Jasper Imitation on Horn

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Counterfeit Jasper

The entry for "Counterfeit jasper" on fol. 10r (https://edition640.makingandknowing.org/#/folios/10r/f/10r/tl) appears to be a single recipe for creating an imitation of the semi-precious hardstone jasper by using horn. It can, however, be read as two distinct recipes with an accompanying marginal note. The first paragraph describes how to transform thinly sliced horn into "counterfeit" jasper, cornalines, also known as carnelians, "& other stones." This is done by painting the underside of the horn, which the author-practitioner notes will be "a work more appropriate than on glass, which is too shiny." Moreover, the author-practitioner highlights horn as a material with similar qualities to jasper in terms of "luster" and "fatty polish." The second paragraph goes

on to describe how to use the horn “scrapings” to imitate rose petals. Here, the author-practitioner presents a way to transform these “scrapings”—the curled shavings produced from planing the horn, essentially waste material—to imitate the translucency and delicacy of rose petals.1 The marginal note specifies a use for the imitation jasper—“you can encrust beds with it”—apparently envisioning it being used to inlay wooden bed frames. The note in the left margin proffers yet another recipe to “better counterfeit mottled jasper” (a variety of jasper that is distinguished by its veins of color) through applying “wool with thick hairs dyed in diverse colors & intermingled” on the surface of the horn. Thus, fol. 10r in fact presents the reader with three distinct processes for transforming horn: by painting with colors in “a base with clear turpentine or spike lavender varnish,” by applying dyed yarn, and by shaping and coloring the horn scrapings into a “rose.”

The detailed information provided in the body text and marginal note indicates that the author-practitioner probably performed this procedure himself, rather than simply recording the recipe. This essay discusses the author-practitioner’s experiential knowledge of horn and its intrinsic properties, particularly with

regard to his use of such terms as “thin,” “luster,” and “fatty polish.” These elements of the recipe raise questions about the possible optical effects of painted horn, which is used to imitate two very different things, jasper and rose petals. Further questions touched upon in this essay include: how can this recipe for “Counterfeit jasper” shed new light on our understanding of the early modern culture of imitation?2 Are examples of furniture inlay extant with painted horn, genuine jasper or other luxury materials, such as tortoise shell? How does reconstruction assist in understanding the qualities of translucency, luster, and fatty polish to which the author-practitioner refers? In addition, this essay examines the possible context of this entry in examples of *pietre dure* work and inlaid furniture of the Renaissance, especially that created by the tarsia technique that used inlays of stained woods, bone, and horn to create geometric patterns and Moresque decoration.

Horn and Furniture Inlay

Horn is an organic material, the keratinous tissue that covers the bony core on the heads of certain bovine and ovine animals.3 It is a versatile material that can be shaped, and it is pliable when

heated at low temperatures. Horn was used historically in the production of a wide range of objects, from the mundane to the luxurious: handles for tools, buttons, combs, boxes, and jewels, to name just a few. This material versatility is reflected on fol. 10r (https://edition640.makingandknowing.org/#/folios/10r/f/10r/tl), where horn is used to imitate precious jasper and carnelian, but the author-practitioner also points to its more utilitarian uses by directing the reader to "take horn from which one makes lanterns." This reference to lanterns points to a ubiquitous domestic use of horn in European culture (*Fig. 1*). Pliny commented on the common use of horn as a substitute for glass window panes.4 A recipe for making horn for lanterns is found in an English text attributed to Nicolas Lémery (1645–1715),5 apothecary to Louis XIV. While this text gives directions about how to work horn to make lanterns, it does not specify the type of horn to use. Ms. Fr. 640 also contains a recipe entitled "Softening horn" on fol. 15v (https://edition640.makingandknowing.org/#/folios/15v/f/15v/tl), which contains a short description of how to make horn pliable by soaking small pieces in hot water in order to inlay them into "certain little boxes." Adele Schaverien discusses a manuscript which contains two recipes for softening all kinds of horn.6 These recipes include two methods to heat the horn: boiling it in a cauldron, or

roasting it in a fire. Schaverien explains that the same recipes would also be used to soften ivory, bone, and wood, stating that "the tools to work the horn have hardly changed, and they are still made by the craftsman himself and are similar to those found in a woodworker's workshop."7

Fig. 1. *The Lantern Maker (Laternarius)*, in Jost Amman and Hartmann Schopper, *Panoplia omnivm illiberalivm mechanicarvm avt sedentariarum artium genera continens* (Frankfurt: Sigmund Feyerabend, 1568). Woodcut book illustration, 7.9 x 6.1 cm. Dresden SLUB, Technol.A.246. Deutsche Fotothek, OBJ 88962142. Permalink: http://www.deutschefotothek.de/documents/obj/88962160 (http://www.deutschefotothek.de/documents/obj/88962160). Public domain.

