

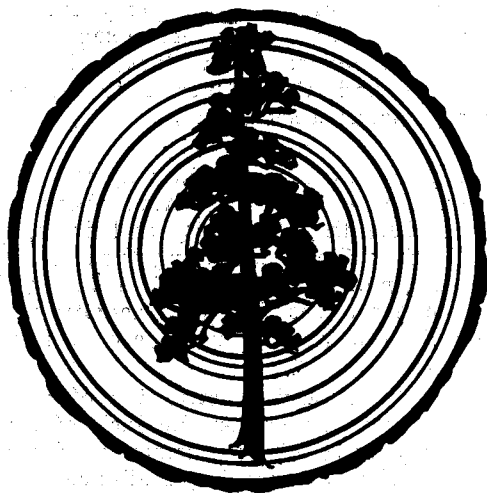
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THE TREE-RING BULLETIN

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A SUPERIOR SEQUOIA RING RECORD

A. E. DOUGLASS

Herein are photographs of a superior sequoia record*. It is planned to present this ring series back to its beginning about 289 B.C. in other issues of the Bulletin. This particular specimen was selected for display because it played an important part in building a properly dated sequoia chronology, for it was highly representative of the average sequoia ring variation in the cut-over areas near the old General Grant Park, at Enterprise Mill site south of Sequoia National Park, and other places. It therefore is an illustration of the better-than-average sequoia sensitivity.

For comparison purposes a portion of the ring record in Douglas fir specimen IF-20, from near Durango, is presented above the first photograph of the sequoia series. Here the sensitivity and dating qualities are at the maximum. One could describe it as having three or four "dating checks" in every decade; in fact, nearly every ring is a dating check. The value of this is evident when one realizes that such sensitivity gives a measure of its precipitation recording as well as its mere crossdating quality.

But in accurate crossdating and construction of chronologies the length of the sequoia record compensates for the lack of sensitivity. Even two dating checks a century have given assurance of accurate dating. And many sequoias of little if any climatic excellence can be dated for 2,000 years.

Climatic excellence is dependent on general factors like latitude, type of climate, forest borders, etc., and on local factors like depth and slope and composition of soil, nearness of other trees, and so forth.

The small photo herewith shows the stump from which this record came. The picture was made in 1918, three years after the tree was cut. The denuded land is conspicuous, though now it is grown over with brush hard to make one's way through. The view is across the small local valley with D-2, identified by the lower arrow, on the left on a rocky inner ridge. D-4, identified by the upper arrow, is beyond an occasional trickle of water that comes from melting snow, and D-3, on the same level, appears through the middle branches of the large tree in the foreground. I remember that it was difficult to find a point from which all three could be seen. D-1 of that

*Made some twelve years ago by Mr. H. Faurest Davis and reproduced in microfilm on American Documentation Institute Document 1298, 1939. See, also, the discussion in Bulletin 11 (4) and the ring photographs of sequoia D-5 in Bulletin 12 (2).

