NOTES 841

References

- AMMANN, B. & A.F. LOTTER. 1989. Late-glacial radiocarbon- and palynostratigraphy on the Swiss Plateau, *Boreas* 18: 109–26.
- BECKER, B. & B. KROMER. 1986. Extension of the Holocene dendrochronology by the Preboreal pine series, 8800 to 10,100 BP, in Stuiver & Kra (1986): 961-3.
 - In press. Dendrochronological and radiocarbon calibration of the early Holocene, in R.N.E. Barton, A.J. Roberts & D.A. Roe (ed.), The Late Glacial in NW Europe: human adaptation and environmental change at the end of the Pleistocene. London: Council for British Archaeology.
- CLARK, J.G.D. 1954. Excavations at Star Carr. Cambridge: Cambridge University Press.
 - 1972. Star Carr: a case study in bioarchaeology. Reading (MA): Addison-Wesley. Modular Publications in Anthropology 10.
- CLOUTMAN, E.W. 1988a. Palaeoenvironments in the Vale of Pickering. Part 1: stratigraphy and palaeogeography of Seamer Carr, Star Carr and Flixton Carr, Proceedings of the Prehistoric Society 54: 1–20.
 - 1988b. Palaeoenvironments in the Vale of Pickering. Part 2: environmental history at Seamer Carr, Proceedings of the Prehistoric Society 54: 21–36.
- CLOUTMAN, E.W. & A.G. SMITH. 1988. Palaeoenvironments in the Vale of Pickering. Part 3: environ-

- mental history at Star Carr, Proceedings of the Prehistoric Society 54: 37-58.
- MOOK, W.G. & H.T. WATERBOLK. 1985. Radiocarbon dating: handbook for archaeologists 3. Strasbourg: European Science Foundation.
- Neftel, A. H. Oeschger, T. Staffelbach & B. Stauffer. 1988. CO_2 record in the Byrd ice core 50,000–5000 years BP, Nature 331: 609–11.
- Pearson, G.W. & M. Stuiver. 1986. High-precision calibration of the radiocarbon time scale 500–2500 bc, in Stuiver & Kra 1986: 839–62.
- SCHADLA-HALL, R.T. 1989. The Vale of Pickering in the Early Mesolithic in context, in C. Bonsall (ed.), The Mesolithic in Europe: 218–24. Edinburgh: John Donald.
- SHACKLETON, N.J., J.-C. DUPLESSY, M. ARNOLD, P. MAU-RICE, M.A. HALL & J. CARTLIDGE. 1988. Radiocarbon age of last glacial Pacific deep water, nature 335: 708–11.
- STUIVER, M. & R.S. KRA (ed.). 1986. Radiocarbon calibration issue: proceedings of the Twelfth International Radiocarbon Conference, June 24–28 1985, Trondheim, Norway. Radiocarbon 28 (2B).
- STUIVER, M. & G.W. PEARSON. 1986. High-precision calibration of the radiocarbon time scale, ad 1950–500 bc, in Stuiver & Kra 1986: 805–38.
- WALKER, D. & H. GODWIN. 1954. Lake-stratigraphy, pollen-analysis and and vegetational history, in Clark 1954: 25–69.

More Chibcha textiles

SYLVIA M. BROADBENT*

Further information has come to light concerning Chibcha textiles, from central Colombia, that have previously been noticed in ANTIQUITY.

In 1985, a short article of mine on Chibcha textiles in the British Museum (the Bunch collection) appeared in Antiquity (Broadbent 1985). In July of that year, while in Bogotá for the 45th International Congress of Americanists, I had an opportunity to examine a fine new collection of textiles in the Gold Museum (Museo del Oro) from the museum of Pasca, a

small town near the southern edge of Chibcha territory. According to Cardale (1986), they are said to come from caves on the Páramo de Pisba. Although my analysis of them was somewhat sketchy, the time available being very limited, they seem to confirm the distinctive features I observed in the Bunch collection. I was allowed to take small samples of three of them for

^{*} Department of Anthropology, University of California, Riverside CA 92521-0418, USA.

842 NOTES

radiocarbon dating at the University of California, Riverside (UCR) dating facility. It therefore seems appropriate to present this short note as a sequel to the previous paper.*

The material was in a process of conservation, and had been assigned temporary catalogue numbers. TM20-TM37. Several of these numbers referred to more than one fragment. however; I saw a total of 35 pieces of cloth. All but three of them show the same basic technical characteristics reported previously: S-twist cotton, plain weave, single wefts over double warps; selvedge (if present) shows use of multiple shuttles; end fringes formed of warpend loops, secured by a row of rather heavy chain-stitch. At least 16 of these have painted decoration in greenish blue and one or two shades of brown. Motifs and general style are very similar to the painted textile in the Bunch collection. At least 10 have warp stripes of dark brown cotton. Eight have a band, 2-8 cm wide. of doubled wefts close to the warp-end fringe. One (TM27), exceptionally coarse in texture, is part of a warp-float design band using off-white, cinnamon brown and dark brown cotton; it has double wefts as well as double warps, but neither selvedge nor warp ends are present. I include it in this group because the design elements are like those in warp-float bands in the Bunch collection. Two other fragments (TM29-2 and TM30-1) may relate to it; both include cinnamon-brown cotton and have double wefts. Both show multiple-shuttle selvedges.