The reference in the marginal note on fol. 10r (https://edition640.makingandknowing.org/#/folios/10r/f/10r/tl) to using the imitation jasper as an inlay for a bed brings into view the domestic interior. Although there are few surviving beds from this period, and none that we know of with inlay, there is a late fifteenth-century Venetian painting by Vittore Carpaccio, "The Dream of St. Ursula" (ca. 1495),8 which depicts a broad four-poster bed, covered by a red canopy, with visible inlay decoration in its platform (*Fig. 2*). This type of geometric inlay technique is found in Venetian objects from about 1450 onwards, particularly in caskets and cabinets, which typically combined stained wood and bone to create the pattern. It is often described as "certosino work," although Peter Thornton uses the term *lavoro di intarsio* to refer to this geometric inlay because *allo certosino* is an anachronistic twentieth-century term.9 A remarkable example of this type of inlay from ca. 1550 comes to us in the form of a Venetian casket inlaid with small pieces of partly stained wood and bone, as well as horn (the horn stained black) (*Fig. 3*). The mosaic inlay on its lid resembles patterns from the Islamic world, which reflects the close trading contacts of Venice with the eastern Mediterranean, and points to the Arabic origins of the technique.

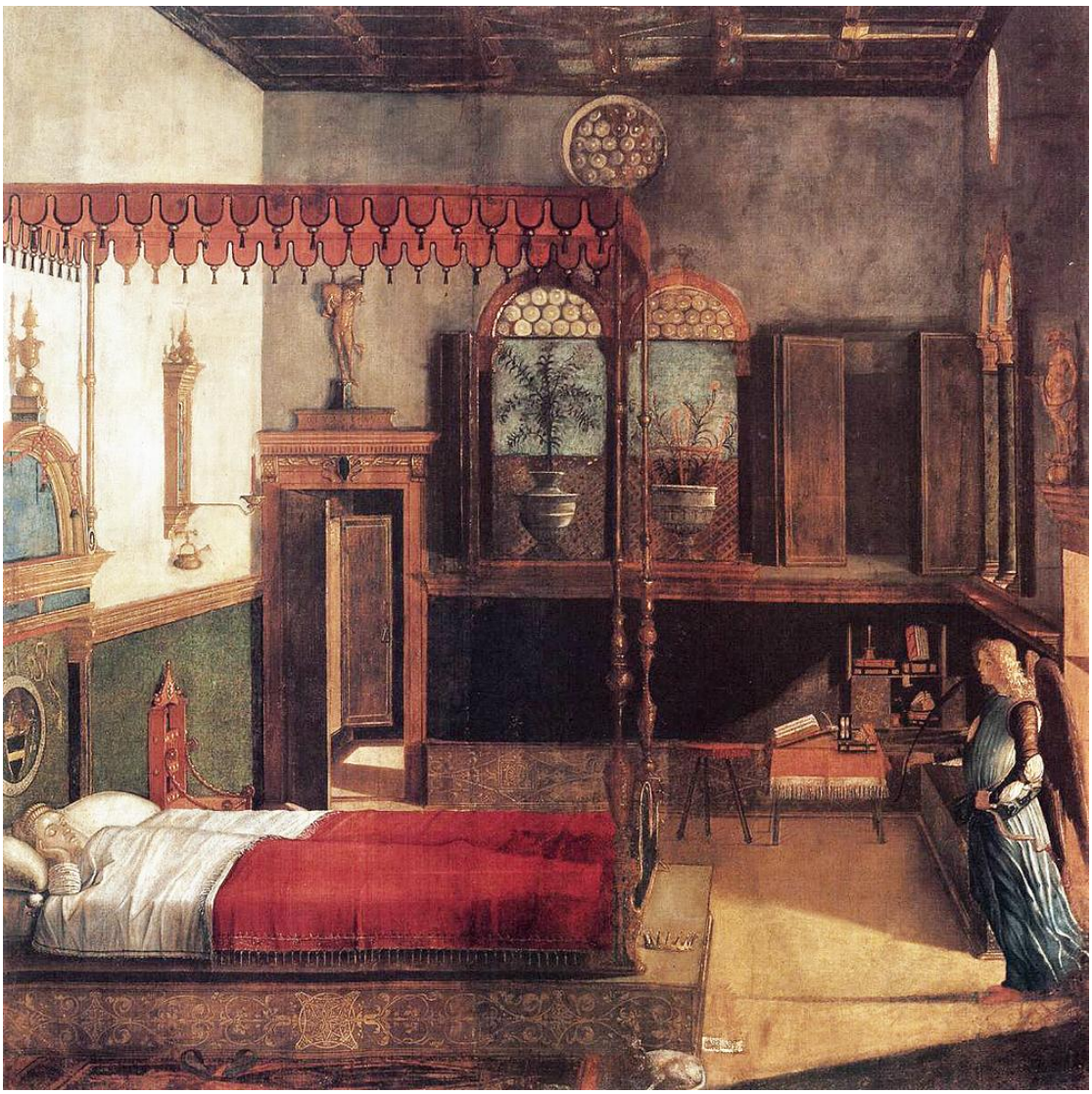

Fig. 2. Vittore Carpaccio, *Sogno di Orsola* ("The Dream of St. Ursula"), ca. 1495. Tempera on canvas, 273 x 567 cm. Galleria dell'Accademia, Venice, 578. Permalink: http://www.gallerieaccademia.it/sogno-di-orsola (http://www.gallerieaccademia.it/sogno-di-orsola) (CC BY-NC-ND 4.0 (https://creativecommons.org/licenses/by-nc-nd/4.0/)).

