

Note: some links in this document may no longer work.

**Lab Protocol
for
Spring 2018 Imitation Jasper Lab Work**
February 16, 2018 M&K team

<https://edition640.makingandknowing.org/#folios/10r>

Jaspe contrefait	Counterfeit jasper
<p><code><ab></code>Ayes de la <code><m></code>corne<code></m></code> dequoy on fait les lanternes bien deliee & dessoubs<code><lb/></code> fais la figure de ton <code><m></code>jaspe<code></m></code> de <code><m></code>cornalines<code></m></code> & aultres <code><m></code>pierres<code></m></code><code><lb/></code> qui sera ouvrage plus propre que dessus le <code><m></code>verre<code></m></code> qui est trop luisant<code><lb/></code> Et la <code><m></code>corne<code></m></code> represente un lustre & polyment gras co<code><exp></code>mm<code></exp></code>e le <code><m></code>jaspe<code></m></code><code></ab></code></p> <p><code><ab></code>Tu scais co<code><exp></code>mm<code></exp></code>e avecq la raclure de ladicte <code><m></code>corne<code></m></code> les <code><m></code>roses<code></pa></code> se peuvent<code><lb/></code> imiter Les corne couleurs pour ce <code><m></code>jaspe<code></m></code> veulent avoyr fonds avecq<code><lb/></code> la <code><m></code>tourmentine claire<code></m></code> ou <code><m></code>vernis d<code><pa></code>aspic<code></pa></code> <code><add></code>Et les couleurs mattes en corps<code><lb/></code> ni sont pas si propres combien quelle soiect fort belles<code></add></code> <code><add></code>Il fault<code><lb/></code> <code><m></code>huiler<code></m></code> d<code><m></code>huile d<code><pa></code>aspic<code></pa></code> le revers non paint<code></add></code><code></ab></code></p> <p><code><ab></code><code><margin></code>top<code></margin></code> Le <code><m></code>verre<code></m></code> tanvre pour cest effect est fort beau<code></ab></code></p> <p><code><ab></code><code><margin></code>left-top<code></margin></code> Tu en peulx incruster<code><lb/></code> des licts & y peulx<code><lb/></code> sur les jointures<code><lb/></code> jecter de la <code><m></code>limaille<code><lb/></code> de talc ou despingle<code></m></code><code><lb/></code> sur le <code><m></code>ciment<code></m></code><code><lb/></code> frais desdictes jointures Il les<code><lb/></code> fault joindre<code><lb/></code> avecq de la <code><m></code>gomme<code><lb/></code> armoniac<code></m></code><code><lb/></code> destrempee en<code><lb/></code> <code><m></code>vinaigre<code></m></code> pour<code><lb/></code></p>	<p><code><ab></code>Take <code><m></code>horn<code></m></code> from which one makes lanterns, quite thin, & underneath make the figure of your <code><m></code>jasper<code></m></code>, <code><m></code>cornalines<code></m></code>, & other <code><m></code>stones<code></m></code>, which will be a work more appropriate than on <code><m></code>glass<code></m></code>, which is too shiny. And the <code><m></code>horn<code></m></code> presents a lustre & a fatty polish like <code><m></code>jasper<code></m></code>.<code></ab></code></p> <p><code><ab></code>You know, as with scrapings of the said <code><m></code>horn<code></m></code>, the <code><m></code>roses<code></pa></code> can be imitated. The horn colors for this <code><m></code>jasper<code></m></code> wants to have a base with <code><m></code>clear turpentine<code></m></code> or <code><m></code>spike lavender<code></pa></code> varnish<code></m></code>. <code><add></code>And colors matte in body are not so appropriate here, however beautiful they are.<code></add></code> <code><add></code>One needs to <code><m></code>oil<code></m></code> the unpainted reverse with <code><m></code>spike lavender<code></pa></code> oil<code></m></code>.<code></add></code><code></ab></code></p> <p><code><ab></code><code><margin></code>top<code></margin></code> Thin <code><m></code>glass<code></m></code>, for this effect, is very beautiful.<code></ab></code></p> <p><code><ab></code><code><margin></code>left-top<code></margin></code> You can encrust beds with it & on the joints you can throw the <code><m></code>filings of talc or of pins<code></m></code> on the fresh <code><m></code>cement<code></m></code> of the said joints. One needs to join them with <code><m></code>gum ammoniac<code></m></code> mixed in <code><m></code>vinegar<code></m></code>. To better counterfeit <code><m></code>marbled jasper<code></m></code>, apply <code><m></code>wool of thick hairs<code></m></code> dyed in diverse colors & intermingled. After you have laid down all the colors, scrape oblique lines on them, then lay down <code><m></code>gold & silver leaf<code></m></code>. If you lay down on the <code><m></code>horn<code></m></code> colors of <code><m></code>turpentine<code></m></code>, give it a base of <code><m></code>silver<code></m></code> or of <code><m></code>tin leaf<code></m></code>. You can also <code><tl></code>file<code></tl></code> <code><m></code>horn<code></m></code> & mix it with <code><m></code>strong glue<code></m></code>, & lay it down onto the joints of the piece of <code><m></code>horn<code></m></code>, then even it with a <code><tl></code>plane<code></tl></code>.<code></ab></code></p>