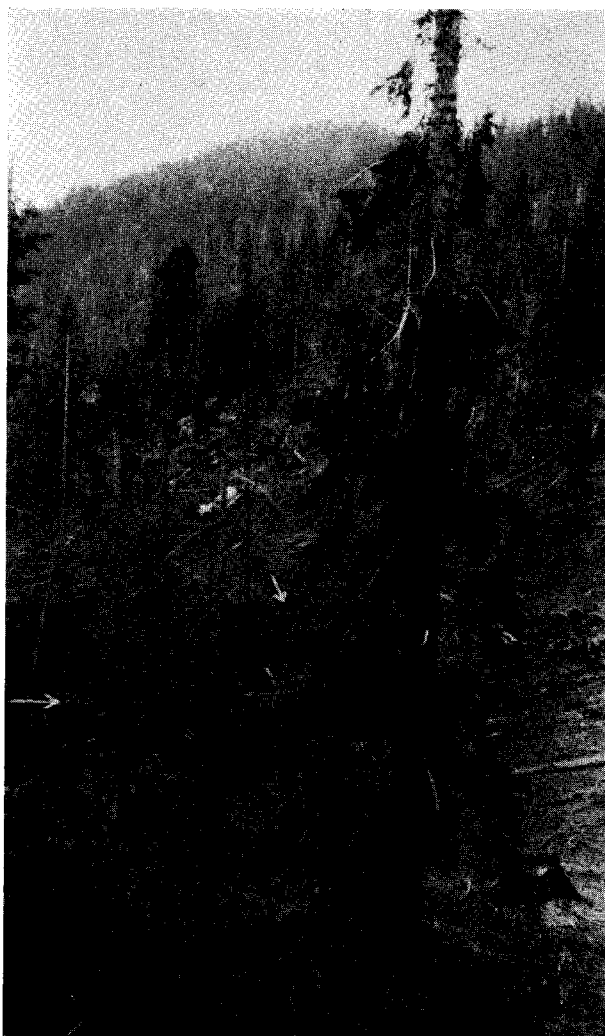


FIGURE 1. The site of sequoia D-2.

series was uphill behind the photographer, and D-5 is some distance outside on the left. The picture and these details are here presented so that one could find these stumps through the heavy growth now obscuring them. Each stump, of course, has the groove where the heavy V-cut was secured and has a number chipped into the stump top.

Finally, it is instructive to check over the dating on the photographs and assure oneself of the count. Each individual ring is marked on the margin. Four absences in the 2,200 years or so are marked by carets.