Fig. 3. Casket, ca. 1550, Venice. Wood veneered with wood, horn, and bone (stained and unstained), 22.2 x 42.7 x 27 cm. Victoria and Albert Museum, London, 936–1904. Permalink: http://collections.vam.ac.uk/item/O118815/casket-unknown/ (http://collections.vam.ac.uk/item/O118815/casket-unknown/) © Victoria and Albert Museum, London.

Decorative inlay has a long history. The craftspeople of ancient Egypt decorated wooden furniture with contrasting inlays. During the medieval period, this technique continued to flourish in cities in the Islamic world, such as Cairo and Damascus, where patterns were created using tiny inlaid pieces of bone, ivory and various woods. This type of geometric tarsia (from the Arabic *tarsi*, meaning “incrustation”) was produced in Islamic

Spain as early as the tenth century. The workshops of Cordoba and later Granada seem to have specialized in the technique, known in Spanish as *taracea*.10 Roughly contemporaneous with Ms. Fr. 640, another version of *taracea* can be found on a chest produced in Catalonia from around 1550–1650 (*Fig. 4*). Decorated with "moresque" geometric patterns and other motifs, this Spanish chest is made of walnut wood inlaid with marquetry of bone and colored woods. While this chest does not include the horn inlay found on the Venetian casket, other pieces show that horn was applied both as inlay and as a veneer in the same way as bone, tortoiseshell, and ivory.11 It is important to note that, although the technique of tarsia was widespread in early modern Europe, and appears to form a possible context for the recipe on fol. 10r, the procedure in Ms. Fr. 640 differs in that the horn is not stained or dyed, but instead a thin shaving of horn is painted with colored varnish in imitation of jasper, which is intended to result in a translucent object.

Fig. 4. Chest (*cassone*), 1550–1650, Barcelona or northern Italy. Walnut, and rosewood, inlaid with bone and coloured woods, 56.5 x 127 x 52 cm. Victoria and Albert Museum, London, 7224–1860. Permalink: http://collections.vam.ac.uk/item/O123709/cassone-unknown/ (http://collections.vam.ac.uk/item/O123709/cassone-unknown/) © Victoria and Albert Museum, London.

Another context in which fol. 10r might be understood is the practice of *pietre dure* inlay. The combination of wood and polychrome stone was already present in Florence and Venice by the first half of the sixteenth century.12 A wood tabletop with a Moorish-style inlay designed by Giorgio Vasari sometime before 1557 for Bindo Altoviti (a Florentine notable residing in Rome)

includes ebony, jasper, and ivory (*Fig. 5*). In the second edition of his *Lives*, published in 1568, Vasari notes that the artisan who made the table for him was a gem carver, Bernardino di Porfirio, from "the area around Florence."13 The Moorish-style decoration, combined with the use of ivory inlaid in wood, points to a possible inspiration from Islamic furniture, where this is a common pairing of materials.14

Fig. 5. Bernardino di Porfirio da Leccio, designed by Giorgio Vasari, Tabletop with Moorish-style decoration, before 1557. Ebony, ivory, and jasper decoration, 16.51 cm. © Proprietà UniCredit.

Reconstruction

It is worth emphasizing that the recipe on fol. 10r (https://edition640.makingandknowing.org/#/folios/10r/f/10r/tl) in Ms. Fr. 640 does not give any

detail about how to prepare or work the horn.15 Instead the author-practitioner advises starting with horn “from which one makes lanterns.” With Dr. Donna Bilak, who has a background in jewelry making, we were able to cut the horn plates into smaller pieces using a jeweler’s saw, and then filed them to smooth out the roughened surface. As conceptually simple as “cutting horn” may sound, it cannot be so easily described without first attempting it in practice (*Fig. 6*). The jeweler’s saw only got us so far. In order to cut the horn thinner, we were fortunate to be able to call upon Joseph Godla, Chief Conservator at the Frick Collection, who, with a background as a cabinetmaker, had the necessary tools in his workshop. Godla used a wood plane to shave the horn, although he had to sharpen the edge several times, explaining how much harder horn was to plane than wood (*Fig. 7*). We saved a pile of horn scrapings to use in our reconstruction of the author-practitioner’s instructions in the recipe “Counterfeit jasper” that "You know how, with scrapings of the said horn, roses can be imitated." In this, he seems to be referring to another recipe on fol. 10r, “Roses,” in which he instructs the reader to imitate roses: “These are counterfeited either with the scrapings of ~~*[illegible]*~~ horn used for lanterns, or with scrapings of parchment, very clear &

delicate & dyed & employed as you know." The horn scrapings, comparable to wood shavings, had a white-yellowish color, and, in texture and translucency, they did look similar to parchment (*Fig. 8*).

