Medieval Ceramics

Reviews

REVIEWS

Katherine Barclay
Scientific Analysis of Archaeological Ceramics: A Handbook of Resources

Ian M Betts
Medieval 'Westminster' Floor Tiles

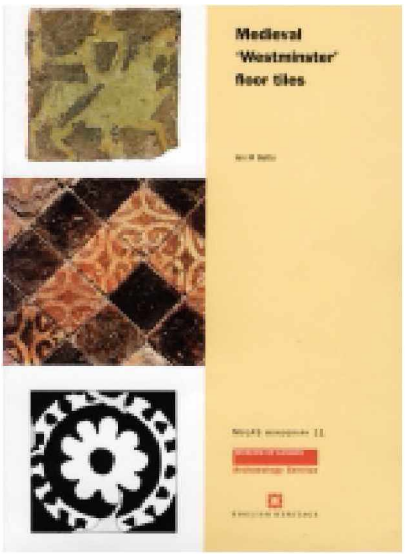
John Black
British Tin-Glazed Earthenware and
Anthony Ray
English Delftware

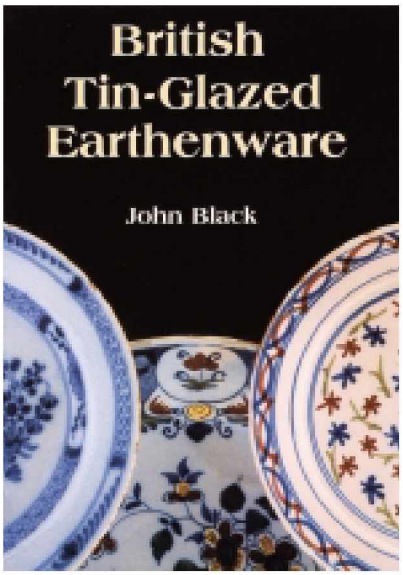
Mark Brisbane and David Gaimster
Novgorod: the Archaeology of a Russian Medieval City and its Hinterland

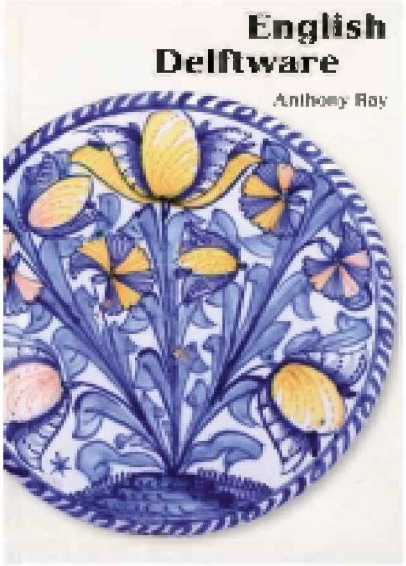
Duncan H. Brown
Pottery in Medieval Southampton c.1066-1510

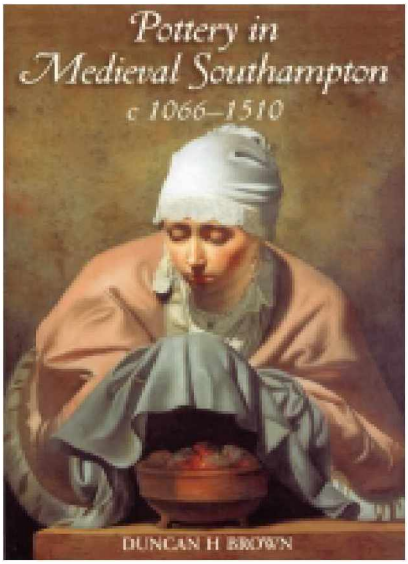
Ivor Noël Hume
If These Pots Could Talk: Collecting 2,000 Years of British Household Pottery

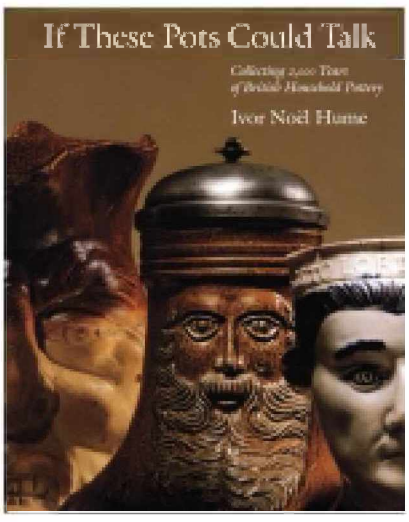
Jean Rosen
La Faïence en France du XIVe au XIX siècle. Histoire et Technique











Katherine Barclay, *Scientific Analysis of Archaeological Ceramics: A Handbook of Resources*
Oxbow Books, 2001. 64 pp, 1 fig, 3 tabs.
ISBN 1842170317. Price: £4.95 paperback

I greeted this handbook with enthusiasm. For years, working in a laboratory, I have been looking for a small, user-friendly book I can press into the hands of prospective clients. It would explain the underlying principles of the scientific techniques currently employed in archaeological ceramic research, and make it easier for both archaeologists and scientists to see how these techniques can be most usefully applied. Scientific analysis is expensive, not only because the equipment is expensive to buy and maintain, but because it requires specialised analysts to prepare the samples, perform the analysis and interpret the results, and their time is expensive. If the archaeologist can come to the laboratory with good background information about available techniques, much valuable time and energy – to say nothing of money and samples – can be saved.

