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can occur by chance in any flock carrying the potential genes; if a goat bearing such horns is selected for propagating this character, as has probably happened several times in the past, then a population could be developed which bore only the Girgentana-type horns. As long as such a population was maintained, with no out-crossing, it could be referred to

as a 'breed', but it does not represent a distinct species.

2. The use of specific names as applied to domestic animals is the second problem to which I wish to allude; it is brought to focus by the series of articles, on goats with Girgentana-type horns, which has appeared in Antiquity at different times from 1937 to 1956. Linnaeus, in his Tenth Edition of the 'Systema Naturae' (1758), designated the domestic goat as Capra hircus. Since, according to the International Rules of Zoological Nomenclature, names in this publication have priority over any subsequent names, all domestic goats, so long as they form, actually or potentially, an interbreeding population, can bear no name but Capra hircus. To call a goat Capra girgentana, merely because the shape of its horns varies from that of other domestic goats, is no more logical than would be the separation of people into species by differences in shapes of their big toes.

Each domestic animal has one specific name, and one specific name only. It is true that there are basic difficulties in naming domestic animals and their wild relatives as we investigate these animals at the time of origin of domestication, but this problem need not

confuse the basic issues considered here.

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FORE AND AFT RIGGING IN THE ROMAN EMPIRE

A recent number of *The Mariner's Mirror* (Vol. 42, No. 3, Aug. 1956) contains two notes, one critical and one favourable, on Professor Lionel Casson's recent article in the February number of the same journal (referred to in Antiquity, No. 119) claiming that the Greeks and Romans of the 2nd to 4th centuries A.D. used sprit sails and lateen sails.

On p. 238 in 'Fore and Aft Sails in the Ancient World', L. Guilleux la Röerie, though he does not deny the possibility of fore and aft rigs in the ancient world, is nevertheless of the opinion that Casson's instances were not convincing. He considered that the alleged sprits on Casson's Plate I Nos. I and 3 were only symmetrical braces, that Plate I Fig. 2 was too vague to be useful, that he could not see the diagonal spar on Plate II Fig. 4 and that on Plate II Fig. 5 the ordinary motive of a man pulling at a brace has evolved into a man

holding a spar.

On p. 239 in 'The Earliest Lateen Sail', Richard Lebaron Bowen Junior, who has had great personal experience of handling lateen-rigged boats in the Arabian Gulf, expresses complete confidence in Casson's examples of sprit sails and only criticizes the evidence for the lateen sail so far as to point out that Casson's photograph was taken from a copy, whereas a photograph taken directly from the relief in Athens shows that this sail would be more accurately described as a short-luff lugsail (as indeed are practically all the so-called lateen sails of Arab dhows now in the Arabian Gulf). Cf. H. H. Frese, *The Mariner's Mirror* 42. No. 2, 1956, p. 101, for other varieties of dipping lugs.

R. W. Hutchinson,

DIGGING-STICKS AND THEIR USE IN JAVA

The following extract from a letter written in 1939 by the late Professor R. G. Collingwood, soon after his return from Java, has been sent us by Mr Angus Graham, to whom we tender our thanks:

'I have seen digging-sticks in use, among tribes who have no ploughs or mattocks

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(the spade is non-existent in these countries), and I never knew before that a digging-stick is exactly like an oar to look at, and that you use it exactly like a paddle, the blow falling just outside your left foot (or right foot if you are left-handed). A capable user of the digging-stick can turn a furrow with it that looks just like a ploughed furrow, so that in that tribe's country I thought at first, to judge by the fields, that they must have ploughs. As for lynchets, I never dreamed of the like. Sawah-agriculture, for growing rice, is all done in plots of land each one of which is levelled and surrounded with an earth rim, so that it can be flooded. Believe it or not, they will make sawahs on a slope of 45°, each sawah 4 ft. wide, with a 4-ft. vertical earth scarp above and below it; and they will lift their ploughs up and down these scarps, and the buffaloes for ploughing will scramble up and down by means of a step, and never injure the earth rims of the sawahs in doing so. They think it quite worth while to take a plough and a couple of buffaloes into a sawah measuring 4 by 6 feet; that is an extreme case, but on steep ground sawahs of 8 by 12 are not at all rare'.

THE SUTTON HOO SHIP BUILT IN SWEDEN?

In recent years it has been argued convincingly by R. L. S. Bruce-Mitford that the Sutton Hoo find points to the fact that the man who founded the East Anglian dynasty c. A.D. 550 was of Swedish origin. 'All the phenomena in the Sutton Hoo ship-burial that we have discussed', he points out, 'are perfectly explicable if we suppose that Nerman's Swedish conqueror established his control over East Anglia not at the period of our burial—mid-7th century—but a good deal earlier; in fact, that he was the man who founded the East Anglian dynasty in the mid-6th century. What we find in the burial would then be Swedish heirlooms (sword, helmet, shield) treasured as symbols of the origins or history of the royal house. . . .'1

It is the purpose of this note to suggest that there is evidence that the Sutton Hoo ship itself was of Swedish construction; that it may even have been one of the vessels in which 'Nerman's Swedish conqueror' crossed to England to found the East Anglian dynasty c. A.D. 550.

Anyone who reads the poem *Beowulf* and then studies the construction of the Sutton Hoo ship must be struck by the fact that the poet speaks almost nonchalantly of masts and sails whereas the Sutton Hoo vessel is said to have contained no provision for a mast. Miss Dorothy Whitelock has drawn attention to this contradiction in *The Audience of Beowulf* (Oxford, 1951, p. 84): 'Scyld's ship had a mast, whereas the Sutton Hoo ship was mastless, but this need not be a significant discrepancy, for one cannot argue from one ship without a mast that sailing ships were unknown at the date of the Sutton Hoo burial'.

Now it is obvious from evidence both inside and outside *Beowulf* that sailing ships were the very reverse of 'unknown' among the Anglo-Saxons for centuries before the Sutton Hoo burial. Admittedly the poem was composed somewhere between 700 and 790, while the ship was buried about 650, but the poet writes as if he and his listeners had never heard of a time when their ancestors were not building ships with masts and sails, even when he is describing ships built centuries earlier. To him the sea is, and has been for centuries, the 'sail-road' (segl-rād, 1.1429), and in lines 36, 217, and 1905-6 there are further casual references to masts, sails and rigging.

This evidence is corroborated by that from the classical writers. In his article *The*

¹ Proceedings of the Suffolk Institute of Archaeology, vol. 25, part I (1949), p. 74. See also the same writer's Appendix to R. H. Hodgkin's History of the Anglo-Saxons, 3rd ed., Oxford, 1952, pp. 721-4.