

Editorial

At least one observant reader has noticed that, in the caption to Figure 8 in *Circaea* 9(1) (p. 14) the teasel heads were wrongly named: the left-hand specimen should, of course, have been labelled *Dipsacus fullonum* and the right-hand one *D. sativus*. We hope this didn't spoil your enjoyment of Mike Hill's excellent drawings!

The fault lies with giving the job of pasting up to an entomologist with pretensions to a classical education—quite obviously (he thought), the fullers' teasel must be *D. fullonum*... But no, life is never that easy.

The originator of this tricky nomenclatural point must be Linnaeus, who gave the first authoritative binomial to wild teasel—perhaps like so many he wasn't aware that the common wild plant was not the one used in commerce. He was, after all, at least 50% a zoologist!

We draw a veil over the botanist who failed to spot the error when carrying out a final proof check...

A further error we should report—this time one of omission—is forgetting to thank Becky Nicholson for co-ordinating the contributions to the taphonomy workshop, a second portion of which appears in this issue.

The Editors have long been promising themselves a little therapeutic comment on common problems encountered in incoming articles for *Circaea*. Authors are sometimes annoyed or mystified by changes to their text that we have made. Changes fall into two main categories. The first are those that are editorial niceties, some of which, perhaps, reflect a rather conservative and old-fashioned (dare we say pedantic?) approach to writing English—for example, the correct use of *due to* (which should not be used to mean *as a result of*), and an avoidance of words like *partial* (which, because it can be used to mean both *biased* and *incomplete* is sometimes ambiguous). On the question of the number implied by the word *data*, we are steadfastly holding out against the world! *Data* are (not is) made up of individual items, each of which is a *datum*. Points of this kind can, we admit, become the objects of obsession, but while we believe language must adapt in the face of need, we cannot see any justification for sloppiness. If you disregard the details of language and allow a kind of uncontrolled drift of usage,

what we write now may be unintelligible, or at least of unclear meaning, within decades. There is also the matter of comprehensibility to readers whose first language is not English. We should use words simply and clearly, and in ways which are defined as common usage in current dictionaries.

Very much more important than these changes of detail are editorial attempts to clarify obscurely expressed passages in texts. If the Editors do not immediately take the meaning of a piece of writing, there is every chance that a good proportion of other readers will not. Many of our authors write good, clear, flowing English, and their texts are a pleasure to work with (and can be published much more quickly and painlessly). We do occasionally receive material which appears never to have been read by its author, or at least not read sufficiently long after completion for quite obvious failings to be noticed. We share with other authors the feeling of relief at completing a draft and the desire to be rid of it as quickly as possible, but there is much to be said for waiting for, say, a month before making final revisions.

We often suggest changes to the wording of papers to improve clarity. Generally, authors appear to find this helpful, or at least accept it with resignation. There are occasions, however, when these suggested changes are met with resentment—ironically, the author's ire often being in inverse proportion to the clarity of expression of the original manuscript! Sometimes the changes reveal ambiguity in the original text, since the intended meaning is lost. If this happens, it will almost always be the result of poor expression, although of course harassed editors can (and do) make mistakes.

Of course, no author likes to receive a text covered in marks from editors or referees, but (wearing our authors' rather than editors' hats) we find that a large proportion of such comments are justified and that our own papers are very much improved by taking heed of them.

The Editors do not always agree between themselves, it must be said. Something which is unclear to one of us may be perfectly comprehensible to the other, not least because we are familiar with different usages of words, having different 'specialist' backgrounds. In such cases, we endeavour to rephrase so that the passage is comprehensible

to a reader who is not necessarily *au fait* with the jargon of a particular field.

We are all too aware that we probably make as many mistakes as other authors and, indeed, sometimes suffer profound embarrassment on reading our work once it is published. A trivial—and ironic—example of this was the misspelling of idiosyncrasies in the phrase 'idiosyncrasies of spelling' in the *Notes for Contributors* on the inside back cover of *Circaea* (compare 7(1) and 7(2)!). On a larger scale, one of us suffers remorse over his using the present tense in describing fossil material from archaeological deposits, rather than a more appropriate past tense 'reporting' style. This aping of tabloid newspaper copy may have made some reports more 'lively' but it produced absurdities such as 'this layer is rich in insects' when the deposit ceased to exist during excavation many years before the report was written.

