

already mentioned, there is little indication of physiological adaptation to the climate, and man, in contrast to other mammals, owes his ability to survive in the far north to cultural adaptation in the matter of dress, shelter and the use of fire.

Though the provision of adequate insulation provided by the winter plumage or pelage, supplemented by elevations of metabolic rate above the resting level during exposure to sub-critical temperatures furnish the key to the problem of survival of warm-blooded animals in cold environments, there is much more to the story. This is shown by much interesting material reviewed in these chapters. For example, the extremities of animals are generally less well insulated than the trunk and show lower skin temperatures than the latter in the cold. There are adaptations which permit nerve conduction in cold extremities and others which furnish such areas with a minimal blood supply, sufficient to prevent freezing and yet such as to minimise loss of heat by the bloodstream.

The author has worked in Alaska for a considerable period and it is understandable that the bulk of his data is drawn from observations made in that State, but the reader may be forgiven the occasional feeling that some pertinent material from elsewhere may exist which might have thrown further light on certain topics.

E. Otto Höhn.

DOCTOR KANE OF THE ARCTIC SEAS.
BY GEORGE W. CORNER. *Philadelphia: Temple University Press, 1972. 6 $\frac{7}{8}$ x 9 $\frac{3}{4}$ inches, 306 pages, illustrations and maps. \$10.00.*

This book by a very distinguished medical man, a Fellow of the Royal Society, who happily had access to Kane family papers, gives a new insight to the brief career of a heroic American figure. For Kane, the initiator of United States arctic exploration in the direction of the Pole, became a national hero, as the fantastic demonstrations at his funeral proved, comparable to those at the obsequies of Lincoln and Robert Kennedy. For in 1857 the revolutionary leaders were long dead, and the civil war was yet to come.

Dr. Corner in the first quarter of the book describes the explorer's early life: how, stricken by rheumatic fever with associated cardiac damage, he switched from engineering to medicine, became a naval surgeon (though invariably seasick) and travelled to Macao with the U.S. government's first and not very successful mission to China. And how he returned from the Far East visiting Egypt and

Europe, then to fight and be dramatically wounded in his country's war with Mexico.

Then in 1850 Lady Franklin appealed to President Taylor asking for assistance from the United States in the search for her husband's missing expedition. The President and his Secretary of State approved, but Congress, sparked by Senator Jefferson Davis (who was later to crave certain help from Britain!) hesitated, and it was only through the financial generosity of Henry Grinnell that the U.S. Naval Expedition under Lieutenant de Haven got under way. Kane was appointed surgeon, and it is fascinating to read Corner's account of his journey from Mobile Bay, Alabama, on receipt of a telegram (a newly established device) to New York by varied stage-coach rail and steamboat in seven days. De Haven's ships were present when the first traces of Franklin's 1845/46 wintering were found at Beechey Island, but then suffered a winter's imprisonment and drift in the ice down Baffin Bay.

But this voyage, of which he was the chronicler, was enough to inspire Kane, dreaming of "an open Polar Sea", to launch his own venture, and the major part of the book describes the expedition which he commanded in the brig *Advance* from 1853 to 1855: the two winters in northwest Greenland, the push furthest north into Kane Basin, the secession of much of his crew, and the final retreat to Upernavik.

Corner also tells the curious story of Kane's romantic attachment to the medium Maggie Fox, an attachment which caused him much emotional anguish during the preparation of his expedition.

An expedition leader needs vision, skill, strength, and tact. Kane certainly had the vision and developed skills, but his strength was slight and his tact negligible. A Philadelphia aristocrat, raised in a tradition of justice and decent behaviour, he found himself commanding a very mixed group including some unruly scum from the New York waterfront, and his "democratic" attempts to cope brought little but more trouble on his head. But despite all the physical and human tribulations of 1854, when it came to the 80-day retreat by sled and small boat, this was carried out with great efficiency and lack of quarrelling. And his own physical efforts were astonishing. If only this chronic invalid could have stayed in the north...

On his return to the States in 1855 he plunged into the writing of his expedition account, which became a huge best seller. Poor Kane — like many another explorer he found the reporting more exhausting than the execution, the heat of Philadelphia's summer as he wrote

destroyed the health he had gained in the Arctic.