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mieux contrefaire<1b/>
<m>jaspe grumeleux</m><1b/>
aplique des <m>laines</m><1b/>
a gros poil</m> tainctes<1b/>
de diverses couleurs<1b/>
&amp; entresmeslees<1b/>
Apres que tu as<1b/>
couche toutes les<1b/>
couleurs esgratigne<1b/>
sur icelles des<1b/>
lignes obliques<1b/>
puys couche<1b/>
de <m>or &amp; argent</m><1b/>
en foaille</m><1b/>
Si tu couches<1b/>
sur la <m>corne</m><1b/>
des couleurs de <m>tourmentine</m><1b/>
donnes y un<1b/>
fonds d<m>argent</m><1b/>
ou de <m>foaille</m><1b/>
destaing</m> Tu peulx<1b/>
aussy <t1>limer</t1><1b/>
de la <m>corne</m> &amp; la<1b/>
mesler avecq <m>colle</m><1b/>
forte</m> &amp; la coucher<1b/>
sur les jointures<1b/>
de la piece de<1b/>
<m>corne</m> puys lunir<1b/>
avecq le <t1>rabot</t1></ab></div>

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Basic Protocol

MATERIALS

- Horn
- Wool yarn and unspun fleece of various colors
- Spike lavender oil varnish
- Turpentine varnish
- Spike lavender oil (for oiling back)
- Pigments
 - AP recommends translucent pigments
 - Verdigris, lakes, smalt, azurite, malachite
 - NOT earths, leads, carbon black, soots, chars
- Mineral spirits (for clean-up)
- Gold and silver leaf or transfer gold/silver
 - This may depend on how dry the varnish layers are

TOOLS

- Mullers

- Plates
- Brushes
- Glass droppers
- Planer
- Jeweller's saw
- Bench anvil pin clamp
- Sharp metal tool (dentist tools)

PROTOCOL

- Prepare horn
 - Plane horn into 2mm thick sheets
 - Plane the horn more thinly
 - Cut sheets into strips with jeweller's saw (NB: shape can be otherwise)
 - Sand horn to refine surface
- Grind "transparent" pigment into varnishes
- Paint pigment/varnish onto horn (and let dry?)
- Apply wool (optional)
- Scrape oblique lines into the varnish (optional)
- Apply metal leaf (optional)
- Oil the front with spike lavender oil

SP18 permutations to test

Horn thickness

- Regular thickness
- Fingernail thickness
- Horn scraping

Leaf and varnish

- Spike lavender oil varnish on gold (GOOD)
- Spike lavender oil varnish on silver (BAD)
- Turpentine varnish on silver (GOOD)
- Turpentine varnish on gold (BAD)

Layering of varnish

- Single layer of a colored varnish
- Multiple layers of same colored varnish
- Multiple layers of different colored varnishes

Application of wool ([SP18 textiles in the lab](#) explains what the yarn names mean)

- Applying thinner spun yarn (Wool #2 / #3 / A+W) to varnish
- Applying intact strands of thinner unworsted yarn (Wool #2 / #3 / A+W) to varnish
- Applying unspun wool to varnish (either fleece or teased out Wool #1)
- "Sealing" any varieties of unspun wool with additional layer of varnish

Other

- Trying to imitate a piece of actual jasper AT ALL COSTS!!!
- Gluing imitation jasper against a piece of wood to see effect

Background research and information

Prior work – Field Notes (these links should work!)

- “p010r_1 Jaspe contrefait” is the subject of two annotations:
 - FA15 ["Jasper Imitation on Horn," fol. 10r \(Estrades\)](#)
 - [FA15 Estrades field notes](#)
 - FA16 ["Imitating Raw Nature," fol. 10r \(Lores-Chavez & Kang\)](#)
 - [FA16 Lores-Chavez field notes](#)
 - [FA16 "Imitation Jasper" ILC Worklow and Safety Protocol](#)
- Each undertook reconstructions of the imitation jasper using horn, highlights are summarized as follows:
 - FA15 Estrades
 - Horn: used water buffalo honey horn, thinned by planing with assistant from Joe Godla (Head of Conservation, Frick Museum). Cut into ~1"x2" pieces, 2mm in thickness
 - Varnish: used both heated turpentine varnish and heated spike lavender varnish, based on recipes in the manuscript adapted by Emilie Foyer (FA15) annotation
 - Colorants: madder lake and verdigris
 - Rose: prepared a rose as suggested by AP with the planed shavings of the horn, varnish, and madder pigment
 - FA16 Lores-Chavez
 - Horn: used same horn as previous reconstruction, planed in the Columbia Maker Space with postdoc Donna and Lab Assistant Scott Sonnenberg
 - Varnish: used varnish that had been prepared by SP16 student Teresa Soley, based on 056r_a2 “varnish for distemper” - it is unheated and uses both turpentine and spike lavender oil
 - Colorants: madder lake and verdigris
 - Yarn: tried applying “wool of thick hairs dyed in diverse colors & intermingled”. Dyed LB collection undyed wool (Wool #1) with madder and weld, following Kirby’s Natural Colorants. Investigated whether the yarn should be stuck on or whether it is dragged across the varnish colors
 - Gold: applied to the back, which changed the optical effects significantly (for the better)