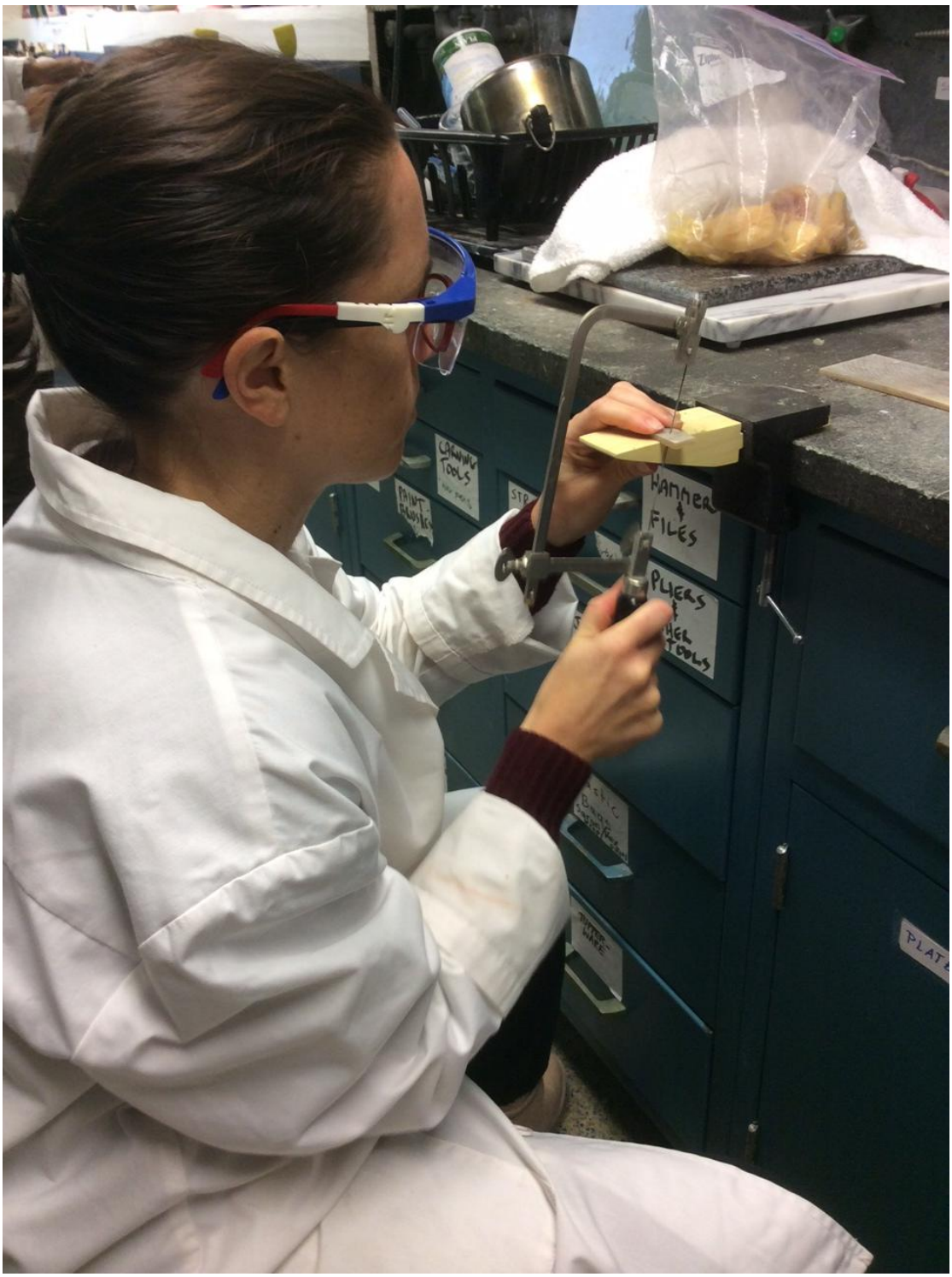

Fig. 6. Cutting the horn with a saw in the Making and Knowing Lab. Ana Estrades, 2015. © Making and Knowing Project (CC BY-NC-SA (https://creativecommons.org/licenses/by-nc-sa/4.0/)).

Fig. 7. Joseph Godla, Conservator, The Frick Collection, thinning the horn with a plane. Ana Estrades, 2015. © Making and Knowing Project (CC BY-NC-SA (https://creativecommons.org/licenses/by-nc-sa/4.0/)).

Fig. 8. Scrapings of horn, produced by planing the horn. Ana Estrades, 2015. © Making and Knowing Project (CC BY-NC-SA (https://creativecommons.org/licenses/by-nc-sa/4.0/)).

Our reconstruction of “jasper” raised questions about the properties of the stone which the horn was intended to imitate. The recipe is clear about what the horn should look like: thin and translucent like glass, but also keeping its “fatty polish” to resemble jasper (fol. 10r). The term “fatty polish” was used up to the nineteenth century to describe the greasy or waxy luster of some stones.16 Moreover, the author-practitioner emphasizes that the colors must not be opaque, squeezing into the space

below the entry that “colors matte in body are not so appropriate here, although they are very beautiful,” and that the colors should have a base of “clear turpentine or spike lavender varnish.” As a type of hardstone, jasper is found in nature in diverse colors, in both opaque and translucent varieties. Red jasper can display a similar color to carnelian, a variety of chalcedony, which is characterized by its orange-reddish color and is semi-transparent.17 An impressive example of a deep-red jasper with large inclusions of amethyst and crystal was found in the medieval mines northwest of Prague, and the Metropolitan Museum of Art holds a vessel from the fourteenth-century imperial court of Charles IV made with this variety (*Fig. 9*). Chalcedony, as well as agates and jasper, were imitated in glass, known as *vetri calcedonii* (chalcedony glass) (*Fig. 10*).18 This difficult technique involved the skillful superimposition of semi-translucent colors and the partial blending of others, which was perfected by Murano glass makers in Venice, where veined marble had long been valued.19

