrite in a sweeping, oblique blow against another piece of flint. The result is seen as a series of sharp, irregular blow-offs and scars within restricted areas of the edge (fig. 2-3).

FIRESTONES IN A NEAR EASTERN CONTEXT

Working with James Mellaart at Kanlıca on the Bosporus in 1964 I had the opportunity to study the chipped stone materials from the excavations at Çatal Höyük in 1961-63, and from Hacilar. Although almost all the lithic objects from Çatal Höyük were made of obsidian, daggers and a few other tools were made of flint, probably because flint is a slightly harder kind of stone than obsidian. Among those pieces made of flint my attention was caught by a number of very thick blades, steeply retouched along the edges and densely covered along one or both edges and sometimes at the distal end by chopping marks similar to the traces found on the Danish firestones. Remains of some kind of organic material left at the proximal end of two blades may suggest that they were originally shafted. At two other pieces traces of sulphur were found in the scars of the heavily battered distal ends of the blades.

That the steeply retouched blades of flint from Çatal Höyük had to be interpreted as firestones was confirmed by the occurrence of a number of those tools in the rich burials from levels V-VI. As in the Danish Early Bronze Age graves they were often accompanied by a piece of sulphur and a few toilet implements – in this case usually a blade knife and a scraper. Placed in the middle of the graves they seem to constitute a small group of “everyman’s pocket tools”, possibly kept in a pouch or in a pocket.

4. The early distribution of the firestone or strike-a-light in Anatolia and Southeastern Europe is as yet unclarified. But a few specimens have been found by the author at Sesklo- and Dimini-period sites in Thessaly and at Vinca in former Yugoslavia. The type also seems to be present at Aşıklı Höyük in Central Anatolia: Todd 1966, p. 155.
Along the Eastern Mediterranean, firestones have been identified at the Neolithic site of Labweh in the Beqaa Valley\(^5\) and at the PPNB site of Beidha in Southern Jordan\(^6\).

The firestones from Labweh were all found at level I, the earliest ceramic level of the site. One type (fig. 1a and 2a-b) was made on strong thick blades with a steep retouch along the edges and with one or two areas of the edges covered by a concentrated series of sharp scars from battering. The length of these tools, which are almost identical to those found at Çatal Höyük, varies from 5.6 to 7.8 cm. Similar traces of wear were visible at the bulbar ends of two thick flakes, partly trimmed by retouch along the edges. The battering marks were produced after the flakes were struck from the core (fig. 1b and 3a-b).

At Beidha the most prominent type of firestone, within the Beidha typology classified as type K3, is made of thick flakes with a plano-convex section, an ovoid outline, and the obverse face formed by squamous flaking (fig. 1c-d). Had these tools not been heavily worn along the edges by the type of wear described above, they might not have been identified as firestones, but would perhaps have been classified as scrapers. A fairly large number of thick blades or flakes were also characterized by concentrated areas of battering marks, indicating that they had been used as firestones (fig. 1e). Within the Beidha typology they were classified as types K1-2.

**Regional Diversity?**

In conclusion it is suggested that the method of making fire by rubbing or striking a piece of flint or sulphur against another piece of flint was generally used in Anatolia and in the Levantine Neolithic. It is consequently assumed that future studies of Neolithic assemblages of chipped stone might produce new evidence of the use of firestones in eastern Mediterranean contexts.

It is notable, however, that so far the author’s search for firestones in Neolithic materials from the Zagros (Tepe Guran, Jarmo and Sarab) and from Mesopotamia (Tamarkhan, Umm Dabaghiyah, Tell Hassuna, Tell Shimshara, and Choga Mami) has proved negative\(^7\).

This apparent lack of firestones – and of tanged arrowheads as well – in the Zagros and in the Hassuna/Samarra chipped stone assemblages might suggest that we are dealing with two different, regionally determined lithic traditions: a western tradition, prevailing in Anatolia and the Eastern Mediterranean, where the stone-tipped arrow and the strike-a-light, represented by firestones and pieces of sulphur or pyrite were predominant – and an eastern tradition covering Northern Mesopotamia and the Zagros. Here the absence of firestones in the Neolithic chipped stone assemblages might lead to the hypothesis that in these areas fire was produced by intensive chafing of two pieces of wood, perhaps using a wooden stick as a drill. Furthermore the absence of tanged stone arrowheads in the same region might possibly suggest that arrows and spears in Mesopotamia and the Zagros were made from wooden sticks, the points of which were not stone-tipped but tempered and hardened by fire.

\(^6\) *Mortensen 1970b*, p. 38-43 and fig. 40-42.
Figure 1: firestones from Labweh (a-b) and Beidha (c-e).

Figure 2: firestone from Labweh. One area along the edge is covered by battering marks. a. 1:1, b. ca. 6:1.
Figure 3: firestone from Labweh. The proximal end is worn from battering. *a.* 1:1, *b.* ca. 7:1.
ADAMS (R. McC.)

JENSEN (J.)
2001 Danmarks Oldtid. Stenalder, Copenhague, Gyldendal.

KIRKBRIDE (K.)

KIRKBRIDE (K.)

KIRKBRIDE (K.)

KIRKBRIDE (K.)
2001 Danmarks Oldtid. Stenalder, Copenhague, Gyldendal.

LOMBORG (E.)
1959 “Fladehuggede flintredskaber i gravfund fra Ældre Bronzealder”, Aarbøger for Nordisk Oldkyndighed og Historie, p. 146-188.

MELDGAARD (J.), P. MORTENSEN & H. THRANE

MORTENSEN (P.)

MORTENSEN (P.)

MORTENSEN (P.)

MORTENSEN (P.)

MORTENSEN (P.)

MORTENSEN (P.)

MORTENSEN (P.)

MORTENSEN (P.)

MORTENSEN (P.)

STAPERT (D.) & L. JOHANSEN

TODD (I. A.)