

worse fate than the ostrich, and merely fails to leave the ground.

A. R. Low.

The Library, Air Ministry,
Kingsway, W.C.2, July 1.

A Prehistoric Cooking-place in Norfolk.

COLLECTORS of Stone-age implements are well acquainted with the calcined flints known as pot-boilers, which are found sparsely strewn over the sites of most prehistoric settlements. As the sun-baked pottery of the kitchen utensil would not stand the fire, heated flints were thrown into the vessel to bring the water to the boil.

My attention having been directed by Mr. Baldry, of Cranwich, to a mound in Buckenham Tofts Park, Norfolk, where the moles were throwing out a remarkable number of these pot-boilers, with the kind permission of the owner, Mr. Underdown, I started excavations on the spot in May last with the view of discovering their origin.

Owing to numerous springs taking their rise at a somewhat high level in the park, the old chalk land surface has been carved out by water action into a series of large natural folds, which at first sight might appear artificial. On one of these, where the burnt stones are found in great profusion, we commenced operations, running a trench from the west side up the slope, a distance of 66 ft., and another near the starting-point at right angles to it. About 8 ft. from the base of the fold, and in close proximity to a stream, on removing about 3 in. of surface-grass and mould, we at once came upon a compact mass of pot-boilers. These continued to a depth of 2½ ft., resting upon blackened earth, which when dug through was found to be lying on the chalk. Tracing the calcined stones from the base of the mound upwards, many thousands came to light, ever decreasing in numbers as they approached the summit, as though thrown out from the spot on which they had been used.

The finding of remains of what appeared to be a great communal kitchen was extremely puzzling, and only when I got into communication with Mr. Cantrill, of the Jermyn Street Museum, did a possible clue present itself. Mr. Cantrill had published in *Arch. Cambrensis* accounts of his investigations of similar stone-boiling sites in Wales. His papers also refer to quite a number of these prehistoric cooking-places, known as "deer roasts" or "giants' cinders," in Ireland, and I am now informed by Mr. Crawford that they are not unknown in Scotland. In England, Mr. Cantrill tells me, they have never yet been examined.

These accumulations are supposed to have been the large cooking-hearths where the flesh of the red deer or other big game was boiled. The finding of hollowed tree-trunks in some of these mounds in Ireland suggests that a trough of this kind was sometimes used to contain the water. Mr. Cantrill suggests that another alternative would have been to dig a hole in the chalk and line it with a raw hide to serve as a cooking vessel. To boil such a great amount of water heated stones in large quantities would have been ladled into the vessel.

So far no satisfactory evidence as to the date of these places appears to have been forthcoming. A general opinion, however, seems to prevail that they are of Neolithic origin. This view may be substantiated by our finding among the pot-boilers quite a number of humanly struck flint flakes showing bulbs of percussion. Still more interesting was the discovery of what appears to have been a small circular pit dwelling within a few yards of the heap of pot-boilers. It measured 11 ft. in diameter. Opening this out, we came upon a hearth of quite normal

appearance—flints reddened by the fire, with a few pot-boilers strewn about, and an area of blackened earth. Here it was evident that some individual had sat and fashioned his flint tools, for flakes lay about in profusion, with spalls and a fine core. A scraper of unusual form, but strongly reminiscent of some of those found at Whitepark Bay, in Ireland, lay among flint knives and other small tools, while an arrow-point, worked on both sides and with one barb already punched out, may possibly by its workmanship give the required date to these mysterious sites. Further examination of the Buckenham Tofts mound will, it is hoped, be made in the near future under the auspices of the Percy Sladen Trust.

NINA F. LAYARD.

Science and Civilisation.

MAY I venture, as a citizen, to make an appeal to men of science and to urge that the time has come when they should no longer stand aside from the social and political questions that vex the world? Science is itself dependent upon favourable social conditions: that these conditions can abruptly cease has been clearly shown in the case of Russia. Scientific workers have therefore the strongest class interest in the social conditions under which they live. They have, however, more than a class interest. Science has made civilisation possible for mankind. It must now provide civilisation with that authority the lack of which is causing such waste of human energy to-day. Men of science alone have the power; they alone are above suspicion.

This is no place for details. An international amalgamation of existing scientific organisations would provide the world with an intellectual aristocracy, independent of the vote, which by the development of knowledge and the control of new weapons, lethal and industrial, would soon acquire the necessary influence.

B. J. MARDEN.

Stodham Park, Liss, Hampshire, June 30.

Measurement of Small Inductance.

THE method of suspending a loop of wire in a uniform alternating magnetic field, as used by Fleming and Elihu Thomson for the construction of A.C. galvanometers, can be applied with advantage to determine the self-inductance of loops in absolute measure, and it would seem that we can go considerably lower in this way than can conveniently be done otherwise. Low-frequency measurements are inaccurate, but with a triode at wireless frequencies I have measured inductances from 20 cm. to 50,000 cm. with an average error of 1½ per cent. without special precautions to obtain sensitiveness. The details of the experiment will appear shortly in the *Philosophical Magazine*.

F. B. PIDDUCK.

Queen's College, Oxford, July 2.

A New Acoustical Phenomenon.

THE phenomenon described by Dr. Erskine-Murray in a letter under the above heading in *NATURE* of June 16 (p. 490) is particularly well heard when one is standing near a cliff or rock-face and listening to the sound of a waterfall or of the waves breaking on the seashore. The phenomenon is, of course, familiar to physicists, but it may not be so well known that use can be, and indeed often is, made of this effect in avoiding obstacles when one is walking in the dark. No doubt blind men, consciously or unconsciously, use it in this way; and it must have been so used from remotest antiquity by man and any other animals which happened to have the necessary discriminating power in hearing.

G. A. SHAKESPEAR.

The University, Birmingham, July 8.