We shall abuse our editorial privilege further in subsequent issues of *Circaea* to make brief mention of a few of the common faults which authors can easily avoid with a little thought. How many of us would use phrases such as 'human, bird and animal bone' or 'flowers and plants' if we considered exact meaning of what we had written?

Conference Reports

Ancient Woodlands their archaeology and ecology: a coincidence of interest

A conference organised by the Landscape Conservation Forum, held at the Moat House Hotel, Sheffield, 25–26th April 1992.

The Landscape Conservation Forum is a body based in the Sheffield/Peak District area which aims to integrate different elements of 'heritage conservation' in this region. Speakers at this conference, however, discussed various aspects of the history and ecology of ancient woodlands throughout England.

To open the meeting, Dr Donald Pigott read a paper in which he presented pollen diagrams from small waterlogged sites within woodland in the Lake District. These provided evidence that over most of the area, now covered by oak-dominated woods, the entire tree cover had been cleared within the historical period. However, small stands of lime (*Tilia cordata*)

on steep rocky slopes beside streams appear to be true primary woodland. Indeed, since the shortest sequences studied only covered the past 800 years, there is the possibility that the same individual trees are represented throughout these sequences. Some herbaceous species, including *Festuca altissima* and *Sanicula europaea*, appear to be associated with the primary woodland stands in the Coniston Basin. But the reasons for such restricted distribution may be varied; whereas some species, such as *Tilia* itself, may be true relicts, their distribution being limited by poor powers of colonisation, transplantation experiments have shown that it is grazing by sheep that restricts *Festuca altissima* to the rocky slopes which also harbour primary woods.

Dr Petra Day also cast doubt on the use of herbaceous species as 'primary woodland indicators' in her paper, 'The Origins of Ancient Woodland'. Pollen spectra from sites within woodland are rare, but she presented some from Sidlings Copse in Oxfordshire, which has a rich flora containing many taxa suggested as potential indicators of primary woodland sites. The pollen record shows that, although ancient, the site has not been continually wooded (it is not true primary woodland), as Roman clearance of the area was extensive.

Other papers presented on the first day of the conference concentrated on the ancient woodlands in the Sheffield and Derbyshire region. Melvyn Jones gave a synopsis of the sources of historical evidence available to those researching woodland history, and used these to illustrate the history of woodlands in South Yorkshire. Many ancient sites still exist in this industrial landscape; most seem to have existed as wood-pasture until the 15th century, when coppicing (later to be the common form of management in 90% of woods in the district) was introduced. Other woods were managed for the production of holly foliage as a winter feed for stock.

Clive Hart described a study of the archaeology of Eccleshall Woods, Sheffield. On this ancient site, human activity has been intense, with the earliest evidence of human presence being neolithic flints. Later, the area appears to have been wood-pasture, with at least two medieval hunting parks. More recent activities include coppicing, the removal of stone and soil, and the production of white coal (kiln-dried wood) and charcoal.

The theme of white coal and charcoal production in the North Derbyshire and Sheffield areas was continued in the paper presented by David Crossley. The two forms of fuel were major woodland products of the 17th and 18th centuries, white coal being used by the lead smelting industry, charcoal in the production of iron. Both have left archaeological evidence: pits known as 'Q-holes' appear to be the bases of white coal kilns, whilst charcoal burning sites take the form of shallow depressions with blackened soil. Since the soil from around the charcoal stack was removed to cover it, effects on local ecology must have been substantial. This paper also raised the probability that there was competition between the iron and lead smelters for fuel; white coal is best made from older wood, whereas young coppice wood made the most effective charcoal. Since the two smelting areas overlapped, the economics of fuel production for these industries must have affected the management of woods (for example, length of coppice cycle) in the region.

In a paper entitled 'Ancient woodlands in Sheffield and the Eastern Peak District—their importance to critically endangered wildlife species related to history and management', Dr Ian Rotherham described the local Red Data lists for Sheffield, particularly the high proportion of taxa on these lists which can be classified as woodland species.

Derek Whiteley returned to the theme of the use of indicator species in a paper in which he suggested that insects, particularly saproxylic (dead wood dwelling) hoverflies and beetles, could be used as indicators of ancient woodlands in the Sheffield area. Although not perfect, using the presence of assemblages of these species as markers of ancient woodland is now a workable tool for site assessment.

Evening presentations by delegates covered the ecology of dormice, pollarding and management of old trees in Britain and on the continent, and archaeology in ancient woodlands (the latter talk given by Tim Darnell, archaeologist at the Forestry Commission).