Stone description (Wikipedia and CAMEO)

- Jasper
 - <http://cameo.mfa.org/wiki/Jasper>
 - An opaque, dense cryptocrystalline [quartz](#) stone. Jasper is associated with iron ores and contains iron impurities which give it a yellow, red, brown and occasionally green or blue color.
 - <https://en.wikipedia.org/wiki/Jasper>

- an [aggregate](#) of microgranular [quartz](#) and/or [chalcedony](#) and other mineral phases,^{[1][2]} is an [opaque](#),^[3] impure variety of [silica](#), usually [red](#), [yellow](#), [brown](#) or [green](#) in color; and rarely [blue](#). The common red color is due to [iron\(III\) inclusions](#)
- Chalcedony
 - <http://cameo.mfa.org/wiki/Chalcedony>
 - A translucent, quartz stone with usually a waxy luster. Chalcedony has tiny microscopic crystals that are sometimes arranged in slender fibrous bands. [Agates](#) are a banded variety of chalcedony. A glassy red chalcedony is known as [carnelian](#) or [sard](#)
 - <https://en.wikipedia.org/wiki/Chalcedony>
 - a [cryptocrystalline](#) form of [silica](#), composed of very fine intergrowths of [quartz](#) and [moganite](#).^[2]
 - Chalcedony has a waxy luster [fatty luster?], and may be semi-transparent or translucent. It can assume a wide range of colors, but those most commonly seen are white to gray, grayish-blue or a shade of brown ranging from pale to nearly black.
- “Cornalines” (Carnelian (also spelled cornelian))
 - <http://cameo.mfa.org/wiki/Carnelian>
 - A pale orange-red to deep red translucent stone that is a variety of [chalcedony](#)
 - <https://en.wikipedia.org/wiki/Carnelian>
 - a brownish-red [mineral](#) commonly used as a semi-precious [gemstone](#). Similar to carnelian is sard, which is generally harder and darker (the difference is not rigidly defined, and the two names are often used interchangeably). Both carnelian and sard are varieties of the [silica](#) mineral [chalcedony](#) colored by impurities of [iron oxide](#). The color can vary greatly, ranging from pale orange to an intense almost-black coloration

Horn preparation

- Please see related document: [SP18 preparation of horn for imitation jasper below](#)

Varnishes

- Please see related document: [SP18 Varnishes for imitation jasper](#)
- For more information on varnish ingredients, see also [Turpentine+resins+balsams](#)
- For Feb 2018 work, two varnishes were prepared, one “turpentine” varnish and one “spike lavender oil” varnish
 - The varnishes followed the heated recipes chosen by FA15 Emilie Foyer (and used by Estrades) from Fr. 640 as representative samples, modified slightly.

Turpentine varnish (p003r_a2 “varnish for panels”)	Spike lavender varnish (p004r_1 “varnish of spike lavender oil”)
2:1 ratio of venice turpentine to oil of turpentine	5:16 ratio sandarac gum to spike lavender oil

Materials

Horn	https://www.ebay.com/itm/263420226034 Honey Horn Blank Slab Scales Straight Razor Restore - 6", Sold by ajkenne4xm3
Spike lavender oil	Kremer 73800
Spike lavender varnish	<ul style="list-style-type: none"> - spike lavender oil (Kremer 73800) - sandarac gum (TALAS #TCD051001)
Turpentine varnish	<ul style="list-style-type: none"> - venice turpentine (Kremer 62010) - distilled turpentine (Winsor&Newton)
Wool (dyed various colors following recipes in Kirby's Natural Colorants; see Dyeing experiments for details)	SP18 textiles in the lab <ul style="list-style-type: none"> - Wool #1 - Wool #2 - Wool #3 - A+W - W+N - Fleece
Pigments	Various, lab-made or from Kremer, see lab inventory
Gold and silver leaf (transfer and loose)	<ul style="list-style-type: none"> - Loose silver Kremer 98405 - Transfer silver GLF Pure genuine silver - Loose gold Kremer 98420 - Transfer gold (probably GLF)

Questions (AKA thinking process that led to the permutations above)

- Pg 10 of annotation - "We opted for the medium of oil rather than turpentine or spike lavender varnish as called for in the recipe, in order to test the effects of the paint on the horn using a medium that would yield relatively translucent glazes"
 - Why use oil? Both turpentine and varnish are translucent glazes?
- Since the AP only specifies "spike lavender varnish," the cold varnish would presumably suffice for the purposes of making demo materials for Toulouse. However, while we are making imitation jasper, do we want to take the opportunity to make the hot varnish and compare outcomes?
- NJR: discuss with group the breakdown of what parts of the entry refer to the rose and what parts refer to the horn
- WHAT IS THE POINT OF THE GOLD?!
 - Reflective background layer to send light back through the glazes
 - The horn has to be very thin to allow for this
 - Cf. fol. 40v1 "<pro>those who make foil backings for gemstones</pro>"
- How much pigment is appropriate?
 - thick varnish tends to make combo more opaque/saturated than a thin oil glaze

