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Abstract

A large database of domestic mammal bone measurements from sites across Greenland, Iceland, the Faroe Islands, and the Northern and Western Isles of Scotland is presented. The reasons for variations in bone growth of domestic ungulates are examined in detail; nutrition is identified as a key factor in the determination of adult bone size and shape. Possible sources of variation in bone size in both time and space in the North Atlantic region are identified. Four hypotheses are proposed; firstly that bone dimensions, particularly breadth, will decrease with increasing latitude in the study region; secondly that higher status sites will raise larger livestock than lower status sites within the same time period and region; thirdly the size of domestic mammals in the Northern and Western Isles of Scotland will increase in the Later Iron Age, possibly in relation to increased fodder supply; finally at times of environmental degradation (climatic and/or landscape) domestic mammal size will decrease. The latitude hypothesis could only be partly upheld; there is no evidence for increased size with site status; a small increase in size is

noted at some Scottish Iron Age sites and varying results are found for the environmental degradation hypothesis. The results are discussed with particular reference to how changes in the skeletal proportions of domestic mammals affect their human carers and beneficiaries. The potential of further expanding the dataset and integrating biometrical data with other forms of evidence to create a powerful tool for the examination of economic and environmental changes at archaeological sites is discussed.