He was too prostrated to accede to Lady Franklin's plea to command a new search venture, but he did travel to England to consult with her in October 1856. He was already a doomed man, and never reached Switzerland where his enfeebled body might have reacted to mountain air. Instead he sailed back across the Atlantic to Cuba, and there a series of strokes finished him off at 37 years of age.

Kane's writing, as Corner points out, inspired Jules Verne in his Polar scientific fiction, the young Peary who was to follow his poleward route, and indeed the author of this biography who says, "memories of the icy scenes in *Arctic Explorations*" lingered in his mind until in his young manhood he responded to a call, not indeed to the farthest north, but to hospital work in Labrador.

P. D. Baird

THE SNIPES: A STUDY OF THE GENUS *CAPELLA*. BY LESLIE M. TUCK. *Canadian Wildlife Service, Monograph Series Number 5*, 1972. 6¼ x 9¼ inches, 429 pages, illustrated, tables. \$7.25.

This book is devoted primarily to a comprehensive account of the common snipe of North America, *Capella gallinago delicata*, although it treats in a comparative way other subspecies of this bird and other snipe-like species in other parts of the world. The author divides the species into three groups which he calls the "semi-snipers", the "aberrant snipers" and the "true snipers".

Dr. Tuck has had an extraordinary amount of first-hand experience studying one of the true snipers, the common snipe, in the field, particularly on its breeding grounds in his home Province of Newfoundland, Canada. He has also followed these birds to their winter quarters on the Gulf Coast of the United States and in various places in Latin America. He has reviewed extensively the literature on the snipes of the world and incorporates comparative information on all species in the various subjects discussed in 15 chapters. These chapters are grouped in three main parts of the book entitled: 1) "The Genus", 2) "The Species", and 3) "Populations and Man".

Tuck goes into each chapter subject in detail, not only with respect to snipe, but also in regard to background: he gives elementary details of characteristics of birds in general, the characteristics and functions of bird plumage, and the zoogeographical features of the world.

There is considerable repetition of the same information in different chapters. The purpose

of this, obviously, is to provide clarifying background information for the subject of a particular chapter, but in some cases the amount of repetition seems excessive when a mere reference to a previous chapter might suffice.

Our interest is captured in the first chapter by the description of the common snipe's peculiar habits and adaptation to its environment. Apparently, it is an aberrant "shorebird" with an excessively long bill that nests primarily in northern bogs. These birds have special features in the skull and long flexible bills with sensitive tips which are adaptations for probing in soft soils and ingesting food without removing the bill from the soil.

Snipes are well known in the folklore of northern countries because of imaginative interpretations of the curious quavering sound they make while circling above their nesting areas, particularly at dusk. The sound, frequently described as "bleating" or "winnowing", has been thought to portend changes in the weather. Its resemblance to the bleating of a goat has resulted in snipes being associated with these animals in a number of countries. The sound is produced by the vibration of the widely spread, specially constructed outer tail feathers as the air rushes past them during "power dives" by the circling snipe. The main purpose of this display is thought to be related to breeding activities, particularly territory delineation. There are considerable variations in the winnowing sounds produced by the various species of snipes correlated with variations in the structure of their tail feathers. The author discusses the taxonomy of the snipe group which has been based chiefly on morphology, and particularly of tail feather structure, and suggests some modification of views of previous investigators based on behaviour.

All of the true snipes, except the Himalayan *Capella memoricola*, occur in the Palaearctic region, so it is there that the primary radiation of this group must have taken place. The Nearctic region has only one species — the common snipe which is also widespread in the Palaearctic. The Ethiopian and Oriental regions both have endemic snipes as well as migrants from other regions. The Neotropical region has several mountain-inhabiting species of aberrant snipes.

The principal breeding habitat of the common snipe is the extensive areas of wet organic soil dominated by sedges and bog shrubs in the Boreal Zone, particularly in the Hudson Bay lowlands of Canada. Tuck does not mention the somewhat different nesting habitat of this species in the Western United States where a few snipe nest in wet meadows.

Aerial winnowing or bleating displays are usually an indication of defended male ter-