On Sunday 26th, a field trip to Eccleshall Woods in Sheffield was arranged. Documentary and archaeological evidence relating to this ancient site is good, and we were able to see Q-pits and charcoal-burning sites on the ground. However, although some of the herbs associated with ancient woodland, such as bluebells (*Hyacinthoides non-scripta*), wood

anemones (*Anemone nemorosa*), and dog's mercury (*Mercurialis perennis*), were present in parts of the wood, evidence of its coppice structure was sparse. Only one or two of the participants claimed to have seen possible former coppice stools, and hazel appears to be absent. Today, the wood has been effectively converted to high forest of oak, sweet chestnut (*Castanea sativa*), and beech (*Fagus sylvatica*), with invading sycamore (*Acer pseudoplatanus*). Recent neglect has left an uneven age structure with few middle-aged trees to replace the giant old beeches that are reaching the end of their lives and becoming unsafe for an area open to the public.

The conference's concluding address was given by Professor Chris Baines, who stressed the need for communication between experts (each with their own narrow sphere of interest) and the general public, in order to conserve ancient sites. This could be achieved, he suggested, in a network of protected areas that were not necessarily of prime importance ecologically or archaeologically but, more importantly, were close to the urban areas in which most people live. Only by encouraging the public to be involved in their landscape can there be any hope for the conservation of ancient woodlands in the years to come.

Overall, the conference seemed to be biased towards the ecology, rather than archaeology, of woods, and many of the delegates appeared to be concerned with the management of woods, particularly reserves. However, there was a wide range of delegates, from members of local wildlife groups to representatives of national bodies such as the Forestry Commission.

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Ninth Symposium of the International Work Group for Palaeoethnobotany, Kiel, Germany, 18–23 May 1992

The IWGP held its first meeting in Czechoslovakia in 1968; since then, the locations of the triennial meetings have been more-or-less equally divided between eastern and western Europe. At earlier meetings, most of the papers concerned central and eastern European waterlogged or charred plant

remains. It is probably fair to say that the IWGP really came of age at the meeting in Groningen in 1983, when a truly pan-European group of archaeobotanists attended, a really substantial book of proceedings came out within a year and, most importantly, many papers went beyond tables of data to look at issues such as taphonomy, sampling and ethnoarchaeology.

This year's meeting in Kiel, a port and university town on Germany's Baltic coast, was blessed by highly efficient organization (by Helmut Kroll of the Institute of Archaeology, Kiel University, with a host of colleagues and students assisting), gorgeous sunny weather, and a good programme of speakers. As is usual today, accommodation was split, with hotels for those with funding and, for those without, the Falckenstein youth camp on the shores of the Kieler Förde. About half the conference participants stayed in the youth camp (soon labelled 'Frankenstein') which proved unexpectedly comfortable, was very cheap, and was the ideal venue for conversation and cold beer in the evenings.

The five days of talks gave the opportunity to hear the full spectrum of approaches to archaeobotany as practised in Europe. Some speakers took the traditional approach of presenting a list of species, with a picture of each seed type, and a final, brief, strictly phytosociological interpretation of the weed ecology. I found two aspects of this work worrying: the tendency to lump all the results from a site together for ecological and economic interpretation, rather than considering them sample by sample ('taphonomy' was a rarely heard word at this meeting) and, secondly, there was little discussion of what the archaeobotanical results actually meant in terms of human behaviour: what was the archaeological relevance of the work?

The talks on the first day were at the opposite extreme from this approach. On the subject of ethnographic and ecological models, Glynis Jones (Sheffield, U.K.) used her studies of traditionally irrigated fields in northern Spain to look at how we can recognise irrigation from archaeobotanical weed floras. In an elegant demonstration of multivariate statistics, shade tolerance was shown to be a key characteristic of weed species of irrigated fields (rather than water needs)—and this is a character we could use to identify such weed species in other areas.

R. Pasternak (Kiel) talked about traditional agriculture in Jordan, with modern examples of how cross-contamination of cereal and pulse harvests occurs on the threshing floor. Mark Nesbitt (Cambridge, U.K.) looked at why emmer and einkorn wheat are still grown in northern Turkey, and why they have disappeared elsewhere. Mordechai Kislev (Ramat-Gan, Israel) discussed medieval finds of *Cordia myxa* from Ashkelon, using documentary sources and his own ethnographic work in Cyprus to show how they are used for making bird-lime. Both modern Cyprus and ancient Ashkelon lie on important migration routes for birds.

