Abstract

Three entries in Ms. Fr. 640—on fols. 129r (http://edition640.makingandknowing.org/#/folios/129r/f/129r/tl), 155r (http://edition640.makingandknowing.org/#/folios/155r/f/155r/tl), 155v (http://edition640.makingandknowing.org/#/folios/155v/f/155v/tl)—are devoted exclusively to molding and casting roses. This essay clarifies some of the differences between the recipes, and suggests a potential change recorded by the author-practitioner that may have resulted from repeated experiments with the techniques over time. This set of entries are related to the molding and casting of other "thin things," such as flies' wings, another thin, delicate substance that, like rose petals, necessitated separate castings. This essay proposes that the motives for singling out roses as an object to be molded are likely related to sixteenth-century literary culture in France, perhaps especially in Toulouse, where a literary society known in the sixteenth century as the College de l'Art et Science de Rhétorique awarded cast flowers as prizes for an annual poetry contest, the Jeux Floraux, which originated in the city in the fourteenth century.

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At least nine entries in BnF Ms. Fr. 640 pertain specifically to the process of casting flowers and plants.[1] Among these, three are devoted exclusively to the steps taken to cast a rose. This technique is a contemporary practice of making "life casts" of flowers, and there are clear precedents in the artistic production of Bernard Palissy and Wenzel Jamnitzer. As this essay will show, the motives for singling out roses to be molded is likely related to the literary production of sixteenth-century France. In particular, the casting of flowers suggests a connection between the manuscript author and a literary society in Toulouse known in the sixteenth century as the College de l'Art et Science de Rhétorique. This society awarded cast metal flowers as prizes for an annual poetry contest known as the Jeux Floraux, which originated in the city in the fourteenth century. The manuscript author-

practitioner could possibly have had ties to the College, as a number of poems presented there in the sixteenth and seventeenth centuries include references to alchemy and other natural subjects.

The lengthiest entry in Ms. Fr. 640 on the molding of roses appears on fol. 155r (http://edition640.makingandknowing.org/#/folios/155r/f/155r/tl). The entry calls for the different parts of the rose to be cast separately: the branches, rosebud and the stem, advice not given elsewhere in the manuscript in regard to other cast flowers (such as a marigold).[2] The author notes the possibility of molding the rose petals together by separating them with thread, indicating the particular care devoted to ensuring a detailed cast of the petals without allowing them to be crushed. To help strengthen the rose, the author calls for coating the outer petals with butter. An earlier entry on fol. 129r (http://edition640.makingandknowing.org/#/folios/129r/f/129r/tl), "Molded Roses," explicitly calls for the use of wheat oil to help stiffen rose petals (*les feuilles*).[3] Evidently in the course of writing the manuscript, the author-practitioner discovered a problem with this technique, or simply changed his mind. In "Reinforcing flowers and delicate things" on fol. 154v (http://edition640.makingandknowing.org/#/folios/154v/f/154v/tl), the author explains that wheat oil should *not* be used to strengthen flowers, but rather that melted butter should coat the *backs* of flower petals (as in the case of roses and pansies). This difference may offer a clue to the temporally linear process of the manuscript's composition, as this example signals a clear difference in the processes used at a later point in the manuscript. The author may be self-correcting.

To help metal flow between the leaves, the author notes later in the entry on fol. 155r that they should be joined "leaf to leaf" with "small veins of wax," or sprues. The word "*foeuille*" refers to leaves here because the sketch in the left margin illustrates the larger spruing system in place that would have connected the rose leaves to one another and to the rose buds, which are surprisingly *not* shown detached from the stem (*Fig. 1*). It may be that this illustration accounts for a marginal note further below, which states that one can mold the rosebud near a piece of its stem, which is to be connected later to a separate "tinned latten" stem.

Fig. 1. Detail of rose drawing, Ms. Fr. 640, fol. 155r, Bibliothèque nationale de France, Paris. The

The latter half of the entry is largely given over to the process of cleaning the mold of ashes after the rose has been burned out and the wax infrastructure melted out, before the metal is cast into the mold. The author-practitioner's comment that "this is the easiest way, but you can also do the other," may have signaled to the reader to return to the entry on fol. 117v (http://edition640.makingandknowing.org/#/folios/117v/f/117v/tl), "For making the ashes of flowers and plants leave molds." As flowers and other objects burned in molds could leave ashes and charcoal in the mold, this step was necessary.