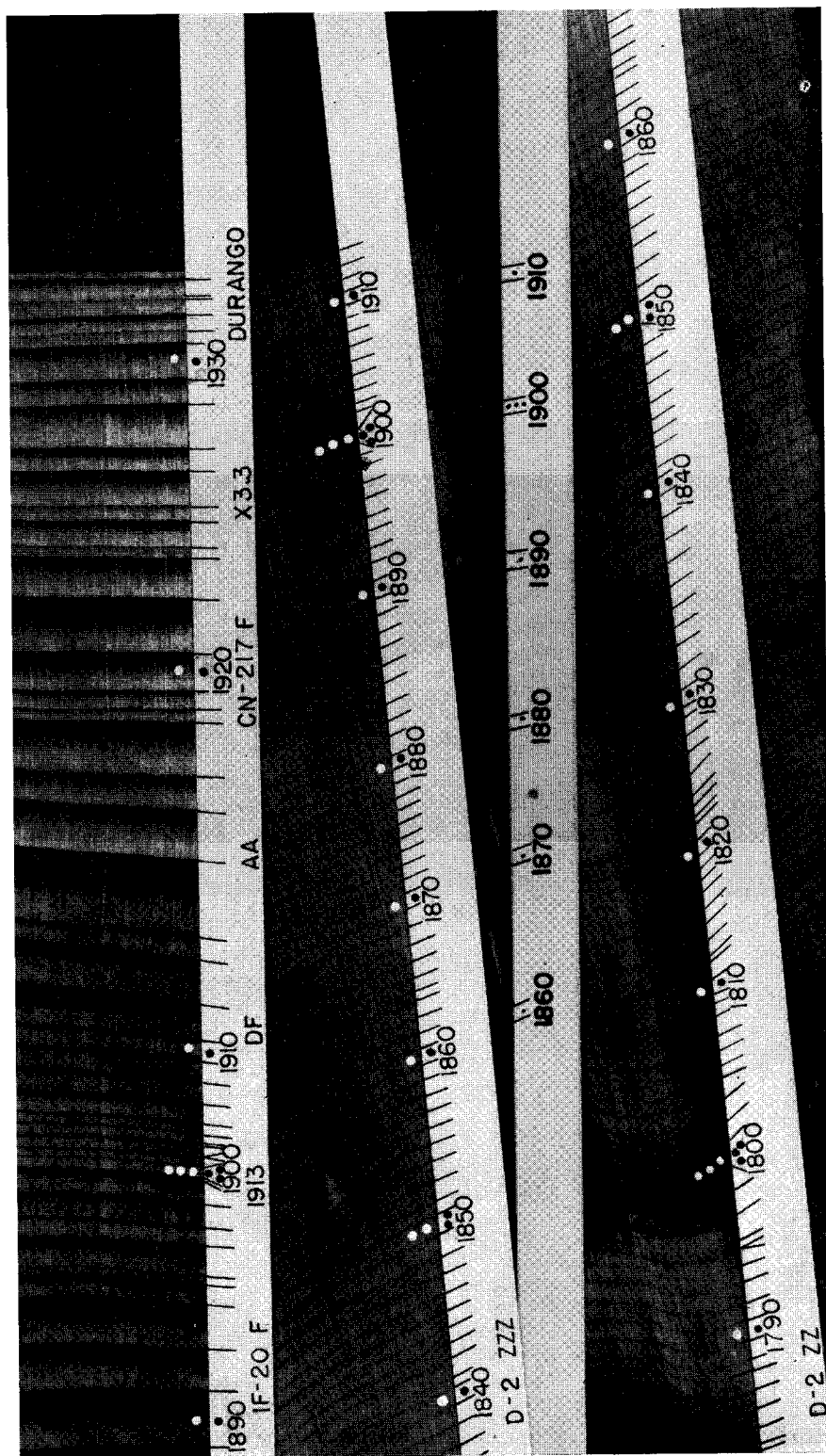
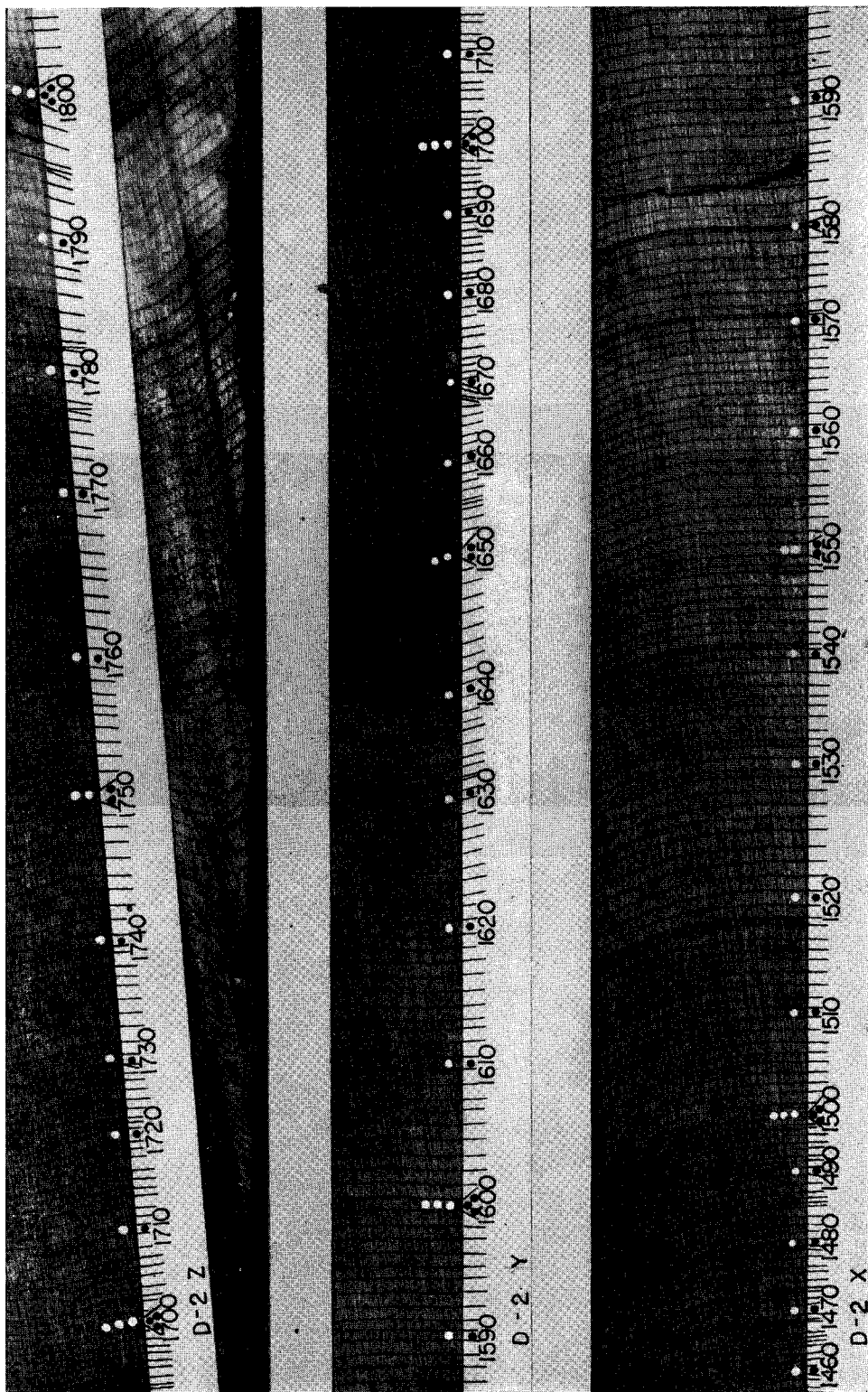
