

2014

Have I Made My Point?

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Abstract:

The purpose of my research is to use Experimental Archaeology to explore how individuals relate to, and behave in, their environment. For this study, I chose to use materials and techniques that would have been available to pre-contact populations in what is now the Commonwealth of Virginia, to manufacture lithic tools, or projectile points and knives (PP/Ks).

Methodology:

I wanted to conduct my research as true to life as possible; using only materials I collected myself, were given, or were able to trade for. In Virginia, some of the most common lithic materials are quartz, quartzite, and shale (Frye: 1986); so I began with those.

Using a smooth quartz river rock as a hammerstone, I was able to quickly shape a few points from my shale. As shale is not a particularly sturdy material, I moved on. When struck, quartzite splits into sharp, often serrated, flakes. The quality of my quartzite was not really good enough to make nice points, however I was able to create an expedient tool from one of the flakes, which I used to cut through a deer antler to make a tool for pressure flaking.

I traded some of the nicer quartz material and antler I had for some yellow and red jasper nodules, as well as a small piece of chert; all of which can be found in Virginia. Using hard hammer and soft hammer techniques, I was able to make a few points that I was satisfied with.

After creating a satisfactory point, I began looking at hafting techniques. First, I needed pitch. There are many methods for creating pitch, but pine sap is a key ingredient. I would also need tallow, to make the pitch more workable, and some form of binding agent to make it stronger (Burch: 2004). In this case, I used rabbit fur and wood ash as my binding agent.

Once the decision to manufacture pitch was made, I realized I had to make some form of vessel to mix the pitch in. Luckily, I was able to collect the sap for the pitch and the materials for the vessel in one location. For the vessel, I used a silty, oversaturated mud, tempered with crushed oyster shells to add strength and prevent cracking. This type of pottery is believed to have appeared in the Tidewater region of Virginia in approximately 100 CE; and its manufacture continued well into the Colonial period (Herbert: 2008)

