

Possible Evidence of Domestic Dog in a Paleoeskimo Context

CHARLES D. ARNOLD¹

Ethnographically-documented uses for domestic dogs (*Canis familiaris*) in northern societies include: drawing sleds, packing loads, locating breathing holes maintained by seals in the sea ice, holding muskoxen in their static defensive formation during the hunt, warning of camp intruders, and serving as a source of fur and food. Accordingly, domestic dogs played a significant role in the adaptive strategies of most historic Inuit and their archaeological predecessors, the Neoeskimo.

Although the earlier Paleoeskimo cultures occupied the same environment and exploited many of the same resources as the historic Inuit, there is only sporadic evidence for domestic dogs in Paleoeskimo contexts. There appears to be little doubt that some of the Canidae remains from the Ipiutak site at Point Hope, Alaska, are those of domestic dog (Murie, 1948). However, the significance of the Point Hope finds is obscured since the Paleoeskimo Ipiutak culture, which appears early in the Christian Era (Rainey and Ralph, 1959), may have been a recipient of traits from Neoeskimo cultures which were beginning to establish themselves on the Bering and Chukchi Sea coasts at about the same time (Larsen and Rainey, 1948). It is conceivable that the new traits included the use of dogs, possibly of Siberian origin. Meldgaard (1962) has inferred the presence of domestic dog earlier in a Paleoeskimo Pre-Dorset component at Igloodik, N.W.T., but recently that interpretation has been challenged. According to Maxwell (1976), the earliest acceptable evidence for a domestic form of Canidae in a Paleoeskimo context in the eastern arctic occurs at the Dorset Nanook site on southern Baffin Island. The Nanook site appears to date no earlier than the first or second century A.D. (Maxwell, 1973:287), roughly contemporary with Point Hope Ipiutak.

Canid skulls displaying cut or snapped canines and/or ossified subperiosteal hematoma due to beatings are good indicators that domestic dogs are represented, although these modifications are the result of cultural practices which are subject to variation. Biological criteria for identifying domestic dogs include a shortening of the rostrum, with resultant dental crowding (Clutton-Brock, 1969:305). However, archaeological reconstructions based strictly upon the latter attributes may be biased since tamed wolves would not be recognized as such, and even the hybrid offspring of dog-wolf matings might go unrecognized until the normal range of variation within the hypothetical parental populations is established as a basis for comparison.

Skeletal evidence of a different sort obtained from the Lagoon site (OjR1-3) on Banks Island, N.W.T. (Arnold, 1978), supports the presence of domestic

¹Dept. of Anthropology, University of Toronto, Toronto, Ontario M5S 1A1

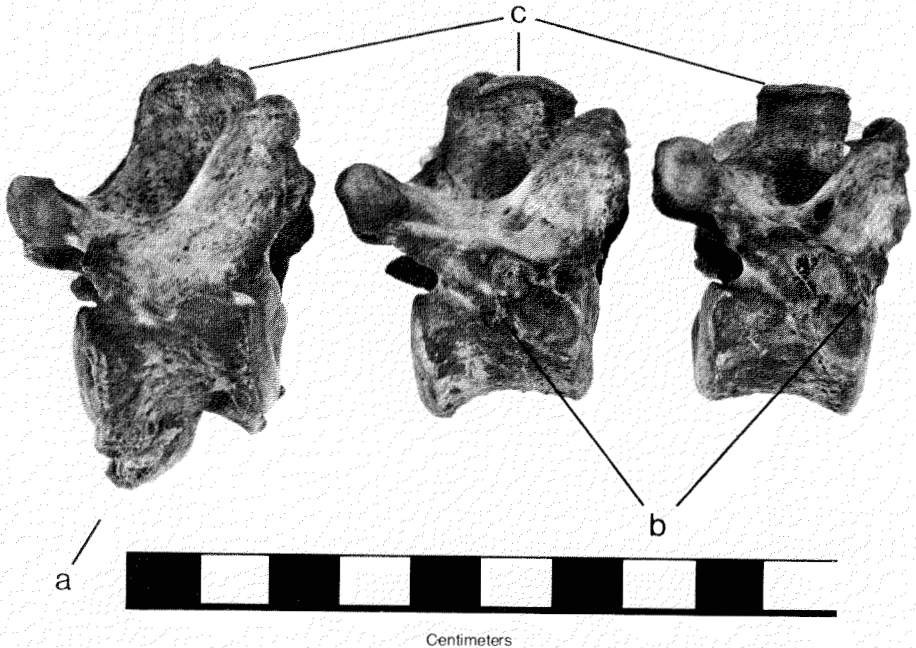


FIG. 1. Canid vertebrae recovered from the Lagoon site. Left to right: 1st lumbar, 13th and 12th thoracic. a, osteophytosis on vertebral body; b, osteophytoses at the costal facets; c, flattened spinous processes.