- Decision for how thin?
 - A: hard to make thinner, worried about how it would behave at that thinness
- Wool?
 - A: they thought it was dyed
 - Variations:
 - 1. Fleece, manipulated
 - 2. Thicker wool (eg wool #1) teased out
 - 3. Thinner worsted wool applied as is, coherent strand
 - 4. Thinner worsted wool unspun a bit and thinner strands, making coherent strands
 - 5. Using undyed wool and coloring it with the colored varnish that also sticks it to the horn
- “Laines tainctes”
- Couche v applique
 - Do a search in the Ms to see if/how these are used differently
 - Coucher for layers and the gold/silver leaf
 - Isabella instinct that coucher was a more permanent action
 - Appliquer for the wool
- Gold & silver leaf
 - Do we want to try transfer AND loose leaf in gold AND silver?
- Silver or tin leaf specified for turpentine varnish (not spike lavender oil varnish)
- Turpentine varnish: AP specifies to use clear turpentine varnish, so look for this when trying to find a varnish recipe
- Clear or white turpentine?
 - Stages in the distillation process? Purities of the distillate?

Note: Links in this document may not function.

FIELD NOTES - 2018-02-16, 12:30-17:30, Imitation Jasper Making

Common Field Notes: [See spreadsheet below](#)

General impressions:

1. Some of the horn scrapings curled and we had to tape them down.
2. **Sanding the horn:** smelled like filing your fingernails. Sanding never really got the horn smooth.
3. **Mulling:** verdigris was fairly easy to mull with both spike lavender varnish and turpentine varnish. Buckthorn was harder to mull in turpentine varnish than in s-l varnish. Madder was difficult to mull in turpentine varnish.
4. Varnish dried quickly in the open air.
5. **Application of paint** was done by brush and by palette knife (which enabled a thicker layer). Brush enabled a more even layer for the s-l varnish.
6. Spike lavender varnish seemed easier to apply than the viscous turpentine varnish, but then it was more difficult to apply the metal leaf. Gold seemed more difficult to apply than silver on s-l varnish, and the metal leaf was particularly difficult to apply on s-l varnish if unspun wool had also been applied.
7. Viscous turpentine varnish spread; Scraping the striations into the paint was obliterated by the wet varnish (of both kinds) spreading.
8. **Metal leaf application:** would have gone better if we had heavier, thicker leaf, and no air circulation in the lab
9. Silver was easier than gold to apply.
10. Compacting the gold or silver onto the horn so that it folds was a good technique to make striations appear in the "jasper"
11. To apply the leaf, we should have stuck the sticky varnish side down on the leaf, rather than trying to transfer it onto the horn.
12. **Spike lavender oil application:** multiple layers seemed to make the horn more translucent. Observe how long this effect endures.

Other observations:

13. Author-practitioner (AP) says you can use this for beds, but he doesn't actually say HOW.
14. Would the thin glass give a good or bad effect after all? (And used how?)
 - a. Isabella thought that the AP thought the glass could be used to good effect by layering thin glass as a protective layer over the inlaid imitation jasper (somewhat mimicking/supplementing the effect of the spike lavender oil to give luster)
15. For mounting:
 - a. put one or several into a picture frame with a piece of wood veneer behind it
 - b. Or try to sandwich the horn between two glass slides and clamp it together
 - c. how thin was "thin" glass in late 16th c?
16. Isabella's annotation argues that the process of making is an investigation into the genesis of jasper and other stones. Do we see this in the making? Maybe in the

“layering” over time; Maybe in the flow of paint over the horn? But the wool and gold don’t seem to add to this.

17. Fluke or Method that our process seems to succeed?

Field notes:

each pigment--verdigris (lab made); madder lake (lab made); and Stil de Grain yellow (Kremer)-
-was mulled with each kind of varnish

Pamela: on thickest and thinnest pieces of horn, I painted bands of verdigris, madder, and stil de grain yellow, all bound in turpentine varnish, then stuck turmeric-dyed unspun wool to it, then pressed silver leaf onto them. Silver leaf was relatively easy to apply. Painting should have been done in a less regular fashion.

On the fingernail-sized thickness of horn, I scumbled red, green, yellow, all bound with spike lavender varnish, then applied threads dyed in iron sulfate, and unspun wool dyed in Madder. Threads did not give a very successful effect. Application of gold over the wool and the spike lavender varnish was not easy (or successful).