The rose produced by the process on fol. 155r (http://edition640.makingandknowing.org/#/folios/155r/f/155r/tl) was meant to be altered further, as other entries in the manuscript reveal. The entry "Rose" on fol. 155v (http://edition640.makingandknowing.org/#/folios/155v/f/155v/tl) is a clear rejoinder to the preceding one as it contains instructions without which the rose molding on fol. 155r would have been incomplete. It begins by stating that because of the billowy nature of the rose bloom and the various arrangements of its petals, "it does not appear beautiful if it is not painted." For emphasis, this fact is stated again later in the same entry. While the author does not explicitly describe the process for painting the rose here, the manuscript contains instructions for painting metal casts of other flowers (fol. 158v (http://edition640.makingandknowing.org/#/folios/158v/f/158v/tl)) and of a crayfish (fol. 141v (http://edition640.makingandknowing.org/#/folios/141v/f/141v/tl)). Fol. 116r (http://edition640.makingandknowing.org/#/folios/116r/f/116r/tl) of the manuscript also contains an entry for enameling fine leaves of a rose cast in gold (although the entry on fol. 155v speaks specifically of making the rose in tin and lead—not gold. The entry on fol. 155v also offers suggestions for how to correct imperfections in the cast, as well as how to glue or pin various pieces back together. Painting may not have been the only means of further amending the cast rose. On the next folio in the manuscript, 156v (http://edition640.makingandknowing.org/#/folios/156v/f/156v/tl), the author gives instructions for molding a fly, which he affixes to a bouquet of sage. The proximity of this entry to that on fol. 155r is significant, as the process of molding the delicate rose petals seems linked to the molding of the fly's wings, which are thin, necessitate separate casting, and are later soldered back onto the body of the fly.[4]

Equally significant to what is contained in the rose entries is what is left out: detailed discussion of the actual process of casting. Only in the margin of fol. 155r does the author add that the rose should be wetted with eau-de-vie to ensure a clean cast. One should understand the entry on fol. 155r as an elaboration on a process that had been more fully described elsewhere in the manuscript. For example, fol. 117r (http://edition640.makingandknowing.org/#/folios/117r/f/117r/tl) contains the entry "A means of molding flowers and plants," which outlines how to arrange a flower or plant on the clay slab in order to keep the flower from being crushed by the plaster, or floating up as the wet plaster is poured into the clay form that holds the plant. This information is not included in the entry on fol. 155r (http://edition640.makingandknowing.org/#/folios/155r/f/155r/tl).

Surviving sixteenth-century objects made through the processes of life molding and casting exist from the workshops of Bernard Palissy and Wenzel Jamnitzer.[5] The bouquet of flowers atop Jamnitzer's table ornament of 1549 (Rijksmuseum, Amsterdam) reflects one potential arrangement of such objects in a particularly masterful object (*Fig.2*). Separately cast plants of exceptional delicacy attributed to Jamnitzer also survive (*Fig. 3*). It seems more likely that the author of Ms. Fr. 640 was aware of Bernard Palissy, as on fol. 1r (http://edition640.makingandknowing.org/#/folios/1r/f/1r/tl), Bernard Palissy is listed (*Fig. 4*), as "M{estr}e Bernard palissi inventeur des rustiques figulines du roy et de la royne mere,"[6] with a cross marked to the left of Palissy's name. This is close to the designation given to Palissy on the title page of his book *Discours admirables, de la nature*

des eaux et fontaines, tant naturelles qu'artificielles, des metaux, des sels et salines, des pierres, des terres, du feu et des maux (Paris, 1580) (*Fig. 5*).[7] The author-practitioner may have known (or heard) of Palissy's text, which makes several references to the properties of roses, such as their ephemerality.[8] One cannot know whether the manuscript author-practitioner had direct knowledge of objects produced by Palissy, but his entries on roses deserve comparison with the *Rustic Ewer Decorated with Roses* (Musée du Louvre, Paris) attributed to Palissy or a close follower (*Fig. 6*).[9] Made of faience, the ewer includes roses molded from life, the petals of which have evidently been crushed in the process.

