

Spring 5-20-2011

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Dendrochronological Dating of the Johnson House, Perry County, Ohio

Sampled: May 20th 2011

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<http://treering.voices.wooster.edu/about-2/>

Objective:

To provide a calendar date for the felling of timber from the Johnson House structure using dendrochronology. Tree-ring crossdating shows that the beams for the Johnson House were cut in late 1816 to early 1817

Methods and Analyses:

Cores taken from beams in the Johnson Tavern were prepared and crossdated using standard dendrochronological techniques. Rings were measured to the nearest 0.001 mm (Fig. 1) and then crossdated against each other, developing a “floating” site chronology before matching ring-widths with the calendar dated northeastern Ohio regional oak series (Table 1, Figures 1 and 2).

All six oak series were successfully calendar dated but only three of the series, (JNH6, JNH10, and JNH11; Table 1) had what appears to be the true outer ring (cut dates of 1816-1817). These outer rings show that the timber was felled in late 1816 to early 1817. The cores dated together span 142 years from AD 1675 – 1817.

Archiving of Samples and Data:

All cores and data are archived at the Wooster Tree Ring Lab, housed in the Department of Geology, The College of Wooster.

Table 1: Table of the inner and outer calendar dates for the six Johnson House cores that were dated. The asterisk on the outer ring year denotes the presence of the bark year.

Core	Inner Year	Outer Year	Total Year
JNH1B	1725	1811	86
JNH3	1675	1815	140
JNH6	1701	*1816	115
JNH8	1742	1809	67
JNH10	1695	*1817	122
JNH11	1723	*1816	93

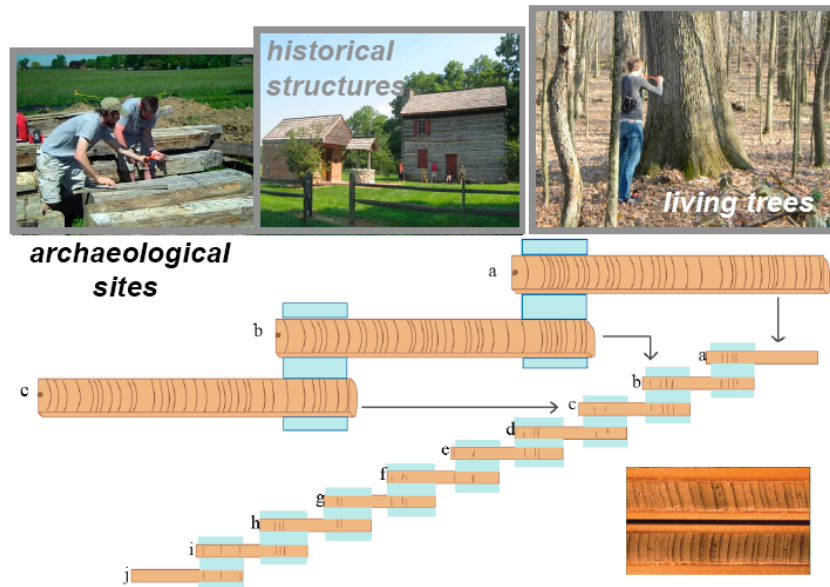


Figure 1. Diagram illustrating tree-ring crossdating. Patterns in ring widths from historic structures and wood associated with archeological sites are matched to living tree-ring chronologies and thus calendar dates can be assigned to each ring.

References:

Holmes, R. L. 1983. Computer-assisted quality control in tree-ring dating and measurement. *Tree Ring Bulletin*, **43** (1), 69-78.

Stokes M. A., and Smiley, T. L., 1968, *An introduction to tree-ring dating*: Tucson: University of Arizona Press.