dog in a Paleoeskimo context considerably earlier than the Point Hope Ipiutak and the Dorset Nanook finds. Radiocarbon dates of ca 400 B.C. (RL-765, 766, 767) place the Lagoon occupation within the early part of the Dorset period, although the retention of Pre-Dorset traits in the artifact assemblage causes some discomfort in characterizing the cultural affiliation as 'typical' Dorset.

Included with the faunal material from the Lagoon site are three canid vertebrae: the 12th and 13th thoracic, and the first lumbar (Fig. 1). Of special note are the osteopathologies on these elements. Most marked are the extreme osteophytoses at several sites on the body of the lumbar vertebra (Fig. 1a) and around the costal facets of the thoracic vertebrae (Fig. 1b). In addition, the dorsal surface of the spinous process of each vertebra is flattened and lipped (Fig. 1c). Two questions can be asked of these admittedly scant data: a) under what conditions could a canid have survived long enough in the demanding arctic environment to exhibit the possibly debilitating osteophytoses, and b) what types of stress could have induced the deformities of the spinous processes? From amongst the several alternatives, one can answer a) with an artificial habitat, and b) with the use of a pack or harness. In this respect, the osteophytoses could be bone responses aimed at strengthening the flexible vertebral column of a pack animal. Ancillary evidence in the form of traction gear or harness parts is lacking, but a number of the bones in the faunal assemblage have been gnawed, chewed, and crushed, as if by a dog.

More skeletal material would be desirable in order to provide a firm identification; nonetheless, the available evidence strongly suggests that a domestic or tamed canid is represented. This conclusion lends some measure of support to the idea that domestic dogs are an integral part of cultural adaptation to the arctic, and as such will probably be shown to have had a widespread distribution in Paleoeskimo cultures.

ACKNOWLEDGEMENTS

Archaeological investigations at the Lagoon site on Banks Island were supported by the following agencies: the Arctic Institute of North America with the financial assistance of the Firestone Foundation; the Department of Indian and Northern Affairs, Northern Research Training Programme; Imperial Oil Ltd.; and the Polar Continental Shelf Project. Dr. Howard Savage, Department of Anthropology, University of Toronto, was kind enough to give his professional opinion on the osteological remains.

REFERENCES

- ARNOLD, CHARLES D. 1978. The Lagoon site (OjR1-3): Implications for Paleoeskimo interactions. Ph.D. dissertation, Department of Archaeology, University of Calgary.
- CLUTTON-BROCK, J. 1969. The origins of the dog. *In* D. Brothwell and E. Higgs (Eds). *Science in Archaeology*, Thames and Hudson, p. 302-309.
- LARSEN, H. and RAINEY, F. 1948. Ipiutak and the Arctic Whale Hunting culture. *American Museum of Natural History, Anthropological Papers*, 42.
- MAXWELL, M.S. 1976. Pre-Dorset and Dorset artifacts: The view from Lake Harbour. *In* M.S. Maxwell (Ed.) *Eastern Arctic prehistory: Paleoeskimo problems*, Society for American Archaeology, *Memoir*, 31:58-78.
- MELDGAARD, J. 1962. On the formative period of Dorset culture. *In* J. Campbell (Ed.) *Prehistoric cultural relations between the Arctic and Temperate Zones of North America*. Arctic Institute of North America, *Technical Paper*, 11:92-95.
- MURIE, O.J. 1948. Appendix 4: Dog skulls from Ipiutak. *In* Ipiutak and the Arctic Whale Hunting culture, by H. Larsen and F. Rainey. *American Museum of Natural History, Anthropological Papers*, 42:255-59.
- RAINEY, F. and RALPH, E. 1959. Radiocarbon dating in the arctic. *American Antiquity*, 24(4):365-74.