

Raw Email Correspondence between Hal Butler and Dr. Adam Csank

Hello Hal,

I am attaching the report with the wood identification included. Having keyed out the wood it appears that the one stick (smaller lighter coloured) was indeed made out of Elm (as I think I told you when we met in Halifax). Most likely Red Elm.

The other stick (larger darker coloured) was made out of Maple (a hard Maple of some sort, probably Sugar Maple but hard to be certain based on the images I took).

Based on some preliminary research of mine these both appear to have been wood types that were commonly used in early hockey sticks from the 1800's but it is possible that a true hockey historian could make more out of this information.

I am still awaiting the results of the isotopic testing to see if I can figure out where the sticks came from and will get in touch once I have that. Let me know if you have any questions.

Hi Hal,

That is what I am hoping the isotopes can tell us.

With the hockey stick that is Elm. It is usual in that it is a Soft Elm from my reading most North American Elms used in Hockey stick making were Rock Elm (a Hard Elm). It is possible that it is made of Dutch Elm which would place it in Europe but Dutch Elm does look similar in some ways to Red Elm.

And even then important timber species like these were often planted on both sides of the Atlantic. The hockey stick seems to primarily have two rows of earlywood pores, however, which makes it more likely to be Red Elm (Dutch elm tends to have 3-4 rows) which would make it more likely that it came from Pennsylvania.

Does this help? Adam

From:

Adam Csank

Sent: Tuesday, November 29, 2016 7:46 PM

To: Butler, Harold D. (ASD-E)

Subject: Re: Re: report

Hi Hal,

I am attaching a figure that might help. You see the dates you received from the lab are calibrated using the curve that is represented by the blue line. With the red area representing the 14C measurement obtained by the laboratory and the grey area on the x-axis representing the calibrated dates. As you can see there are multiple bins (or possible age ranges) covered by the gray area. In the report from the lab you see have they have indicated the relative area under the probability distribution? This is telling you the area of that gray section on the calibrated age profile. The higher the area the higher the probability that your sample dates to that time period. This does not mean that it can only be in that time period, simply that that is the most likely date range. The median probably is simply the median of that gray curve.

This means the Stewart Jones stick (am I right in remembering that this is the one that I said was likely made of Sugar Maple?) most likely dates between 1809 and 1898 with the median probability being 1839 (I would be more inclined if saying this in an official report to go with the 1809-1898 number.

The other hockey stick (made of Elm) has a most likely age between 1728-1785. Again this does not mean that it could only have been made then just that that is the most likely time period. This is an interesting finding because this stick does not have the same style of manufacture as the Maple stick. The other catch is that this only dates the wood not necessarily the date of manufacture. **If wood from something else was recycled to make the hockey stick the wood could be much older than the hockey stick itself. I recently had this situation in trying to look at wood from an old building on Bermuda. The wood dated to 1780 but it turned out the building had been built in 1840. Turns out the piece of wood that I had dated to 1780 had originally been part of a ship that was broken down and reused in the building.**

I am sorry to say that even with the radiocarbon dates there is not much variability in the rings of the two sticks so I am not at all confident that any match I obtained from ring widths would not be pure chance. **Not sure if it helps but I should also tell you that I and other dendrochronologists I have spoken to are a little skeptical of the dendrochronological dating of the Moffat stick (the one in the Canadian Museum of History) and it had approximately 28 rings that were used to make the match. Let me know if this helps clarify if not maybe we can have a phone conversation sometime. Adam**

From:

Adam Csank Sent: Tuesday, November 29, 2016 6:39 PM

To: Butler, Harold D. (ASD-E)

Subject: Re:

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Adam