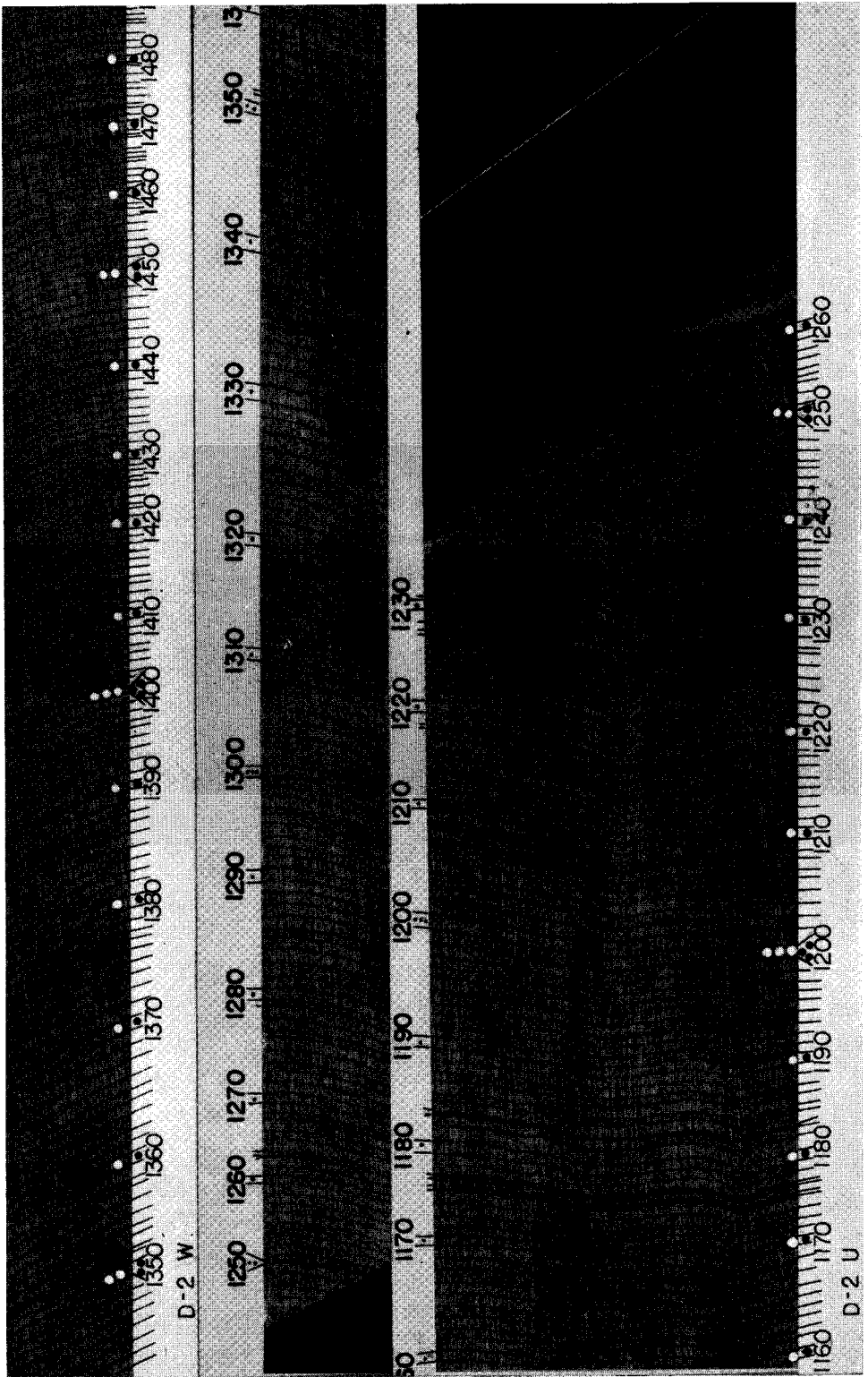


