

NOTES ON KOTZEBUE DATING

JAMES W. VANSTONE

During the summers of 1940, 1941 and 1947 J. L. Giddings, then of the University of Alaska, conducted archaeological and dendrochronological investigations along the Kobuk River and at the mouth of Hotham Inlet.¹ Apart from its value for the reconstruction of culture in an area where no previous work has been done, the archaeology of the Kobuk River sites is of particular interest because these are the first series of sites in the north to be accurately placed in time by an application of the dating methods of dendrochronology.

Giddings has divided the Kobuk River into lower, middle and upper sections, in which are located the five major sites. Ambler Island, located in the upper river section, has been dated at 1750 A.D.; Ekseavik, dated at 1400 A.D., and Ahteut, at 1250 A.D., are farther west in the middle river section. The two lower river sites on Kotzebue Sound are referred to as Old and Intermediate Kotzebue and are dated at 1400 A.D. and 1550 A.D. respectively.²

During the summer of 1951 the author carried on further excavations in the Old and Intermediate Kotzebue sites with the aid of a grant from the University of Pennsylvania. A total of eight houses were excavated and a quantity of well preserved wood was collected from most of the houses. The purpose of this paper is to show that this wood can be dated in terms of Giddings' Kobuk River chronology.³

Figure 1 shows the measured ring-widths of four logs from Kotzebue houses compared with Giddings' Kobuk-Kotzebue chronology. Two of the curves illustrated (KZ-1 and KZ-4) represent logs from the same house. The other two are from different houses. All measurements are in hundredths of a millimeter, but KZ-4 is presented in a scale four-fifths that of the other three because of a greater variation in the ring-widths.

Giddings has pointed out that sensitivity in his material is higher than the average over short periods of time and that these intervals of increased sensitivity occur about seventy years apart in the Kobuk chronology. Such periods center around the following signatures: 1912-1922, 1742-1751, 1534-1543, 1358-1365 and 1205-1219.⁴ It will be noticed that the curves illustrated show marked sensitivity between 1350 and 1370 with 1358, 1361 and 1365 being the narrowest rings in each curve. In addition, three of the author's Kotzebue curves show a less well defined area of sensitivity between the years 1265 and 1295.

¹J. L. Giddings, *Tree-Ring Bull.* 9:2-8, 1942 and 14:26-32, 1948; *American Antiquity*, 10:113-134, 1944; ms.

²*Op. cit.*, 1948 and ms.

³The author is grateful to Mr. Wendell Oswalt of the University of Alaska for advice during the preparation of this paper.

⁴*Op. cit.*, 1948, p. 32.

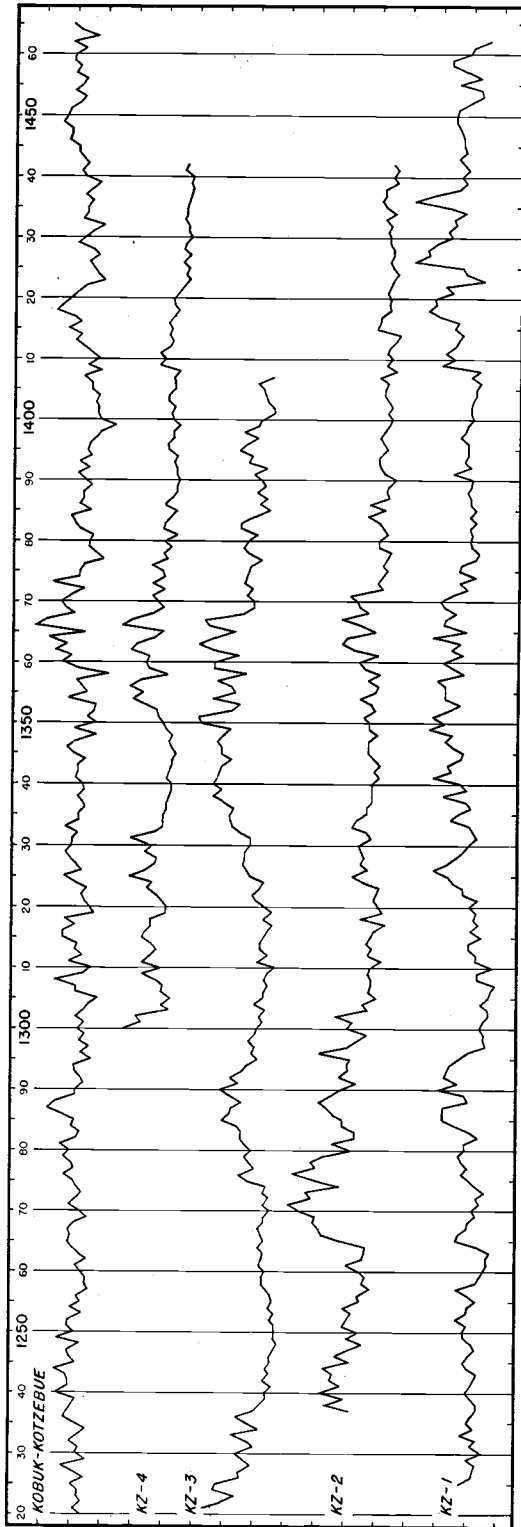


Fig. 1. Crossdating between four house logs from Kotzebue and the Kobuk-Kotzebue master chronology.

A total of twenty-nine dated logs were obtained from nine houses at the Kotzebue sites. Taken together, they represent a chronology extending from the year 1177 to 1571. The bark and near bark dates are listed below by the individual house:

H-1	H-3	H-4	H-5*	H-6	H-8	H-9	H-10	H-12*	H-13
1476	1315	1437	1351nb	1569	1409		1500	1396	1408
1508	1372	1438	1354	1571nb	1427nb		1515nb		1409
	1395	1486			1443				1370
	1442	1489			1453nb				1384
					1462				1423
									1430
									1435

*These houses were not excavated.

The curves which are illustrated represent the logs with the longest and most sensitive records. They show the clearest correlation with Giddings' Kobuk-Kotzebue chronology.

University of Alaska
College, Alaska