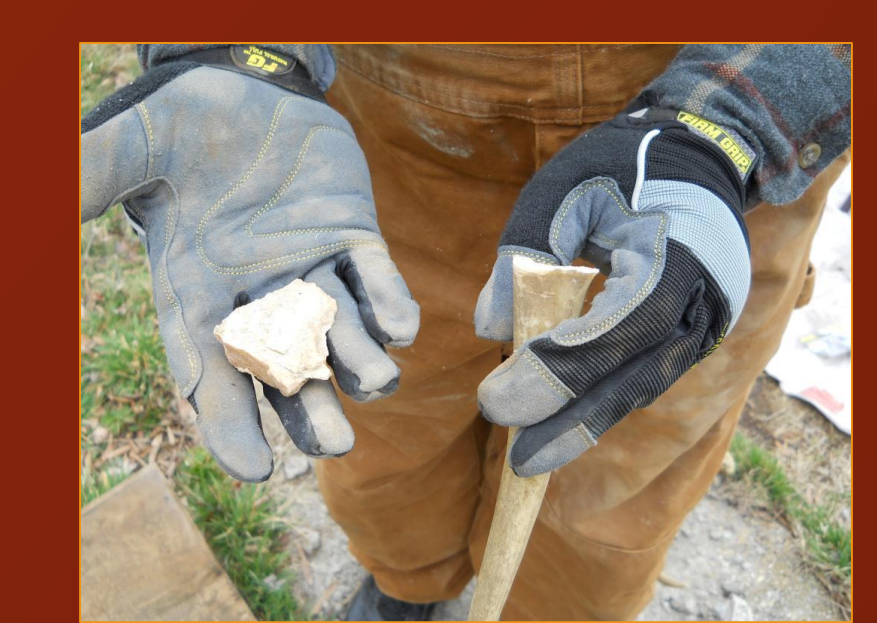
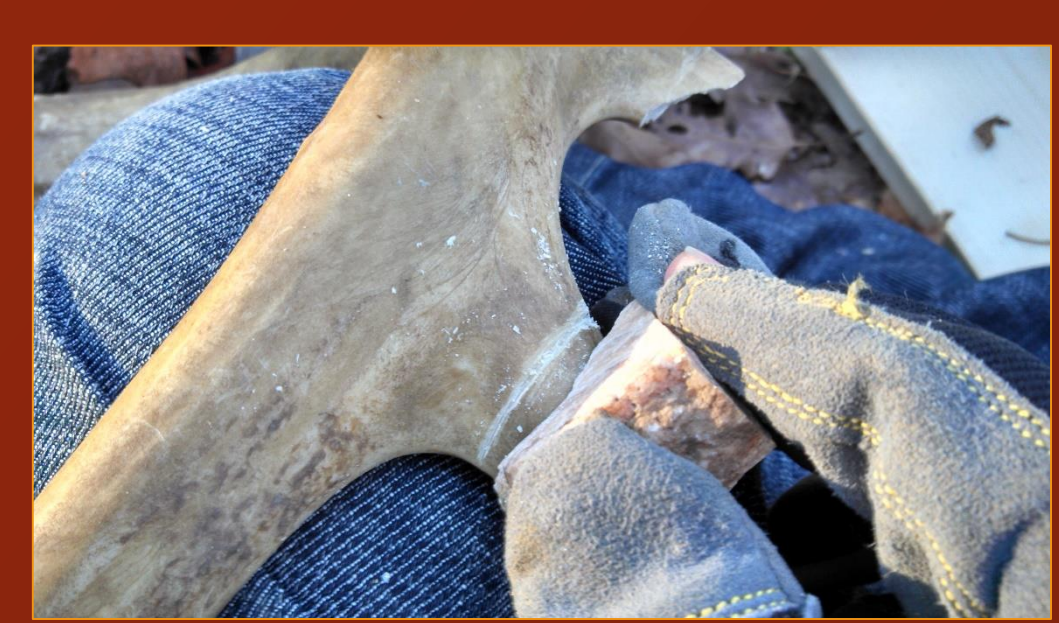
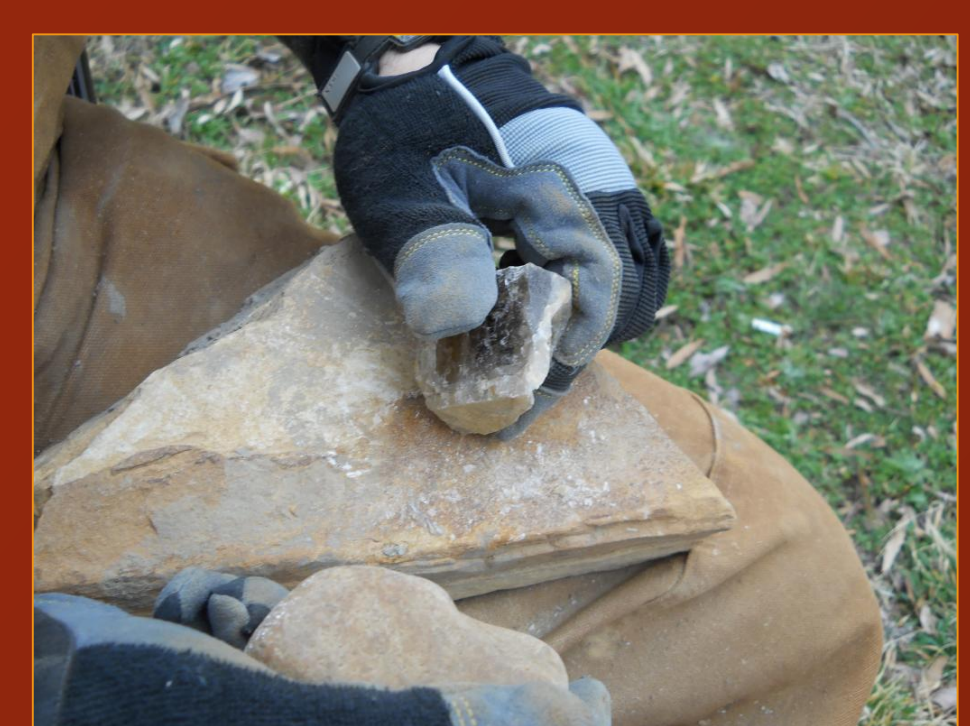
Gathering the sap proved somewhat difficult, so I chose to produce a tool to make it easier in the future. I used a strong, relatively sharp chert point, another piece of deer antler cut to length with quartzite, my newly produced pitch, and some animal sinew I traded several jasper points for.

Findings:

Gathering the materials was a relatively quick process: 2 hours for a half pound of pine sap, approximately 50 pounds of mud, and 2 pounds of oyster shells.
Processing the shells and mud prior to manufacturing the pots, approximately 24 hours.
Creating and firing the pots, approximately 8 hours
Processing the pitch, approximately 2 hours
The hardness and physical structure of each stone determined the processing time for each point (along with much trial and error!); but an average of approximately three hours for each point is not unreasonable.
Making my sap harvesting tool, approximately one hour.
I am confident that if I had not been doing this for the first time and had a better knowledge of where to get high quality resources, these times would be shortened drastically.

Conclusion:

Due to limitations of access and modern infrastructure, several resource gathering and processing sites (Sutton: 2009) were used, and my travel time was therefore greatly increased. These restrictions would not have presented as much of a challenge to populations during the Late Woodland Period. Also, the knowledge of manufacturing processes and material gathering sites would have been consigned over generations, making the production of these items a relatively straightforward process.



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Acknowledgements:
I wish to thank Ms. Ivy Bush for her moral support, assistance, and guidance. I also wish to thank Ms. Sarah Morr for her incredible patience, unwavering positive attitude in the face of adversity (me), research assistance, and photography. I would also like to extend my gratitude to Dr. Bernard K. Means for his advice and mentorship. Lastly, Michael MacNabb and Tom Hughes for 15+ years of friendship and giving me randomly found objects, rocks, and animal parts.