SP18 Jasper Group Field Notes

	Horn			Varnish		Pigments			Scraping	Wool (please note color)		Metal leaf		Comments
	Thick	Fingernail	Shaving	Turpentine	Spike	Madder	Verdigris	Buckthorn		unspun	strands	Gold	Silver	
Tianna			Y	Y		Y	Y	Y		Y - gall			Y	sanded a very thin scraping of horn for ca. 15 minutes (first w 220 grit, then w 600) to try to make as transparent as possible; painted on verdigris but daubed on buckthorn and madder and used chopstick to pull pigment in smear pattern along horn
Hannah 1	Y			Y	Y	Y	Y	Y					Y	Controlled experiments to test A-P's claims re: foil & varnish types; used pre-prepared horn (i.e., did no sanding) and mostly premixed pigments/varnish
Hannah 2	Y			Y	Y	Y	Y	Y					Y	Controlled experiments to test A-P's claims re: foil & varnish types; used pre-prepared horn (i.e., did no sanding) and mostly premixed pigments/varnish
Hannah 3		Y		Y	Y	Y	Y	Y					Y	Controlled experiments to test A-P's claims re: foil & varnish types; used pre-prepared horn (i.e., did no sanding) and mostly premixed pigments/varnish
Hannah 4		Y		Y	Y	Y	Y	Y					Y	Controlled experiments to test A-P's claims re: foil & varnish types; used pre-prepared horn (i.e., did no sanding) and mostly premixed pigments/varnish
Hannah 5			Y	Y	Y	Y	Y	Y					Y	Controlled experiments to test A-P's claims re: foil & varnish types; used pre-prepared horn (i.e., did no sanding) and mostly premixed pigments/varnish
Hannah 6			Y	Y	Y	Y	Y	Y					Y	Controlled experiments to test A-P's claims re: foil & varnish types; used pre-prepared horn (i.e., did no sanding) and mostly premixed pigments/varnish
Tillmann 1	Y				Y		Y		N	Y - madder			Y	sanded c. 15 min on each side, with grade 220 and then 600 sandpaper; pulled the wool fibres around in the varnish to create vein-like pattern; painted with s-l oil 4 times
Tillmann 2	Y			Y	Y	Y	Y	Y	Y				Y	sanded c. 15 min on each side, with grade 220 and then 600 sandpaper; painted with s-l oil 4 times
Sophie 1	Y				Y		Y	Y		Y (madder)			Y	Sanded down c.15 mins on each side, with grade 150 (finest) paper, smelt and felt like filing fingernails. Then mixed pigments with turpentine varnish (which had the viscosity of honey, color of treacle). It got stickier as it worked. Applied madder-dyed fleece to make veining effect on reverse side of the group. Troublesome to stick down, so covered with a thick layer of spike lavender oil. Carefully applied gold leaf with paintbrush and chopstick. Applied spike lavender oil to the front, three layers.
Sophie 2	Y				Y	Y	Y	Y					Y	Sanded down c.15 mins on each side, with grade 150 (finest) paper, smelt and felt like filing fingernails. Then mixed pigments with turpentine varnish (which had the viscosity of honey, color of treacle). It got stickier as it worked. Carefully applied gold leaf with paintbrush and chopstick. Applied spike lavender oil to the front, three layers.
Naomi 1	Y				Y	Y		Y		Y - alum + madder, fleece	Y iron sulfate + galls, wool #3	Y		Very light sanding for ~2min with grade 150 then 600 sandpaper. Light application of colored SLV with both palette knife and small brush, then applied pulled apart strands of brown wool #3 to create distinct lines. Added additional uncolored SLV to help yarn stick, then touched up with colored SLV. Place red fleece across entire back, adding more uncolored SLV to help it stick, before applying gold leaf. Oiled front with SLO
Naomi 2		Y		Y			Y	Y					Y	Very light sanding for ~2min with grade 150 then 600 sandpaper. Applied turpentine varnish colored with verdigris and buckthorn with palette knife. Applied silver lead. Oiled front with SLO
Pamela 1	Y			Y		Y	Y	Y		Y turmeric			Y	about 15 mins of sanding, left dark occlusions in the horn
Pamela 2			Y	Y		Y	Y	Y		Y turmeric			Y	rough shaving of horn, did not sand very much
Pamela 3	Y				Y	Y	Y	Y	Y	Y madder	Y iron sulfate	Y		about 40 mins of sanding - made it much thinner
Scott 1			Y	Y		y		Y		y			Y	sanded w 220 grit, finished w 600
Isabella 1	Y			Y				Y	N	Y madder			Y	About 15 mins. total of sanding both sides with grade 220 sandpaper
Isabella 2	Y				Y	Y		Y					Y	About 15 mins. total of sanding both sides with grade 220 sandpaper; attempted adhering unspun wool but removed when it failed to adhere well; repainted after removing unspun wool

SP18 Jasper Group Field Notes

	Horn			Varnish		Pigments			Scraping	Wool (please note color)		Metal leaf		Comments
	Thick	Fingemail	Shaving	Turpentine	Spike	Madder	Verdigris	Buckthorn		unspun	strands	Gold	Silver	