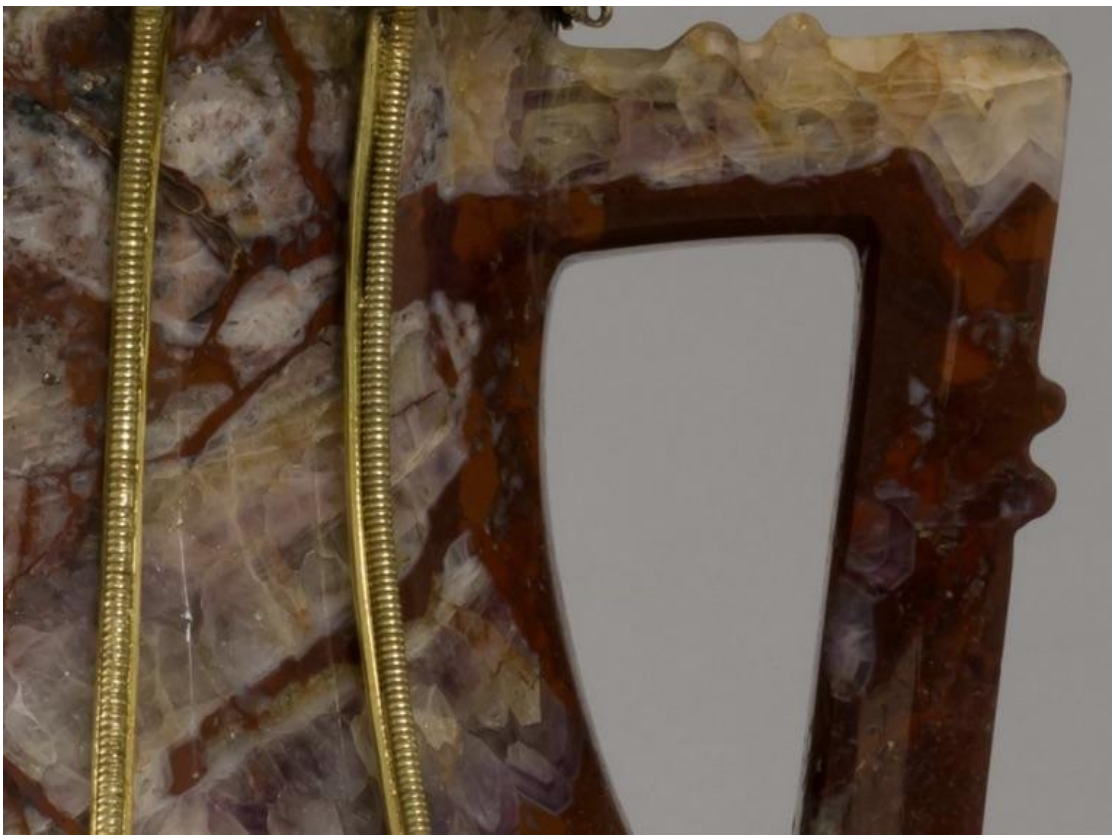

Fig. 9. Ewer (detail), ca. 1350–1580, Germany or Rhine. Jasper body, silver-gilt mounts, 33.7 x 17.1 x 14.1 cm. The Metropolitan Museum of Art, New York, 17.190.610. Gift of J. Pierpont Morgan, 1917. Permalink: https://www.metmuseum.org/art/collection/search/464506 (https://www.metmuseum.org/art/collection/search/464506) (CC0 1.0 (https://creativecommons.org/publicdomain/zero/1.0/)).

Fig. 10. Footed bowl, ca. 1500, Venice. Translucent red non-leaded glass with multicolored marbling on the exterior. Blown, 18.6 x 28.4 cm. The Metropolitan Museum of Art, 1975.1.1196. Robert Lehman Collection, 1975. Permalink: https://www.metmuseum.org/art/collection/search/460754 (https://www.metmuseum.org/art/collection/search/460754) (CC0 1.0 (https://creativecommons.org/publicdomain/zero/1.0/)).

These examples indicate the efforts made to emulate the natural colors and striations of hardstones, and the recipe on fol. 10r (https://edition640.makingandknowing.org/#/folios/10r/f/10r/tl) strives to achieve this effect by painting with colored varnish.20 Following the manuscript's recipe for translucent varnish on fol. 4r (https://edition640.makingandknowing.org/#/folios/4r/f/4r/tl), we heated spike lavender oil and sandarac together.