Of the exceptions, one (TM20) is a rather coarse warp-face textile, using single warps except for a band of 10 paired warps near the selvedge, which appears to be double over-

stitched and does not show multiple-shuttle weft turns; another (TM32) is basically an over-2/under-2 twill weave with simple selvedges; it has faint pink bands a centimetre or so wide across it near the warp ends, which are not secured by chain stitch. It is so much better preserved than the others that I suspect that it is of considerably later date. The third seems to be a fragment of a bag made of agave fibre similar to ones currently used in the area (called mochilas), but made by a cylindrical braiding (plaiting) technique, whereas the modern ones are made from rectangular sprang textiles.

Samples for radiocarbon dating were taken from TM24-1, a plain double-warp fragment with no paint and no selvedge; TM26, which has no visible paint but has a warp stripe of brown cotton, double warps, a multiple-shuttle selvedge, and double wefts near the warp-end fringe; and TM34-1, a large specimen with a green and brown painted design and a brown warp stripe, a multiple-shuttle selvedge, and double wefts to about 2 cm in from the warp-end fringe. It is relatively fine in texture, with a warp/weft thread count of 20/14 per centimetre.

When the TM24-1 sample was first dated in the UCR laboratory, it yielded the rather startling date of 4180±140 b.p. (UCR-2073A), which would have made it one of the oldest known textiles in the Americas, and seemed highly unlikely in view both of its physical condition and of what is known of the chronology of the area. Initial pre-treatment of the sample, guided by information provided by the Gold Museum, was based on the assumption that only water- or acid- soluble contaminants were likely to be present. Re-extraction indicated the presence of a solvent-removable substance, and because

lab. no.	sample no.	uncalibrated determination b.p.	1σ calibrated dates AD
UCR-2073B/AA-3043	TM24-1	550±180	1270-1480
UCR-2074/AA-3044	TM26	780±80	1160-1280
UCR-2075/AA-3045	TM34-1	540±150	1280-1450

TABLE 1. Dates for Chibcha textiles.

refers very clearly to 'Gachansipa, about 29 miles from Bogotá', which fits Gachancipá much better than Gachantivá.

^{*} Cardale (1986) has suggested reasons for thinking that the Bunch collection might have come from Gachantivá rather than Gachancipá; however, the British Museum documentation, including Bunch's original letter of presentation,

NOTES 843

sample size was now very small it was re-dated on the University of Arizona linear accelerator along with the other two specimens. Details of this process will be published elsewhere. The final, perfectly acceptable dates are given in TABLE 1.

Dates between the 12th and 15th centuries AD

are just what one would expect for textiles decorated in the Chibcha artistic style.

Acknowledgements. I am grateful to the staff of the Gold Museum, especially Clemencia Plazas de Nieto and Ana Maria Falchetti, for providing access to this collection, and to my colleague R.E. Taylor for the radiocarbon dates. Travel to Bogotá was partly paid for by the UCR Intramural Research

References

BROADBENT, S.M. 1985. Chibcha textiles in the British Museum, *Antiquity* 59: 202–5.

CARDALE, M. 1986. Painted textiles from caves in the

Eastern Cordillera, Colombia, in Ann Rowe (ed.), The Junius B. Bird Conference on Andean textiles: 205–18. Washington (DC): Dumbarton Oaks.

Tintagel, Cornwall: the 1990 excavations

CHRISTOPHER D. MORRIS, JACQUELINE NOWAKOWSKI & CHARLES THOMAS*

Two years ago, Charles Thomas set out in ANTIQUITY the nature of Tintagel castle, and its central place to understanding what happened in southern Britain during the centuries following Roman withdrawal. Fieldwork earlier this year was financed by commercial sponsorship that depended, curiously, on the Arthurian reputation of the place – a reputation the work is likely yet further to undermine.

A recent assessment of the evidence, old and new, for the nature and dates of the main sites within the Tintagel complex appeared first in Antiquity (Thomas 1988a). The paper ended by stating that 'properly planned and rigidly controlled excavation . . . is not just desirable, but overdue', and a second article (Thomas 1990) demonstrated that the large quantity of finds from the post-Roman occupation on Tintagel Island can now be related to structured commerce, linking Ireland and Atlantic Britain to several regions in the Mediterranean during the 5th and 6th centuries AD. During 1988/9 Tintagel Castle (that is, the Island and the mainland wards) as a Property in Care administered by English Heritage moved up to 7th place in the table of visitor-numbers, with a total of 140,000 and a combined admissionsplus-retail income of £162,000 (source: E.H. Marketing 1989). However, since it is abundantly clear that the archaeological importance of the whole site-complex must outrank the commercial status of the Castle as a PIC, an independent Tintagel Research Committee has been formed. It held a first one-day meeting at Tintagel and Truro in April 1990, under the chairmanship of Professor Malcolm Todd (University of Exeter). The Committee operates under a combined aegis of the Duchy of Cornwall (the owner, since 1337, of the Castle), Royal Institution of Cornwall, Cornwall County Council and the University of Exeter, and its membership is principally academic.

Two, linked, excavations took place in March–April 1990. Summary reports appear below.

^{*} Christopher Morris, Department of Archaeology, The University, Glasgow G12 2QQ, Jacqueline Nowakowski, Cornwall Archaeological Unit, Old County Hall, Station Road, Truro, Cornwall TR1 3EX, Charles Thomas, Lambessow, St Clement, Truro, Cornwall TR1 1TB.