ARCTIC INSTITUTE RESEARCH REPORTS

Archaeology

Application of the tree-ring chronology in Alaska to archaeology

In 1948 Professor J. L. Giddings partially excavated two midden sites, Nukleet and Iyatayet, on Cape Denbigh, Norton Sound. The outstanding archaeological result of this field work was the discovery of flint-bearing clay layers underlying the midden deposits. The significance of these layers has been discussed in a preliminary report, "Early flint horizons on the north Bering Sea coast", in the *Journal of the Washington Academy of Sciences* (39 (1949) pp. 85-90).

The organic remains in the midden deposits were particularly well preserved at Nukleet. Although parallels from other sites can be found for most of the organic objects, some of them are considerably different and some are as yet unclassified, presumably because they are local types or because they are made of materials not often preserved in Eskimo sites.

Professor Giddings is continuing these excavations and his tree-ring collections this summer. Some 200 samples of building timbers and artifacts from Nukleet have been examined for their ring-records, but so far the only conclusive dates relate to the latest occupation of Nukleet, in the early 1600's. Collections of tree-ring samples made by Wendell Oswalt and Walter Arron at the Kukulik site on St. Lawrence Island last summer have been examined in an attempt to find a consecutive series.

Biology

Study of the microfauna of Arctic shore areas

After comparative studies of orabatids and collemboles at the Smithsonian Institute in Washington, with Dr. H. B. Mills in Urbana, Illinois, and with Dr. Bonet in Mexico City, Dr. Marie Hammer has returned to Denmark. As a result of these studies she has been able to identify all her material collected without Berlese funnels in the Mackenzie Delta, and has found some new species and several previously known from Alaska only. She plans to continue work on her collections from Aklavik, Yellowknife, Coppermine and Churchill in Denmark.

A study of the habits and economics of fur animals

At the end of the winter of 1948-9 Professor F. H. Quick concluded 16 months' field work studying the economy of the raw fur trade and the ecology of fur animals and their related species. An account of his 1947-8 season's work was published in *Arctic*, Vol. I, No. 2, p. 138. The winter of 1948-9 in the Fort Nelson district of British Columbia was more severe than that of 1947-8, and although trail conditions were generally better, the trappers did not travel as much partly because of cold weather and partly because of the low value of fur. As a result of this Professor Quick had to make several trips alone by dog-team surveying the trap-lines. A total of about 175 fur animal specimens were collected and a further 125 examined. Approximately 1000 specimens have been collected or examined in the course of Professor Quick's work.

Botanical investigations of parts of the Brooks Range and the Arctic Slope of Alaska

During the summers of 1946-8 Mr. Lloyd A. Spetzman accompanied U.S. Geological Survey field parties working in the Brooks Range and northward to the Arctic Ocean. Some 2000 vascular plants, representing about 300 species, were collected from along the Sagavanirtok, Saviovik, Canning and Sadlerochit Rivers; Lake Schrader and Lake Peters; Barter Island, Umiat and Point Barrow.

The identification of these plants is proving difficult for lack of comparative material of many specimens. However a number have already been identified and Dr. Eric Hultén, the eminent Swedish botanist, has offered to check identifications in exchange for specimens. A mounted set of comparative herbarium specimens is being made for the University of Minnesota.