21 We then obtained a red paint by grinding Venice lake on a marble slab with walnut oil and mixing it with the spike lavender varnish. For the green paint, we noted the author-practitioner's statement on fol. 6r (https://edition640.makingandknowing.org/#/folios/6r/f/6r/tl) that "For green, temper verdigris with walnut or linseed oil & grind it, next mix in turpentine varnish and not spike lavender varnish, which is not suitable for verdigris," and made a turpentine varnish, following instructions in "Varnish for panels" on fol. 3r (https://edition640.makingandknowing.org/#/folios/3r/f/3r/tl). Before carrying out the reconstruction, we had thought the varnish was applied on the horn as a base for pigments mixed with binding oil, however, during our trial, it became clear that the varnish had to be mixed with the paint.22 When trying to paint the horn that we had coated with turpentine varnish the week before, the varnish repelled the paint, causing it not to adhere to the surface. When we instead mixed the pigment with the varnish, the color not only bound together better, but also adhered well to the horn, creating a glossy finish (*Fig. 11*).

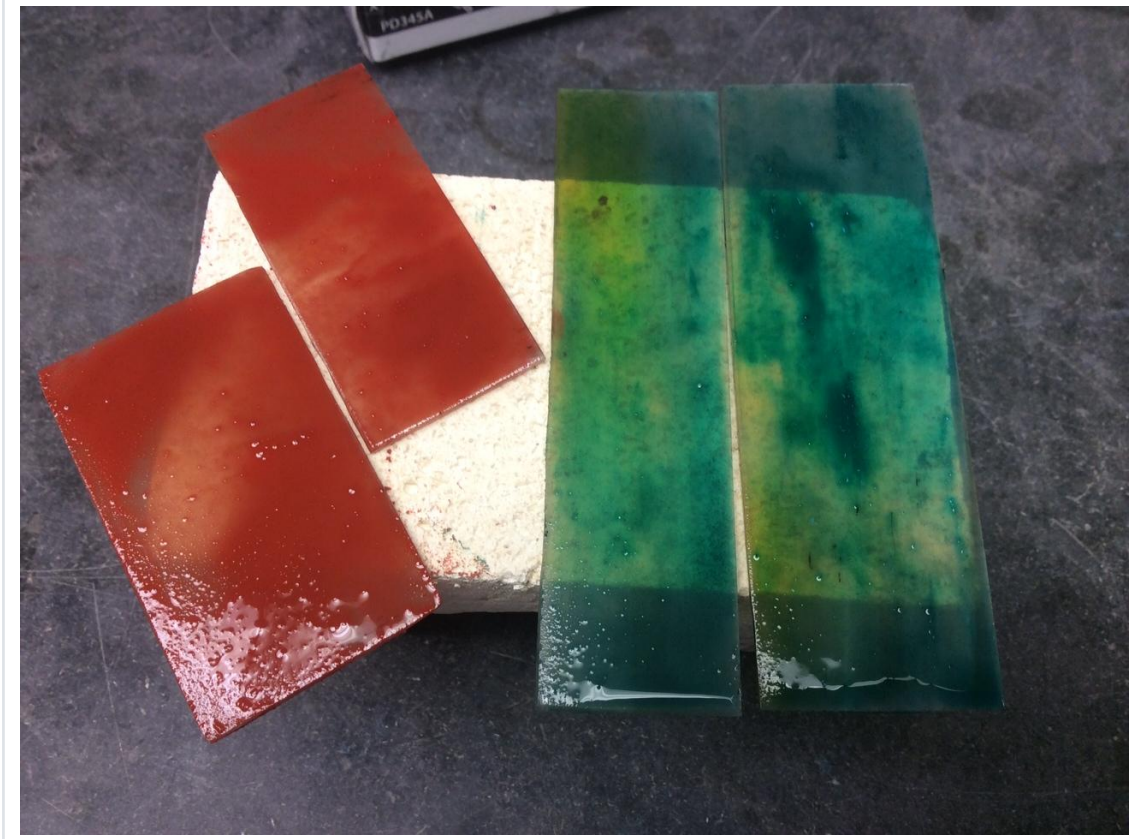

Fig. 11. Horn painted with Venice red and verdigris varnish. The Venice red was mulled with walnut oil, then mixed with spike lavender oil and sandarac varnish (fol. 4r), and the verdigris was mulled in linseed oil, then mixed with Venice turpentine (larch balsam) and turpentine oil (fol. 3r). Ana Estrades and Wenrui Zhao, 2015.

The recipe specified horn from lanterns because it is thin and translucent, and it is supposed to show "a luster & fatty polish like jasper." The painted side of our horn was glossy and shiny, and when viewed on the unpainted side, the horn could be seen as having a "fatty polish" (*Fig. 12*). Applying spike lavender oil on the back of the horn, as the recipe directs, made the horn

more translucent (*Fig. 13*). Thus, painting the horn on one side and oiling it on the other produced the glossy, polished, and translucent qualities of jasper that the author-practitioner sought.