Making and Knowing Project - Imitation Jasper – 2018 - HORN

Preparation of horn for imitation jasper (p010r_1) reconstruction February 2018

Materials and sourcing

- Same seller and type of horn as purchased for FA15 imitation jasper annotation (Estrades) and used for FA17 jasper annotation (Lores-Chavez)
- <https://www.ebay.com/itm/263420226034>
 - Honey Horn Blank Slab Scales Straight Razor Restore -6"
 - Sold by ajkenne4xm3

Condition:	New: A brand-new, unused, unopened, undamaged item (including handmade items). See the seller's listing for full details. See all condition definitions
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Country/Region of Manufacture:	India
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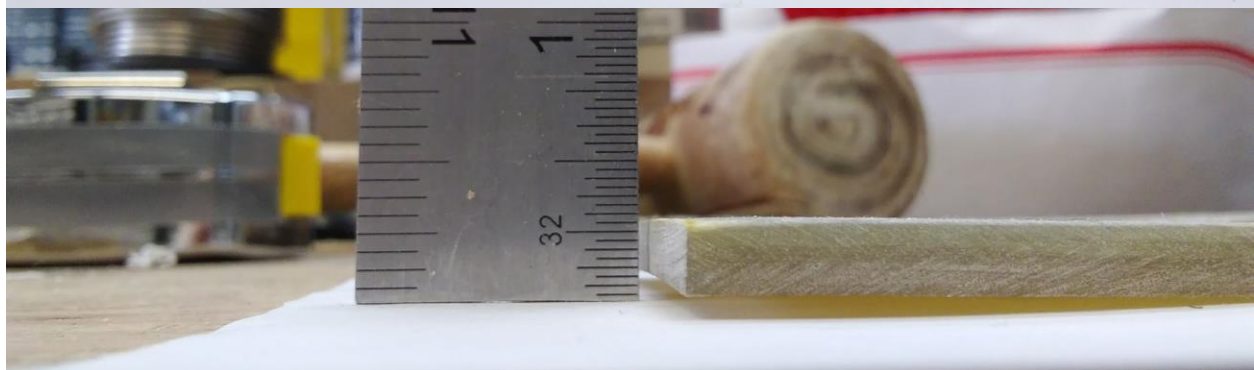
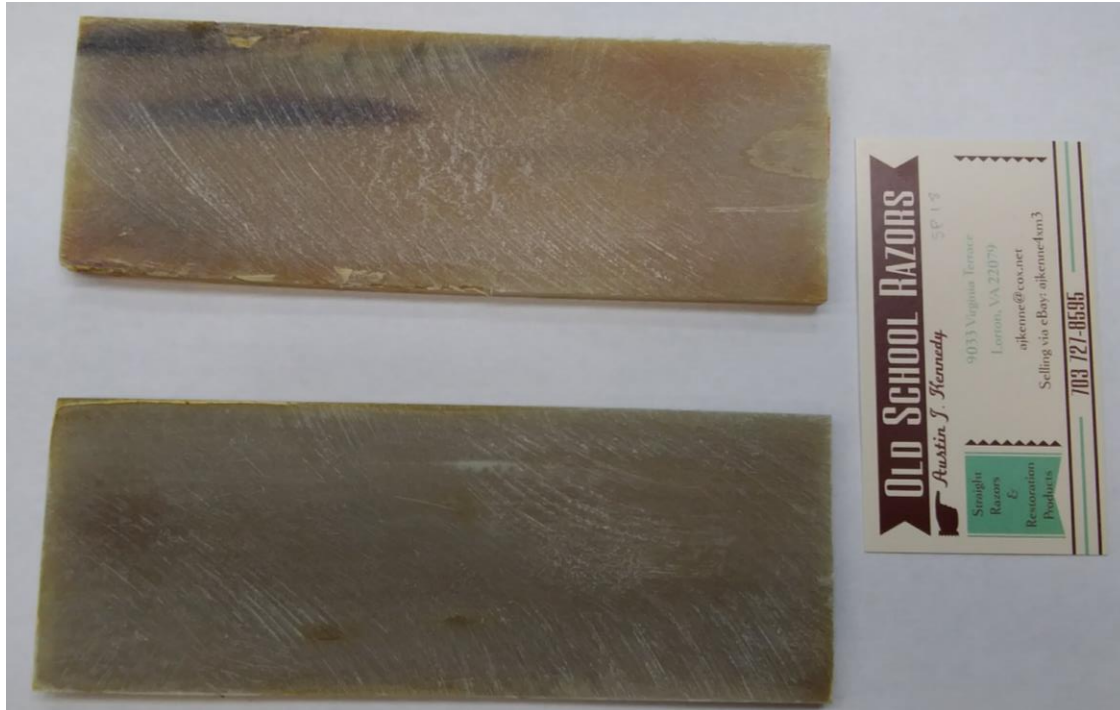
New Honey Horn shipment just arrived. This buy it now fixed price auction for \$12.99 is for one blank of honey horn in similar colors shown in the photos. Slab size is 6.2" long, 2.4" wide and thickness ranges from .17 - .22". These are longer blanks made especially for straight razors. One blank makes one set of scales. It comes unfinished. Horn is very easy to work with as it can be sawed, sanded, buffed and polished to a high luster as shown in the sample finished scales of Straight Razors shown.

