

THE DANEBURY IRON AGE METEORITE.

C.T. Pillinger¹, J.M. Pillinger¹, R.C. Greenwood¹, D. Johnson¹, A.G. Tindle², A.J.T. Jull³ and D.W.H. Allen⁴. ¹PSSRI, ²EES, Open University, Milton Keynes MK7 6AA, UK. ³University of Arizona, Tucson AZ85721, USA. ⁴Hampshire County Museums Service, Winchester UK. c.t.pillinger@open.ac.uk

Introduction: The Danebury meteorite's existence was first reported in the Meteorite Bulletin in 1991 [1] following an effort to characterize metal containing artifacts recovered in 1974 from an archaeological dig conducted at the site of an Iron Age hillfort, Danebury Ring, in the county of Hampshire, England. After that initial report the object was "misaid" and no further details appeared. In 2008 we initiated a search for the specimen and it has been recovered, sadly less a central slice removed to make a probe mount. We are now able to provide a better petrological description using a PTS of an interior cut of the 20g surviving mass (H5, low weathering grade W1/2) and more information about the circumstances under which the meteorite was found.

The Anatomy of a Hill Fort: The Iron Age is a period of prehistory which in Britain extends from around 800BC until the Roman occupation of the mid first century AD. Southern Britain abounds with sites affording evidence of a turbulent period when inhabited locations are identified by the emphasis placed on defence fortifications. Danebury Ring can be regarded as a classic Iron Age hill fort site. It has been studied throughout a major campaign of annual excavations undertaken between 1969 and 1988 [2]. Systematic study of the 5 ha enclosure revealed evidence for scores of buildings. Hundreds of thousands of pottery shards, bone fragments as well as numerous objects of stone and metal, were located with 10cm accuracy before being recovered from some 2500 pits.

Iron Age Grain Pits: The Iron Age populace of Britain were essentially farmers. The pits excavated on Danebury Hill were dug originally to store the summer's grain harvest over the winter while the crop to be consumed immediately was kept above ground in granaries. Some budding Iron Age scientist had discovered that whilst burying grain might sound counter-productive, grain placed in a chalk pit capped with clay begins to ferment at the margins creating an anaerobic environment where the rest of the material survives for later use. The thousands of grain pits excavated at Danebury attest the efficacy of the science.

The Terrestrial Residence History of the Meteorite: The Danebury meteorite was recovered was excavated from the back-filled grain pit #706. Its stratigraphic location revealed that the meteorite went into the hole during a second episode of the back-filling process. Pits no longer in use were initially refilled with the spoil from newly dug pits. After subsidence (2nd generation filling) "pot-holes" were flattened off with spoil from even later pits. The location of the meteorite in the 2nd level implies it could have been where it was found because that is the place it actually fell. We have measured ¹⁴C weathering age of the meteorite and obtained a value of 2350 +/- 120 BP. This date coincides with a period identified when the fort was highly active i.e. con-current with construction of its most sophisticated fortifications.

References: [1] Meteoritical Bulletin 70, Meteoritics 26, 68-69 (1991). [2] B.Cunliffe et al., Council for British Archeology Research Report 52 (1984).