FIGURE 2. The ring record, A.D. 1890-1935, scale x3.3, in Douglas fir IF-20 from Durango, Colorado, is followed by eight overlapping photos covering the interval A.D. 1160-1914, scale x2.4, in sequoia D2.





DATED HOUSES AT SQUIRREL RIVER, ALASKA

WENDELL OSWALT

As a special project during the 1947 University of Alaska field trip,¹ the writer was encouraged to collect wood samples from a group of three fallen and partly buried Eskimo houses and to excavate one. The aim was two-fold: first, to apply archaeological dating techniques where living trees could be referred to for the dating; and, second, to determine the recent-prehistoric house type for the area.

The site is situated on a dead slough across from Archie's Landing, twelve miles up the Squirrel River, a tributary of the Kobuk.

The Wood. The distribution of scattered spruce, birch, and poplar on the site is presumably the same now as it was at the time these houses were built. Unlike the more recent excavated Upper Kobuk houses, constructed largely of birch and poplar², these were built entirely of spruce.

Twenty-six of forty-one samples collected from the three houses were crossdated; the remainder failed to date because of compression wood or too few rings. Since the "bark" and "near bark" dates³ indicate that the houses were contemporaneous, the material has been treated collectively.

The existing chronology for the Kobuk River area¹ makes it possible to date selected ring records back as far as the tenth century A. D. Curves 1-8 in Figure 1 represent eight measured and standardized specimens from the houses; M-1 is the mean curve for the group; M-2 is Giddings' mean curve⁴ for the corresponding time interval, the specimens comprising this portion of the curve having been living trees growing in the vicinity of the subject site.

¹See J. L. Giddings, Jr., *Tree-Ring Bull.* 14:26-32, 1948. The writer is indebted to Mr. Giddings for his help and advice in this report.

²*Ibid.*, p. 28.

³*Idem.*, *Univ. of Ariz. Bull.* 12: *Univ. of Alaska Publ.* 4:80, 1941.