Fig. 3. Attributed to the circle of Wenzel Jamnitzer, Four Plants, ca. 1540–1550. Cast silver, 6.5 cm. Germanisches Nationalmuseum, Nuremberg, HG 11137. These lifecasts of plants reveal the sharp detail with which Jamnitzer and other European metalworkers were able to reproduce flora in metal. Permalink: http://objektkatalog.gnm.de/objekt/HG11137 (http://objektkatalog.gnm.de/objekt/HG11137) (CC BY-NC-ND 4.0 (https://creativecommons.org/licenses/by-nc-nd/4.0/)).

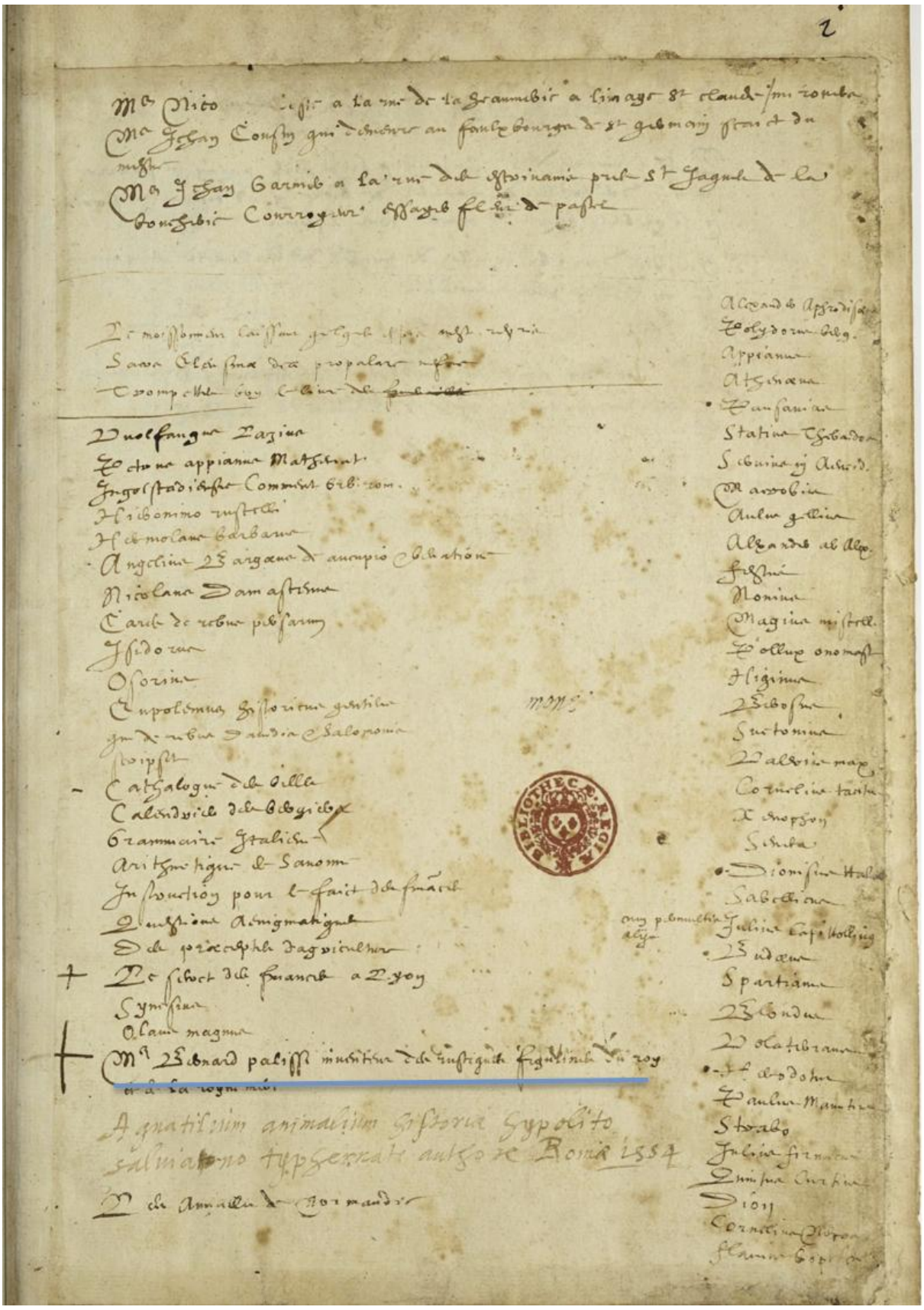

Fig. 4. Ms. Fr. 640, fol. 1r. Bibliothèque nationale de France, Paris. The name of Bernard Palissy is listed with a large cross to its left, here underlined in blue by the authors. Source: gallica.bnf.fr.