Prior reconstructions

- FA15 reconstruction: used water buffalo honey horn from same seller, thinned by planing with assistant from Joe Godlaw (Frick Museum conservation). Cut into ~1"x2" pieces, 2mm in thickness
- FA16 reconstruction: used same horn as previous reconstruction, planed in the Columbia Maker Space with postdoc Donna and Lab Assistant Scott Sonnenberg

February 9, 2018 preparation

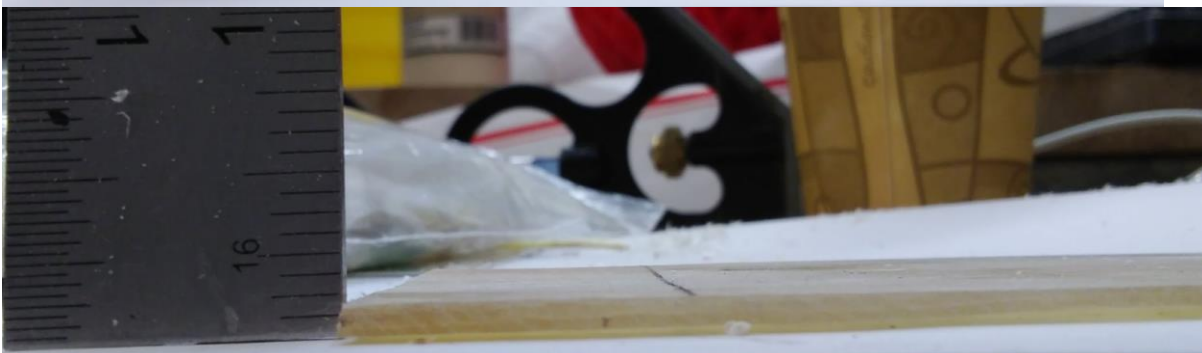
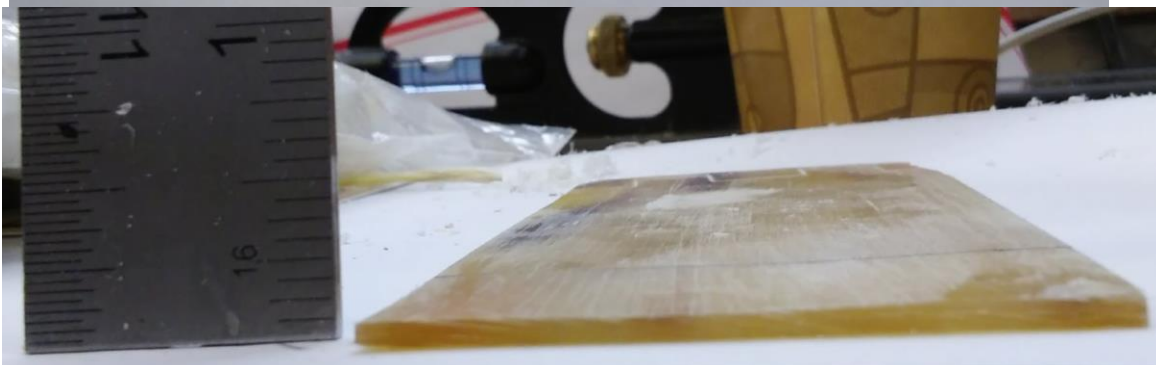
- Naomi Rosenkranz and Scott Sonnenberg prepared two ~6"x2" pieces for use in SP18 imitation jasper experiments
- Pieces prior to any thinning:



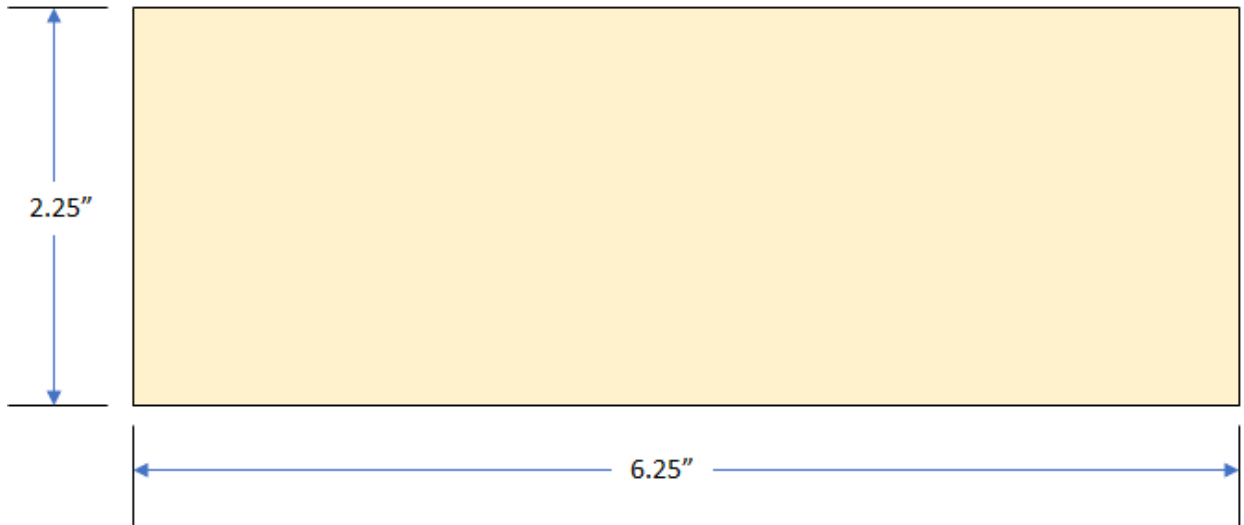
- The pieces were first thinned across the flat 6"x2" plane with a block plane, which proved not be very effective/efficient, although it did produce the longest shavings (which the AP recommends be used to make a rose)
- Then a ~1" wide metal woodworking chisel was used to remove more horn. This was the most effective tool for removing thick shavings (although the shavings splintered and broke)
- The horn slabs were then applied with pressure to a belt-sander (mechanical engineering undergrad shop), which allowed for smooth, even thinning. However, this process was very slow