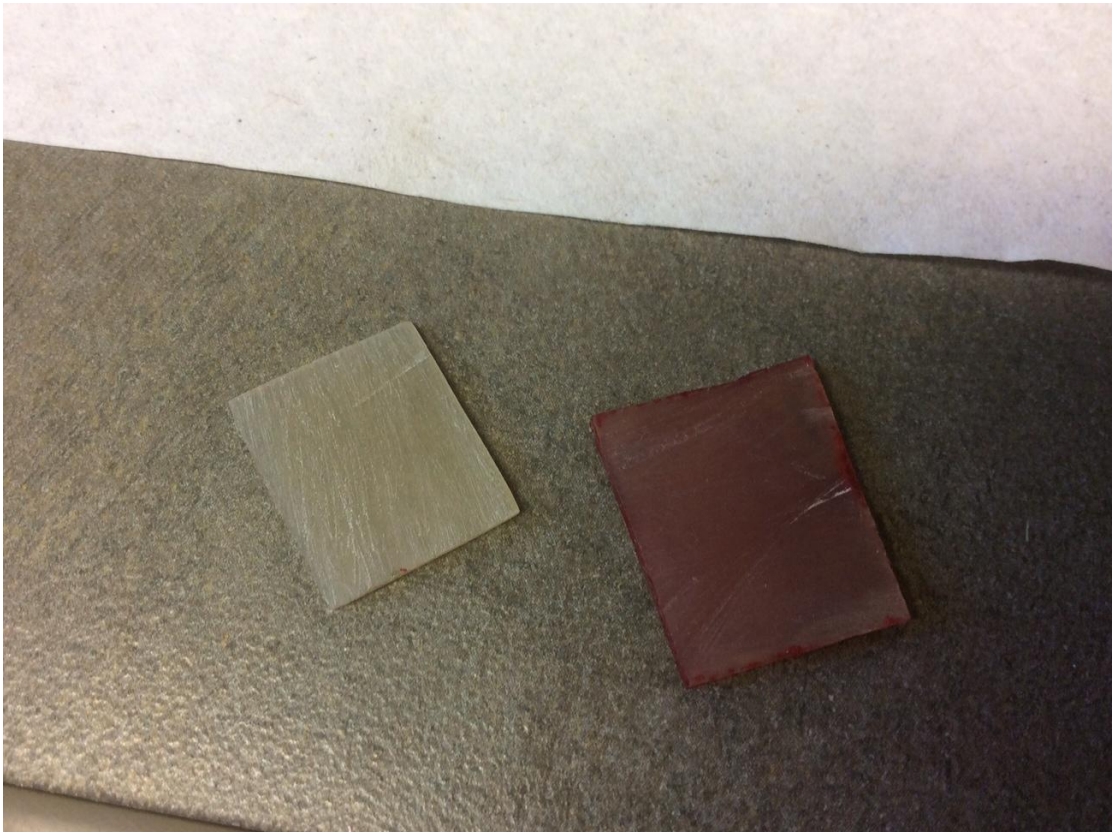

Fig. 12. The reverse of the painted horn (right) and a square of unpainted horn. Ana Estrades and Wenrui Zhao, 2015. The back of the painted horn is translucent and can be seen as displaying a “fatty polish.”

Fig. 13. Horn painted on one side with spike lavender oil, increasing the translucency of the horn. Ana Estrades and Wenrui Zhao, 2015. © Making and Knowing Project (CC BY-NC-SA (https://creativecommons.org/licenses/by-nc-sa/4.0/)).

Furniture Inlay with Painted Horn

Two examples of marquetry inlaid with painted horn in imitation of luxury materials date to about one hundred years after the manuscript was compiled. One is a wig cabinet (*Fig. 14*), that features horn painted to imitate more expensive tortoiseshell.23 Another intriguing example of painted horn is a luxurious

writing table from ca. 1670 that appears in the posthumous inventory of Louis XIV (*Fig. 15*, *Fig. 16*). In this example, the horn inlaid in the table is painted on its underside, just as the author-practitioner of Ms. Fr. 640 directs. In this case, however, it is blue in imitation of the hardstone lapis lazuli. Recent research on this table suggests that this imitation also reflects the aesthetic of blue and white porcelain, a highly desirable object much traded and imitated in the seventeenth century.24 This table thus displays a double material imitation by means of blue-painted horn—of lapis lazuli and of blue and white porcelain—both expensive and sought-after materials at the time. Precious stones have been admired since antiquity,25 and given the increasing demand during the Middle Ages and the early modern period, imitations in less costly materials were common.

Fig. 14. Johann Daniel Sommer II, Wig cabinet, ca. 1685. Oak and walnut veneered with ebony, ebonized wood, and marquetry of pewter and mother-of-pearl on horn over paint, simulating tortoiseshell; silver, 40.6 x 45.7 x 34.3 cm. The Metropolitan Museum of Art, New York, 2004.417. Purchase, Rogers Fund and Cynthia Hazen Polsky Gift, 2004. Permalink: https://www.metmuseum.org/art/collection/search/231057 (https://www.metmuseum.org/art/collection/search/231057) (CC0 1.0 (https://creativecommons.org/publicdomain/zero/1.0/)).

Fig. 15. Writing table, ca. 1670–1675, France, detail. Oak veneered with ivory, blue-painted horn, ebony, rosewood, and amaranth. The J. Paul Getty Museum, 83.DA.21. Permalink: http://www.getty.edu/art/collection/objects/5781/unknown-maker-writing-table-french-about-1670-1675 (http://www.getty.edu/art/collection/objects/5781/unknown-maker-writing-table-french-about-1670-1675) (CC BY 4.0 (https://creativecommons.org/licenses/by/4.0/deed.en)).

