DISCUSSION

THE QUESTION OF A SEASONAL STERILITY AMONG THE ESKIMOS

RECENTLY several references to a winter sterility among the Eskimos have appeared in the literature. This assumed fact has been used by some writers as a confirmation of their findings that the length of the day is influential in determining the breeding season of certain experimental animals. Apparently the support for this view-point rests, to a considerable degree at least, on the report made by Dr. Frederick A. Cook[1] in addressing the New York Obstetrical Society. His intimations that there is a sterility among the northern Greenland Eskimos during the winter months have not been satisfactorily substantiated. Since Dr. Cook has been quoted rather extensively it seems advisable to call attention to certain contradictory evidence based on more carefully collected data and made by observers of wider scientific experience with that Arctic race.

In support for his belief that there is a seasonal sterility among the Eskimos, Dr. Cook, ethnologist to the first Peary North Greenland Expedition, stated, "During the Arctic night the menstrual function is usually suppressed, not more than one woman in ten menstruating." He continued, "During the whole of this long Arctic night the secretions are diminished and the passions suppressed, resulting in great muscular debility. Our own party suffered in the same way." Further support for the existence of a seasonal sexual periodicity lies in his observation that, "The passions of these people are periodical, and their courtship is usually carried on after the return of the sun. . . . Naturally enough, then, the children are usually born at the beginning of the Arctic night, or about nine months from this time." In regard to the age of puberty Dr. Cook stated, "Although these girls attain their size early, they do not menstruate until the age of nineteen or twenty years."

The frequently quoted citation of Ploss[2] to the observation of MacDiarmid that the Eskimos do not menstruate until about the age of twenty-three and then only in the summer months would seem to lend some support to Cook's statements. However, it seems to be generally believed that neither the Eskimo's reckoning of his own age nor the white man's estimate of his age is reliable. Only the ages of those Eskimos whose births were recorded by some responsible agency, missionary or governmental, should be used where scientific accuracy is intended. Certainly no such data on the Polar Eskimos were available to MacDiarmid a century ago.

The above report of Dr. Cook was given considerable publicity a short time ago by Llewellyn,[3] who apparently accepts Cook's view-point without checking his evidence or his qualifications and speaks of the annual recurrence of a "menopause," likening it to a " 'species' of 'hibernation' " localized to the hypophysio-gonadal system. He believes this assumed phenomenon to be due to the lack of sunlight.

On the other hand, there is ample evidence to oppose the statement that the Eskimos generally are sterile in the winter. In his diary for October 17, 1908, Stefansson[4] mentions an Eskimo birth in Arctic North America, indicating a conception in January.

Peter Freuchen, not a casual visitor, but for eighteen years the Danish governor of the Thule colony in northern Greenland—the same region visited by MacDiarmid and Cook—made pertinent observations in a personal conversation with the author. He married a full-blooded Eskimo and raised a family. According to him, there is certainly no apparent decrease in the frequency of menstruation or sexual desire during the winter months. He believes that the chief cause of sexual debility, when present, is probably famine. True, his observations were made many years after those of Cook and still longer after the visit of MacDiarmid with Ross. The population was not quite so purely Eskimo, but there were many of the pure stock left and it is hard to believe that their reproductive biology would have changed in any important respect within a few generations.

Dr. A. Bertelsen,[5] chief of the medical service of Greenland, presents an analysis of the births between 1901 and 1930 in West Greenland. This study of 16,101 births, both legitimate and illegitimate, shows that more conceptions occurred in December and April than in any other months. Conceptions by months, figures adjusted to a basic average of 100 per month, are as follows: January 101, February 101, March 103, April 113, May 106, June 96, July 89, August 85, September 96, October 97, November 100, December 113. The high rate in April lends support to Ellsworth Huntington's "basic animal rhythm," though he does not quote Bertelsen in his recent book.[6] Bertelsen agrees that the high rate for April is due to the return of spring, and feels that the high figure for December is due to the social customs of visiting widely and otherwise celebrating the Christmas season. He finds no influence on conception dates exerted by customary wedding seasons. The low rates of conception in summer are correlated with the high death rates at that time, both of which are probably due to the poorer

[1] F. A. Cook, *Trans. N. Y. Obstet. Soc.* 1893–1894.
[2] E. M. Weyer, "The Eskimos," p. 48, 1932.
[3] Ll. J. Llewellyn, *Nature*, 129: 868, 1932.
[4] Vilhjalmur Stefansson, Am. Mus. Nat. Hist. Anthropological Papers, 14: 198, 1914.
[5] A. Bertelsen, *Meddelelser om Grønland*, Bd. 117: Nr. 1, 1935.
[6] Ellsworth Huntington, "Season of Birth," 1938.

health existent then. In a series of 127 women in North Greenland the average age of first menstruation was fifteen years and 5 months. In 42 full-blooded Eskimo women the average was fifteen years and 6 months.