The introduction is good, with sections on planning, sampling, costing, combining techniques, evaluating and publishing results, suggestions for journals and useful web pages to consult for up-to-date information, and last but not least, sources of funding. Barclay's emphasis is very much upon structuring the analytical programme to meet well-defined and realistic objectives. She issues caveats about falling into the trap of thinking that the cost of the testing is the cost of the analysis - 'A proper scientific report consists of analysis AND interpretation', and stresses the need for careful sampling, involving the analyst in the choice of suitable material. There is a list of questions (page 3) which the archaeologist might put to the analyst, and a brief discussion of the reasons for carrying out analytical work – 'why are we doing it?' - and some of the approaches and methods that might be considered appropriate. References to past projects drawn from both the archaeological and scientific press illustrate and enlarge on the points she is making; the bibliography constitutes almost a fifth of the booklet.

The handbook then divides into seven sections, each dealing with some aspect of scientific investigation – mineralogical, chemical, technological, dating, organic analysis, statistics and authentication. Each section starts with some background knowledge needed for the range of techniques to be discussed, and the subsections then introduce and explain individual techniques, with examples of projects undertaken. It was in these more technical sections I sensed a lack of good editing by a scientist. Although most of the necessary information is there, sometimes the ordering is odd and can lead to confusion – the section on 'compositional analysis', for example, opens with definitions of 'major', 'minor' and 'trace' elements, and an explanation of what is meant by quantitative, semi-quantitative and qualitative analysis, and only explains what elements, isotopes, atomic weights and atomic numbers are in paragraph three. Paragraph four begins with a rather cryptic statement – 'For some techniques, the range of elements detectable is given by reference to Z.' (which we have just been told is the atomic number). I think this is a reference to the fact that some techniques are limited to analysing elements with atomic numbers above or below some critical Z, but it is not made clear. Similarly cryptic, 'AAS has a low detection limit, and so may be preferred for very small samples', when 'detection limit' has not been explained. Table 2, which summarises the main features of different analytical methods in the same section, has several mistakes under 'sensitivity'; it looks rather as if ICP-OES and OES have been confused, and the major elements (M) have been left out of the AAS column.

Some of these slips and omissions are just irritating. Table 1 has a row labelled 'Accuracy and' (sic) and a heading 'X-RD' for a technique which a couple of pages later appears variously as 'XRD' and 'X-R D'. Page 21 has a reference to 'SEM (see below 4.5)' but there is no section 4.5. Thermal ionisation mass spectrometry is usually abbreviated (for obvious reasons) to TIMS, but this does not appear in the main text or in the 'index of analytical techniques and their acronyms'. Dates are missing from some of the bibliography entries.

However, some of the shortcomings are more serious. On page 17 the definitions of accuracy and precision are reversed so that as they stand, each is a good definition of the other – the observation that 'many people confuse the two terms' is shown to be only too true. And Table 2 makes no distinction at all between the two; they are lumped together as 'Accuracy and precision – high 2%, semi-quantitative, high 1-5%…' with nothing to explain whether the technique possesses high accuracy (i.e. produces results close to the 'true' values) and/or high precision (repeat analyses of the same material will produce the same result). Archaeologists may not need to use these terms, but they do need to understand the implications; as Barclay observes, analytical results based on a series of measurements come with 'errors', and these may be important when, for example, pottery is being compared to similar pottery analysed by a different method, or dates obtained by C-14 are being used alongside dates from thermoluminescence and dendrochronology.

The work has suffered for being several years 'in press'. Five years is a long time in the scientific world; methods come and go. Neutron activation analysis is still a popular technique for provenance work in the States, but as reactors have closed in UK, it is no longer available here and is being replaced by other techniques. Laser ablation inductively coupled mass spectrometry could have done with a mention – it was around, even in 1999. Personal computers now have increased capabilities to carry out statistical work and databases combining scientific and stylistic information can be relatively easily set up; a brief mention of suitable programs would have been useful.

Was this the book of my dreams? I'm afraid it wasn't, although I felt that with more careful editing, it could have been. I look forward to the revised edition……

Helen Hatcher