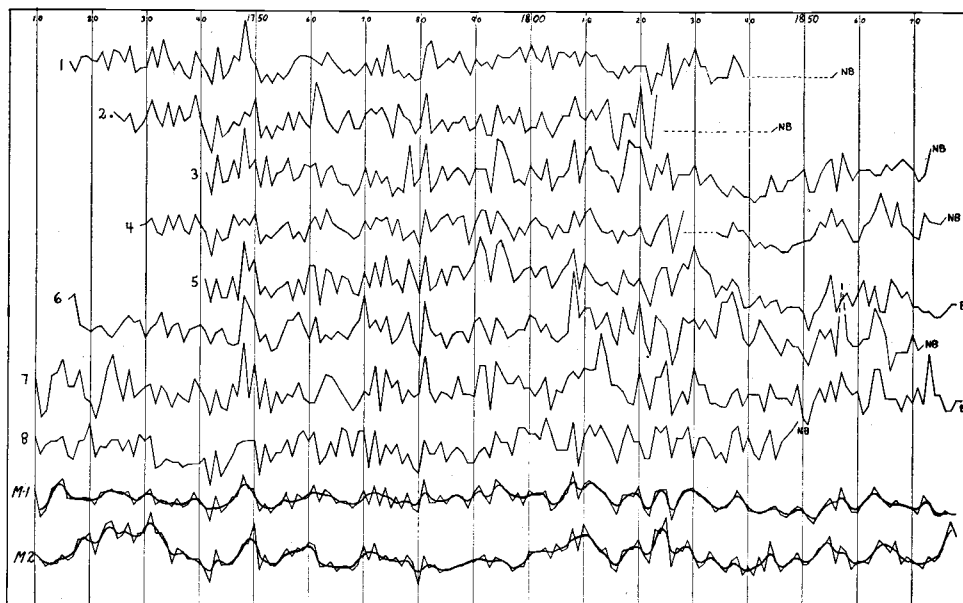


FIGURE 1. 1-8: curves of wall logs in excavated houses.

M-1: mean curve of these preceding curves.

M-2: Giddings' mean curve derived from living trees.

A list of the number of bark or near bark dates falling within the inclusive decades is as follows:

1770-80	1	1830-40	1
1800-10	1	1840-50	2
1810-20	1	1850-60	4
1820-30	1	1860-70	1
		1870-80	14

During the 1870-80 decade, three dates are those of the bark ring. Two of these are 1878 and one is 1879, indicating that building took place on or shortly after the last date.

The 1783 "faint latewood" ring noted by Giddings in the majority of timberline specimens⁵ appears in nineteen of twenty-five possible pieces.

The Houses. Surface depressions of the three houses indicated that they were rectangular and of similar proportions. The excavated pit measured 14x12½' with a straight 2x8' tunnel and resembled the house illustrated by Giddings for the Ambler Island site dating 1700-1760 A. D.⁶

The excavated Squirrel River house and those from Ambler Island were similar in numerous features. Both had roughly rectangular floor plans, oval fireplaces toward the front center of the house, posts at each of the four corners to support roof crossbeams, and relatively short tunnels, with the tunnel floor at the same level as the house floor.

Although the four post center type was basically the same in the Ambler Island and Squirrel River houses, there was a marked difference in the spacing of the four uprights in respect to the outer walls. In the majority of the Ambler Island houses the posts were near the front and back walls, but in the Squirrel River house they were part of the respective walls.

During the course of the excavation only three artifacts were found: an antler spoon, an antler arrow-head, and a cutting board. This scarcity of materials in a thin floor level seems to indicate that the houses were occupied for only one or two seasons and then abandoned, a characteristic also observed by Giddings in the recent Upper Kobuk houses.

Summary. In this dating of a relatively small site which is so recent as to be referred to trees still growing nearby, it can be seen that the statistical results are essentially the same as in much older sites where a bridged chronology derived from dead timbers is necessary.

The second conclusion is that the recent Squirrel River house type is basically the same as the earlier upriver type as seen at Ambler Island. The Squirrel River house may be regarded as the most recent type in the area prior to the advent of the above-ground log cabin.

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⁴Ref. 1, figure 1.

⁵Ref. 3, page 72.

⁶Idem, *Tree Ring Bull.* 9:3, 1942 and *American Antiquity* 10:116, 1944.