The increasing amount of archaeobotanical data available is stimulating interest in use of databases. The most elaborate was described by Philippa Tomlinson (York, U.K.). This major project is well into storing all the seed (and some pollen and charcoal) records for the many hundreds of archaeobotanical reports available for Britain. G. Paskevic (Kiev, Ukraine) showed results for a similar database for the Ukraine, and Martin Dick (Basel, Switzerland) showed how results from one site could be handled. These talks excited a lot of interest, and Philippa Tomlinson proposed a newsletter on archaeobotanical databases. One question concerns the reliability of results: there is a risk that as soon as unreliable identifications enter a database they will be treated uncritically by users.

Statistics did not feature largely in the conference, but one particularly clearly presented example of their use was given by Otto Brinkkemper (Leiden, Netherlands), grouping samples according to similarities in species composition. Sampling and recovery was another rare subject: Ursula Thanheiser (Vienna, Austria) gave a preview of a cunning electrostatic device that removes organic materials (seeds, bones, etc.) from a loose matrix. This is ideally suited for sorting flotation heavy residues, and for material in a sandy matrix.

The use of chemical analysis is a rapidly developing field of archaeobotany. On the Tuesday morning Francis McLaren (London, U.K.) used infra-red spectrometry to compare spectra from palaeolithic fruit stones from Doura cave in Syria with modern species of plums. This technique, which has already given excellent results with ancient rye and wheat remains, obviously has great potential for other classes of plant remains. In this

session (designated as 'varia' in the programme), we also heard of early agriculture at the aceramic neolithic site of Nevalı Cori, Turkey (R. Pasternak, Kiel) and admired wonderful colour photos of waterlogged seeds from Samos, Greece (D. Kučan, Wilhelms-haven, Germany).

The highlight of this morning was the presentation of early neolithic seeds (c. 8000 bp) from Nabta-Playa, in the Egyptian desert. Careful identification by K. Wasylkowa (Krakow, Poland) and Lucyna Kubiak-Mertens (Poznan, Poland) has shown a wide range of wild seeds present, including wild millets and sorghum. There is no evidence for crop-husbandry and, contrary to other reports, no barley or wheat has been found.

In the afternoon a milling crowd of enthusiastic archaeobotanists took over a laboratory to show each other their odd and/or unidentifiable seeds. I was particularly interested to find that the same unidentified crop (or gathered plant) I have from eastern Turkey has also turned up in Greece and Yugoslavia (but it's still unidentified!). Mordechai Kislev demonstrated his computerised key to grass caryopses; based on length, breadth and thickness measurements for species occurring in the Levant this is a very useful tool for narrowing down the field, but must be used in conjunction with a reference collection.

On Wednesday and Thursday two particularly interesting (and well-presented) talks dealt with non-seed materials. Werner Schoch (Adliswil, Switzerland) demonstrated the use of simple, cheap chromatography to identify ancient resins and pitch, and then discussed results from ancient Swiss artefacts with regard to ethnographic records of tree-tapping of resin or manufacture of pitch (from *Pinus*, *Picea* and *Betula*) and experimental archaeology. Klaus Oegg (Innsbruck, Austria) described the identification of artefacts (arrowheads, knife, axe-shaft), clothes, charcoal and food remains (wheat spikelets, sloe fruits) discovered near the ice-body found recently in the Austrian Alps. The stomach contents still await analysis.

The IWGP has a good record for attracting speakers from what was once behind the 'Iron curtain': this year, G. Paskevic (Kiev) spoke about medieval plant remains from the Ukraine, and G. Levkovskaya (St Petersburg, Russia) looked at the (late, c. 2000 bc) arrival

of agriculture in the Baltic zone of Russia. Ksenija Borojevic (Novi Sad, Yugoslavia) covered Iron Age agriculture from Bosut Tell in Yugoslavia, while from Poland Romuald Kosina (Wrocław) compared medieval wood finds in Wrocław to surrounding vegetation, and Marek Polcyn (Poznan) analysed an intriguing mixture of rye and common millet from a medieval jar, from the beautiful island site of Ostrow Lednicki. Cvetana Popova (Sofia, Bulgaria) presented Early Bronze Age plant remains from Bulgaria. As much of this work is otherwise only published in Cyrillic language journals of limited circulation, the IWGP proceedings are a valuable outlet.

