

## NOTES.

## 1. PREHISTORIC CEREALS FROM SCOTLAND.

In the eighties of last century a Danish school teacher, Frode Christensen, observed that ancient potsherds preserved impressions of seeds and grains that constituted precious documents for the early history of agriculture. His discovery was systematically followed up as far as pottery from Denmark was concerned by G. Sarauw after 1895. Since 1937 a group of Danish scientists has been engaged in applying Sarauw's methods to secure material for a comparative history of prehistoric agriculture in north-western Europe as a whole. In consequence Hans Helbaek visited the British Isles in the summer of 1939 to examine the pottery in our collections for seed impressions and to secure casts of them for botanical determination. He published the results of his studies in conjunction with Knud Jessen in *Det Kongelige Danske Videnskabernes Selskab, Biologiske Skrifter*, iii. No. 2 (1944), copies of which have just reached this country. They are of such interest that the outstanding facts relevant to Scotland must appeal to Fellows, and are accordingly recapitulated here.

The only cereal found on well-dated sherds of the Neolithic and Bronze Ages in Scotland was barley, naked or hulled. (In Denmark during the same stages wheat is much commoner than barley.) Grains of this genus were observed in typical Western Neolithic pottery from Easterton of Roseisle (EO.351) and from the chambered cairns of Unstan (EO.170), Orkney Mainland and Calf of Eday (EO.621). While the determination of the species from such imprints is always very difficult, the grains from Unstan probably belong to *Hordeum vulgare* (nodding barley or bere). Grains of *Hordeum* (probably *vulgare*) were recognised further on "Beaker" sherds from the middens at North Berwick (EGA.90) and Archerfield (HR.563), and from graves at Turriff (EQ.140), Upper Boyndlie (EQ. 295), Chapel of Garioch (EG.57), Broomend of Crichtie (EQ.23), and Gardentown (BM.1911, 7.19.4); on Food Vessels from Cadder (EE.130), Doune (EE.86), and Carmylie (EE.33); and on many Cinerary Urns, namely those from Wetherhill (EA.192), West Kilbride (EA.197), Largs, Newlands (Glasgow EA.176), Bankfield, Glenluce (EA.113), Windyhall, Rothesay (EA.58), Strathblane (EA.159), Musselburgh (EA.143, EA.117), Magdalen Bridge (EA.38), Craigentenny (EQ.442), Dean Bridge (EA.9), Arniston (EA.23), Outerston Hill (EQ.448), Lintlaw, Berwickshire (EA.203), Spottiswood (EA.181), Westwood, Newport (EA.59, 60 & 63), Balbirnie (EP.26) (EA.33), Glenballoch, New Rattray (encrusted), (EA.2), Crichtie, Inverurie (EA.137). The imprints on an Urn from Brackmont Mill are also diagnosed as barley from the photograph (*Proceedings*, lxxi. p. 271). Flax seeds were observed in the walls of one Cinerary Urn from the Westwood urnfield (EA.62), while two weeds were similarly attested—Black Bindweed (*Polygonum convolvulus*) on the urn from Dean Bridge, Edinburgh, and crowfoot from the fragmentary Food Vessel buried under Brownhead Cairn, Arran (EO.238). Emmer (wheat) is represented by imprints on a sherd and carbonised grains from Glenluce Sands that probably belong to the Bronze Age.

Roman sites have yielded, besides various kinds of wheat and barley, also oats (Birrens, Castle Cary) and rye (Castle Cary), as well as several weeds.