and the heat produced by the friction caused the pieces to start warping . Multiple short applications were done, with time to let the pieces cool in between

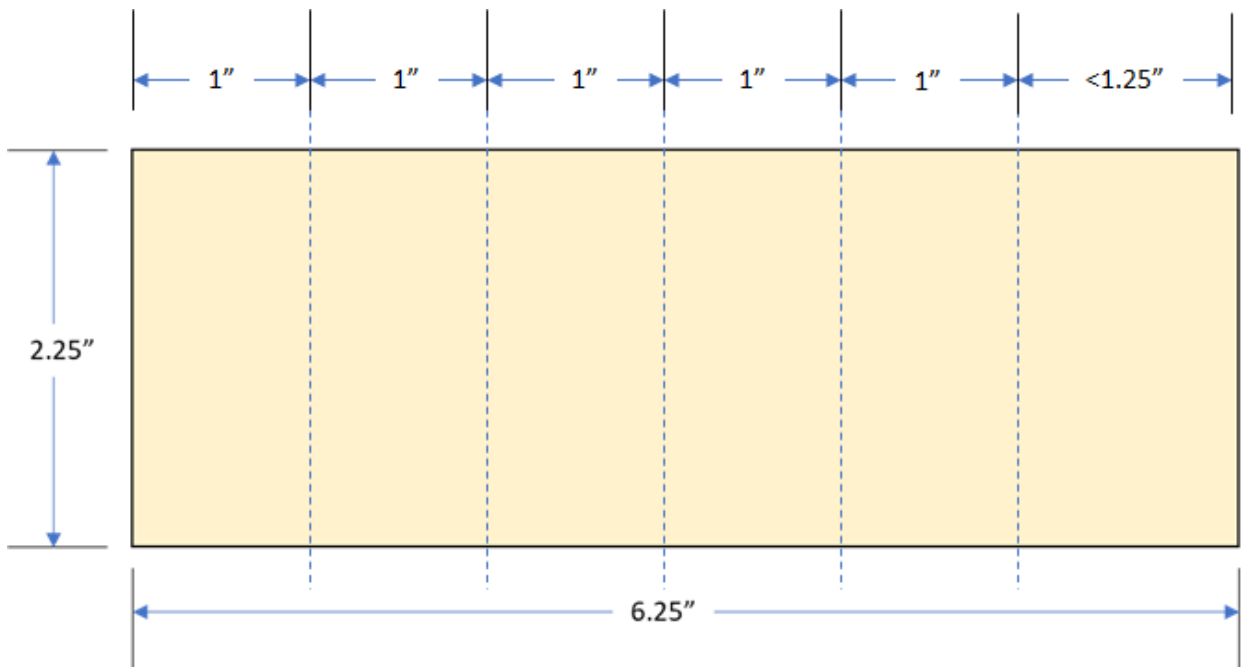
- The pieces were still quite thick after these trials, so it was decided to utilize a jointer, which allowed for consistent, smooth, flat, and thickness-adjustable surface removals. This was done slowly and multiple times to ensure the large pieces would not crack or break
- Concurrently, more surface mass was removed with the chisel, then the horn was sent through the jointer, and this was repeated until the horn measured ~2mm
- To smooth out the surface and thin the horn slightly while polishing, they were sanded with the belt sander once more
- After thinning:



- The pieces were now cut into as many 1"x2" pieces as possible using a japanese pull saw. It was decided to cut one piece along the short grain and the other along the long grain.



- The first piece was cut as follows, producing 5 pieces measuring 1"x2.25" and one piece measuring just under 1.25" (due to incremental loss from cutting) by 2.25"



- The second slab of horn was cut as follows, producing 4 pieces measuring 1.125"x2" and 2 pieces measuring just under 2.25" (due to incremental loss from cutting) by 1.125"