The last two days of the conference were devoted to the special theme of the Middle Ages. I missed the final talks (and the archaeological excursion on Saturday), but those I did hear contained all too few references to the documentary evidence, which can complement archaeobotany so well. A rare exception was a stimulating talk by Hansjörg Küster (Munich, Germany), in which changing finds from medieval Constanza were related to documentary evidence for land-ownership around the city. One conclusion was that 11th century documentation could not be used for 13th century plant remains.

There were too many talks concerning European and medieval archaeobotany to be listed individually, but the strong contingent from Scandinavia, working at the other climatic extreme to the Near Eastern specialists, gave a good geographical balance.

One especially impressive project was a survey of crop cultivation in Switzerland, integrating evidence from the large number of sites being worked on by Stephanie Jacomet and her students at Basel University. From further afield, Mukund Kajale (Deccan College, India) looked at the history of garlic, in the light of a new discovery in India dating to 150 BC-AD 250.

One encouraging trend is the consolidation in more countries of archaeobotany as an integral part of archaeology, and I particularly enjoyed meeting archaeobotanists from Greece, Italy and Spain. The matter of language was raised a number of times: many of the talks given in German proved difficult for archaeobotanists from the Mediterranean and eastern European countries (not just to the notoriously monolingual British). Perhaps the time has come to encourage the use of English as the

main language of the conference, or at least to make the abstracts and overhead projections bilingual?

I returned to England greatly inspired, if rather overwhelmed at seeing 105 archaeobotanists (usually a rare breed) in such a short time. This was one of the best conferences I've been to, and I would strongly recommend the next one to anyone interested.

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[Editors' note: Those interested in receiving or contributing to an archaeobotanical database newsletter should contact Philippa Tomlinson at: Environmental Archaeology Unit, University of York, Heslington, York YO1 5DD, U.K.]

Papers from the bone taphonomy workshop at York, September 1991

Taphonomic factors in a human skeletal assemblage

Introduction

Most human burials excavated from British archaeological sites were (barring cases of mutilation through disease, injury or surgery) originally interred as complete individuals. Thus the numbers of each skeletal element originally present in an assemblage can be taken as known. Patterns of deficits in skeletal elements are thus usually explicable in terms of post-depositional factors, including losses during recovery. This is in contrast to most archaeological animal bone assemblages: their original composition with respect to skeletal elements is rarely known and hence patterns of loss through taphonomic factors are difficult to assess directly.

The present work comprises a study of the relative representation of various skeletal elements in a collection of human burials from Ipswich, Suffolk, U.K., and an attempt is made to distinguish patterns of loss resulting from differential destruction of skeletal elements in the soil from those brought about by differential recovery during excavation.

The assemblage

Bones from 250 burials were recovered during excavations at the site of the Blackfriars' Friary, Ipswich, by Suffolk Archaeological Unit in 1983–5. Of these, 226 were adults (Mays 1991) and form the basis of the present study. The burials were of medieval date and were of friars and lay benefactors interred in the friary between its foundation in AD 1263 and its suppression in AD 1538. Interments were almost invariably in the supine position. The bones were carefully hand-recovered; no sieving for small bones was carried out.

Methods

A skeletal element was recorded as present if it was represented by a complete or incomplete bone. The representation of each element in the whole assemblage of 226 adult skeletons (Rep_T) was calculated by expressing the total number of an element present (T_o) as a percentage of that expected (T_e) if all burials were represented by complete skeletons:

$$Rep_T = T_o/T_e$$

Probably the three most important factors reducing skeletal completeness at the Ipswich Blackfriars site were:

- (i) damage to burials by the cutting of later features (principally further burials);
- (ii) recovery factors during excavation;
- (iii) preservation factors—destruction of bone in the soil.

Burials showed similar patterns of *relative* representation of skeletal elements whether or not they had been cut by later features (although, as expected, skeletons in graves which had been cut by later features tended to be less complete). This indicates that damage to burials by later features did not influence the composition of the assemblage with respect to the various skeletal elements. On this basis, the remainder of this paper focuses on preservation and recovery factors.

The overall state of preservation of each skeleton was classified as 'good', 'moderate' or 'poor' on the basis of visual assessment of the degree of erosion of the external surfaces of the bones (an assessment of whole-bone