Fig. 16. Writing table, ca. 1670–1675, France. Oak veneered with ivory, blue-painted horn, ebony, rosewood, and amaranth, with drawer of walnut; gilt-bronze moldings; brass; iron; and modern velvet, 63.5 x 48.5 x 35.5 cm. The J. Paul Getty Museum, 83.DA.21. Permalink: http://www.getty.edu/art/collection/objects/5781/unknown-maker-writing-table-french-about-1670-1675 (http://www.getty.edu/art/collection/objects/5781/unknown-maker-writing-table-french-about-1670-1675) (CC BY 4.0 (https://creativecommons.org/licenses/by/4.0/deed.en)).

Conclusion

Because horn takes paint and dye well, it was often stained to emulate more expensive tortoiseshell, as seen in the wig cabinet. We could not locate other contemporary recipes that called for painted horn, however we found many recipes to dye horn, including a recipe on fol. 78v, "for making bone or horn green." We also were not successful in locating extant examples of inlaid furniture that contained imitation jasper created with horn. Moreover, as seen in the historical examples illustrated above, horn used in intarsia appears opaque, whereas the recipe on fol. 10r (https://edition640.makingandknowing.org/#/folios/10r/f/10r/tl) specifically instructs the reader to paint it with colors in combination with varnish in order to recreate the luster, "fatty polish," and translucency of jasper: "colors matte in body are not so appropriate here, although they are very beautiful." The author-practitioner also stresses thinning the horn to obtain the translucency and fatty polish desired, which will enable the colors to be seen from the underside. In our reconstruction of the "counterfeit jasper," the colored varnish gave the horn a brilliant, glossy finish. Finally, we followed the author-practitioner's directions to use the scrapings of the horn to make roses (*Fig. 17*). In this seeming

afterthought, as well as in the additions at the bottom and in the margins of the counterfeit jasper recipe, the author-practitioner appears to be writing from personal experience.

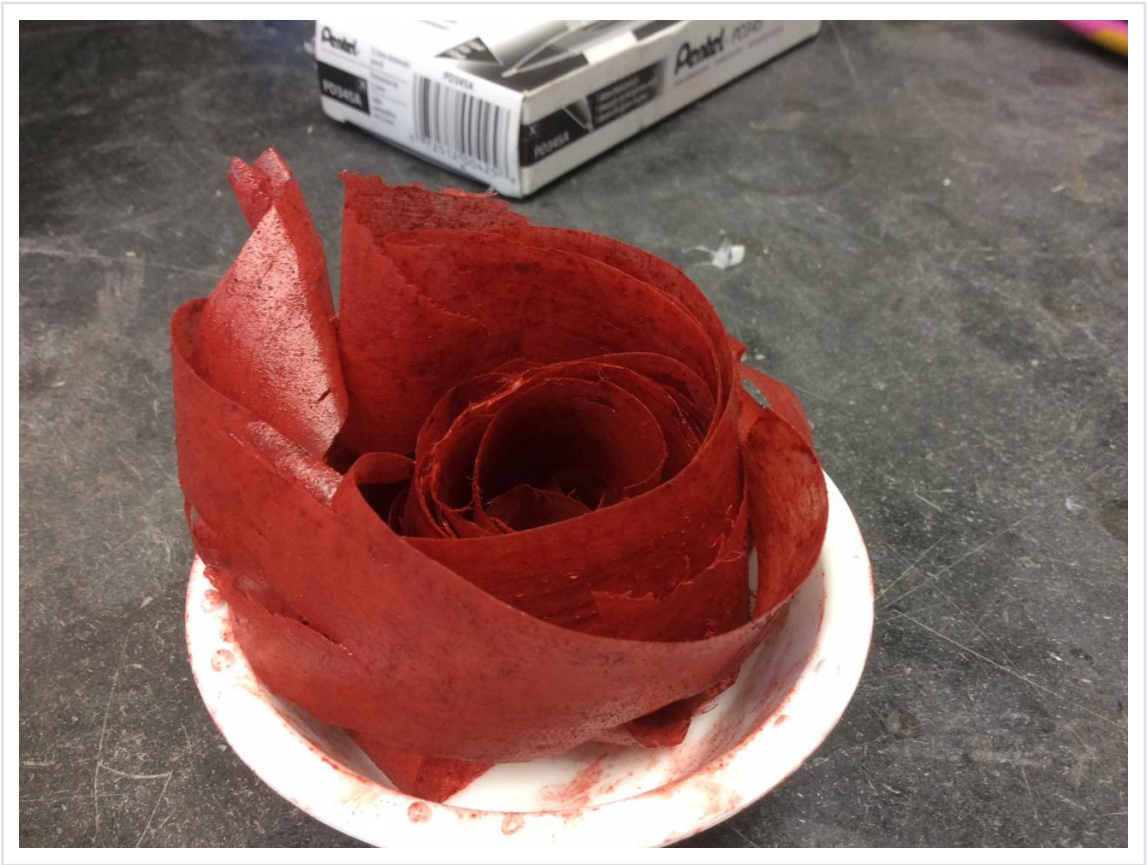

Fig. 17. Rose made from horn scrapings painted with Venice red and Venice turpentine varnish. Ana Estrades and Wenrui Zhao, 2015. © Making and Knowing Project (CC BY-NC-SA (https://creativecommons.org/licenses/by-nc-sa/4.0/)).

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