Apparently Bertelsen had revised his belief in regard to the lack of a seasonal birth distribution, for Birket-Smith[7] quoted him as stating that north of Disko Bay in the Arctic regions proper the number of births increased greatly in the first three months of the year. The same phenomenon also occurred in the two most southerly districts. The statistics given later (Bertelsen, 1935) hardly support these statements.

Dr. Henry Greist, superintendent of the Point Barrow, Alaska, Presbyterian Hospital from 1921 to 1936, furnishes other pertinent information by private correspondence. He writes: "I cannot agree with those who regard the long winter night of the Arctic as inducing physiologically a tendency toward continence. Sexual desire is believed to be as actively manifest during the Arctic night, so called, as during the summer. If any difference at all there is *more* sexual congress during the winter than the summer. . . . Illicit intercourse is far greater in amount during the winter months than within the months of daylight." In regard to the onset of puberty, he agrees with Stefansson[8] that it is quite early in the Eskimo but differs with him as to the cause. Stefansson believes it to be due to the high temperatures maintained in the igloos, but Dr. Greist, in his professional calls, found a very large percentage of the population with no heat much of the time due to lack of fuel. He believes that the lack of privacy on the part of the parents, the crowded homes and the intimate relations on the part of the children lead to early sexual stimulation and that to early puberty. However, the cases of motherhood before fifteen years of age are very rare.

It seems inappropriate to attempt in this brief note any evaluation of the often contradictory evidence in regard to the age of puberty among the Eskimos, except to state the belief that some of the earlier estimates were likely too high. Furthermore, it seems unwise to consider the possibility of the existence of definitely limited seasons of reproduction in other human groups, in regard to which it seems very probable that much of the published material available is based on inadequate data. This paper is merely an attempt to show that there is good reason to believe that Dr. Cook's original observations do not apply to any considerable group of Eskimos and should not be so construed. Regardless of what effect the length of day may have on the reproductive functions of certain experimental animals the Eskimos do not experience a sexual sterility during the long winter night.

[7] Birket-Smith, "Greenland," Vol. II, p. 24, 1928.

[8] Vilhjalmur Stefansson, *Jour. Am. Med. Asn.*, 75: 669–670, 1920.

WAYNE L. WHITAKER

DEPARTMENT OF ZOOLOGY,
UNIVERSITY OF MICHIGAN

INSECT ZOO AS A WILDLIFE CONSERVATION PROJECT

IN September, 1934, there was opened at Goddard Memorial Park, for one experimental month, the Rhode Island Insect Zoo. Its founder and director was Brayton Eddy, national lecturer on entomological subjects. Believing that man will not kill what he appreciates and does not fear, Mr. Eddy undertook to build up an appreciation of insect life by presenting some 150 species alive within environmental display cases which he himself designed. Accompanying the exhibits were descriptive cards giving highlights upon the different species exhibited.

The policy of the insect zoo was to display native insects and animals which feed upon insects, to the end that the general public might be brought to a fuller understanding of the forces operating to promote biological balance. The nature of each animal was defined—whether it was a parasite, predator, scavenger or plant-eater—and the direct effect it might have upon the human race was indicated. In that one experimental month the number of visitors exceeded 30,000 people.

During the summers of 1935 and 1936 the Rhode Island Insect Zoo was considerably enlarged until this summer—when it has been moved to Nooseneck Hill, Rhode Island, under the name Rhode Island Insect Zoo and Nature Center. As a nature center, the exhibit has been augmented by introducing insect-eaters from other states, seasonal wild flowers and local minerals. It has been used to promote pride and appreciation of wildlife and minerals in the hearts of both local visitors and tourists.

The need of something more than government bulletins, photographs, drawings and mounted specimens in getting scientific truths before the general public has long been felt. Insect bulletins tend to pile up on the shelf, gathering dust, while crops are consumed by the very insects they were written to control. How to get the information out of bulletins and offered to the general public in such form that it could be easily grasped was the task to which Mr. Eddy set himself.

He believed that the problem was one of education, but education of a particular kind—education by demonstration. First get the public, then tell your story. The value of live animals in drawing a crowd has long been recognized. Instead of using the crowd as possible purchasers of commercial products, use it as consumers of information on wildlife conservation and insect control problems. Demonstrate the value of