The millennium year saw an international gathering of lithic experts and people with a passion for furthering the study of the subject. Speakers and participants from mainland Europe, Scandinavia, USA, South Africa and the UK met to discuss and listen to an important range of issues at this thematically orientated conference.

The first session focused on what may be learnt about behaviour and cognition from early hominin sites. Resolution of the time frame of the archaeologically compressed period(s) of the Lower and Middle Palaeolithic has always proved to be a particular challenge. In understanding the spatial and temporal development of behavioural practice and cognitive capability, Francis Wenban-Smith spoke of the need to develop models which take, as their starting point, the modes of lithic production at specific locales, such as Boxgrove. These can then be built into a wider picture. A similar approach was advocated by Jane Hallos from her work at the Middle Pleistocene site at Beeches Pit. 'Refitting' of stone artefacts was an important element of her work in determining behaviour on and between sites. The work of Bertrand Masson and Luc Vallin at two Middle Palaeolithic sites in Northern France also demonstrated the importance of inter-site comparison. Similar patterns of lithic production close to flint sources were noted at sites of comparable topographical context. This suggested that location might be a significant determinant to behaviours in archaic populations. In a cost-conscious world, Nick Ashton's brave contribution suggested that the much practised technique of the 'refitting' of stone tools, whilst helpful in understanding taphonomy may, in Britain at least, have gone as far as it can. Matt Pope's analysis of refitted artefacts from the horse butchery site at Boxgrove, however, argued that the variability in the discard of handaxes may in part be an indicator of site longevity.

The second theme was the study of raw materials. The papers addressed the problems and successes of identifying trade, and exchange in stone artefacts, together with sourcing of material by scientific and other means. In Ireland, the recording of more than 21,000 stone axes ('The Irish Stone Age Project') has enabled Stephen Mandal and his colleagues to gain a greater understanding, by experimentation, of how axes of different lithology were manufactured and hafted. Ian Meighan was able, by using trace element analysis (XRF etc), to scientifically support the much earlier assertion (1918) that the pitchstone source for the Neolithic site at Ballygalley in Northern Ireland was from the Isle of Arran. Pitchstone might also have been traded for flint. The rigorous and dedicated approach by Inge Dietholm in using mineralogical/petrographical methods for precisely sourcing the raw materials found at an Acheulean site in the El Kowm Basin, Syria, were not successful due to similarities in the mineral and fossil content of the rocks in the region. Clive Bond gave us an in-depth appraisal of the cultural use and production of stone artefacts in Somerset and their transport both locally and over longer distances. Rob Ixer, in an eloquent delivery was able to confirm similar results from using the two well-established methods of geochemistry, XRF and total petrography, on a group of Midlands axe-heads; whilst James Steele pointed to the future for provenancing flint sources, using sophisticated palynological techniques. This work has begun to
successfully address what may be regarded as the black hole of archaeological provenancing.

The conference next turned its attention to the Bronze Age and later lithics, a subject which is currently gaining momentum. Laurel Phillipson's work at Aksum in Northern Ethiopia indicated that a previously unsuspected chipped stone industry was being utilised by this early sophisticated metal-using civilisation. Norah Maloney's involvement with the Wadi Faynan 100 site in Jordan highlighted the domestic use of stone tools in a copper mining complex. Both of these contributions made us question our assumptions concerning the late obsolescence of stone tools. In Southern Sweden Anders Hogberg's long term road building and infrastructure project at Malmo has characterised a Late Bronze/Early Iron Age lithic industry, a substantial part of which would not look out of place in the British Neolithic! On a different note, research by Fiona Roe indicated that during the Bronze Age, local and long distance stone sources were used for artefacts such as querns and whetstones. Fiona reminded us that an important corpus of information requiring geological provenancing lies curated within the museum service. Witold Migal's thorough review of the flint mining industry in Poland, led on to another crucial area of work in which he hinted at the expedient use of flint into the Iron Age. The cudgels for the latter have been taken up in a British context by Rob Young and Jodie Humphrey. Their ongoing research demonstrates that the utilitarian use of flint persisted as an important part of material culture from the Late Bronze Age into the Iron Age.

The transitional movement of prehistoric populations, and the changes which occur to lithic assemblages across the well known cultural boundaries, was the next topic for discussion ('Lithics in Transition'). David Field reviewed the 'core-tool' continuum of the adze to axe over the traditional Mesolithic-Neolithic boundary. David indicated that this development may not adhere so precisely with the chronological boundaries when the rarely commented on irregular 'core-tools', like the pick, are considered. Ebbe Nielsen described how the seeds of development of the early Neolithic in Switzerland can be clearly seen, both on environmental evidence and on lithics (trapeze to arrowpoint), to lie within the early part of the Late Mesolithic. In respect of population movement, Stephen Aldhouse-Green discussing the long term excavations at Pontnewydd Cave, suggested that the Neanderthal occupation of the cave was not on the periphery of a larger territory. The matching of artefact type and local raw materials implies a localised home base. Migration, trade or independent invention? Gregory Bondar reported on how geo-chemical and other methods for sourcing lithic artefacts on the east coast of the United States are making headway in understanding the movements and actions of prehistoric communities four thousand years ago. Finally in this section, an impromptu paper by Fiona Roe indicated that during the Bronze Age, local and long distance stone sources were used for artefacts such as querns and whetstones. Fiona reminded us that an important corpus of information requiring geological provenancing lies curated within the museum service. Witold Migal's thorough review of the flint mining industry in Poland, led on to another crucial area of work in which he hinted at the expedient use of flint into the Iron Age. The cudgels for the latter have been taken up in a British context by Rob Young and Jodie Humphrey. Their ongoing research demonstrates that the utilitarian use of flint persisted as an important part of material culture from the Late Bronze Age into the Iron Age.

The final subject to be addressed by the conference was use-wear and residues. The results of use-wear experiments on lithic material from French and Belgian Neolithic sites were presented by Veerle Rots. These demonstrated that it is possible to detect microscopic traces which can identify the material used to haft the tool and the way in which it was used. A database of microscopic and macroscopic features has been compiled for future reference. A paper by Alfred Pawlik (in absentia read by Elizabeth Walker) also presented information on the identification of hafting traces using a Scanning Electron Microscope. The constituents of hafting residues (e.g., mastics) and the inorganic residues on tool surfaces could also be identified. The last paper from Claus Skriver demonstrated, from his experimental work in Denmark, that the microwear traces on flint cutting tools for processing roasted meat are very similar to the traces left from cutting fresh hide. This work will have wide repercussions on similar analyses on flintwork in both Britain and elsewhere.

This, then was an excellent conference. It was extremely informative and the setting and facilities of the National Museum and Gallery Cardiff, in a weekend which produced some of the finest weather of the year, contributed to it being a very productive and friendly venue. All of this,
together with the background of the deepening fuel crisis, made this a memorable event! Thanks must go to our speakers (above) and the chairpersons for the various sessions: Francis Wenban-Smith, Elizabeth Walker, Dafydd Griffiths, David Field, Rob Young, Josh Pollard, Linda Hurcombe and Frances Healy. Those of us that went on the Avebury field trip, led by David Field, would like to thank him for his time and energy, and for providing new personal insights into this fascinating complex. Finally, the greatest thanks must go to Elizabeth Walker for the enormous workload she undertook in organising and hosting this most successful of conferences.

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