

ANIMAL DOMESTICATION AND SPECIES IDENTIFICATION: INFERENCES FROM ANCIENT ART

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The article in the last issue of the Journal,¹ "A Mold from Mari and its Relations," by Hildreth Yorkoff, contains, in our opinion, serious misconceptions regarding the interpretation of the social status of a species from archaeological data, and the identification of species from artistic representation.

Defining domestication for archaeological purposes presents two kinds of problems: first, the type of evidence that the archaeologist has available, and second, the range of cultural roles animals may fill. Domestication has been divided into a two-phase process by Bökönyi.² In the first phase, *keeping*, animals are kept in artificially constructed herds whose age-classes may differ widely from wild populations (i.e., the animals may be killed at the age when their growth-curve levels off and when the input of resources, food and herding time, only maintains the animals at their mature size and does not materially increase the amount of desired product, meat). Under these conditions, the first criterion for successful domestication (reliable social behavior on the part of the animal) is met; he no longer is constantly dangerous to handle, and he is less likely to seize every opportunity for escape. In the second phase, *full domestication*, selective breeding practices are maintained in order to increase the efficiency of the species to meet its more varied social and economic roles. The use to which the species is put, whether for meat, milk, wool, hide, draft, or ritual, will alter the pattern of both osteological and nonosteological archaeological evidence for a species. Regardless of variation, unless behavioral reliability and controlled breeding can be demonstrated, an assertion of domestication is indefensible.

An animal's capture by man is no certain evidence for either criterion. The mere fact that the animals are tethered or firmly grasped shows that their behavior is not sufficiently reliable to permit the usual herding techniques. In modern Anatolia there are dancing bears which are led through the streets in roughly the same way in which the deer are depicted as being handled, yet it is hardly likely that anyone would call this evidence for a domestic bear.

It is quite true that reindeer, *Rangifer*, have been successfully domesticated for many centuries in northern Asia, notably by the Lapps and Chukchi, but it is also true that this has only been accomplished by a cultural adaptation to the peculiar feeding habits of the species and in the absence of other domesticates competing for man's time.³ More importantly, though reindeer are antlered creatures, they are no more

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²Sandor Bökönyi, "Archaeological Problems and Methods of Recognizing Animal Domestication," in *The Domestication and Exploitation of Plants and Animals*, ed. Peter J. Ucko and G.W. Dimbleby (Chicago, 1969), 219.

³W. Bogoras, *The Chuckee*, The Jesup North Pacific Expedition, vol. 7, pt. 1, *Memoirs of the American Museum of Natural History*, vol. 11, pt. 1 (New York, 1904); Anthony Leeds, "Reindeer Herding and Chuk-

closely related to the red, roe, and fallow deer than to the white-tailed deer, which, apparently, simply will not breed under crowded conditions. The existence of some large antlered herbivorous reindeer and moose, which have altered their behavior patterns in response to man's efforts, is no assurance that all antlered creatures will react similarly. In fact, conversations with zoo keepers and game-farm operators indicate that these creatures are among the most unpredictably dangerous of all those normally kept in captivity.

Thus, while the evidence certainly indicates that the animals were known, were eaten, and were presumably captured alive, it does not prove any better-developed man-animal relationship.

Identification of species from artistic representation is, to say the least, a very ticklish business. There is no reason to assume that the system used by the ancients to classify the animal world around them is the same as our Linnean one. However, we feel that some effort should be made to formalize criteria by which identifications of species from archaeological material are made, since in many cases such identifications seem to be imprecise. In particular, the use of the term *stag* is virtually useless in terms of pinpointing which of a large group of horned and antlered animals is meant.

On page 21, Yorkoff refers to the animal in front of the "stag" as a "dog, probably a saluki." In view of the fact that the animal has raptorial hind feet, a slender tail with a terminal tuft, and a beaklike head, this identification seems improbable. The animal may be a griffin, but it most certainly is not a dog. The larger of the two antlered animals is probably intended to represent *Cervus elaphus*, but since the artist's skill is not great, it must be pointed out that the antlers do not closely resemble those of any of the possible species. If by "roebuck" Yorkoff intends to describe the male of the *Capreolus*, we must point out that this animal does not resemble the depiction. The antlers of the *Capreolus* are small spikes borne on high pedicles, not branched racks as shown.

In the matter of the "stag" on the diadem, it seems to us unnecessary to postulate an elaborate system of artistic conventions to account for the fact that the central head does not particularly resemble a cervid, since it is in fact quite an accurate representation of the manner in which horns grow on the head of a wild goat. It should be noted here that while gazelles and wild goats existed in Egypt at that period, there is no evidence that the *Cervus* ever did.

We feel strongly that more careful consideration of the morphology and behavior patterns of real animals should precede published interpretations of plastic and graphic representations of real or chimerical animals, since errors all too often become fossilized in the literature.

chi Social Institutions," in *Man Culture and Animals*, ed. A. T. Leeds and A. P. Vayda, American Association for the Advancement of Science (Washington, D.C., 1965); M. G. Levin and L. P. Potapov, *The Peoples of Siberia* (Chicago, 1964).