Par M. BERNARD PALISSY, inuenteur des ruſtiques
figulines du Roy, & de la Royne ſa mere.

Fig. 5. Detail of title page of Bernard Palissy, *Discours admirables de la nature des eaux et fontaines, tant naturelles qu'artificielles, des métaux, des sels et salines, des pierres, des terres, du feu et des émaux* (Paris: Martin le Jeune, 1580). Bibliothèque nationale de France, Paris. This detail shows the similarity of Palissy's title as it is recorded on Ms. Fr. 640, fol. 1r. Source: gallica.bnf.fr.

Fig. 6. Attributed to Bernard Palissy, Rustic Ewer Ornamented with Ceramic Roses Molded from Life, ca. 1575–1600. Faïence, 34.7 cm. Musée du Louvre, Paris, MR 2336. This ewer shows the result of life-molding of roses. In the course of this process, the petals of the large rose prominently displayed in the proper left side of the ewer have been crushed. © RMN-Grand Palais (Musée du Louvre) / Martine Beck-Coppola.

The entry on fol. 155v (http://edition640.makingandknowing.org/#/folios/155v/f/155v/tl), which begins with a call to paint the rose in order to make it appear beautiful indicates an attunement to the aesthetic properties of roses. This association of roses and beauty was perhaps connected to the lyric poetry produced in France in the sixteenth century, in which flowers were often used as a central motif. The poems of Pierre de Ronsard (1524–85) and Jean de la Taille (1540–1608), for example, gained immense popularity in France and frequently referred specifically to flowers. Consider, for example, the following poem by Ronsard, published in 1553 with the collection *Les amours*:

> *My pet, come see, this eventide,*
>
> *If that fair rose that opened wide*
>
> *Its crimson robe, at dawn, unto*
>
> *The sun, sees not already flown*
>
> *Its crimsoned folds, and, like your own,*
>
> *Its blush of morning's tender hue.*
>
> ***
>
> *Ah me, my pet! Alas, see what*
>
> *A little time will do! In but*
>
> *A trice, its beauty wilts, undone.*
>
> *Stepmother nature! Wicked, she,*
>
> *If such a flower — ah me! ah me! —*
>
> *lasts but from morn to setting sun.*
>
> ***
>
> *Thus, if you heed my word, my pet,*
>
> *Whilst childhood blooms and blossoms yet,*
>
> *Green, fresh and new is the hour:*
>
> *Before it fades, pluck, pluck your youth,*
>
> *Lest, all too soon, old age, forsooth,*
>
> *Wither your beauty, like the flower.*[10]

Flowers and their blossoming had long been associated with youth and beauty in lyric poetry, a metaphor also explored by Francesco Petrarca in his

Rerum Vulgarium Fragmenta.

Within the context of Ronsard's writings, the rose takes an especially central role as a trope through which to praise his beloved's appearance while warning her of its transience. As Ronsard expresses in the final verse of the second stanza of the ode, the rose—like physical beauty—is subject to the ravages of time and "lasts but from morn to setting sun" (v.12).

One must consider that the same individuals who read poetry by Ronsard may also have been consumers of life-cast objects. In the context of the rose discussed by the author-practitioner of Ms. Fr. 640, such an object would have inspired conversation about the transience of life. One of the goals of a life cast was to render everlasting an object whose beauty was in equal measure heightened and doomed by its impermanence. Furthermore, the poem calls to mind important questions of imitation. Ronsard's poetry is concerned with broader models of poetic imitation in the Renaissance, which has been explored in depth by scholars including Thomas Greene and, more recently, JoAnn DellaNeva.[11] Greene identifies a certain randomness to the borrowings within Ronsard's poetry, discussing sources ranging from Petrarca to Hesiod. DellaNeva, by comparison, explores an even more wide-ranging set of Italian poetic sources that informed Ronsard's verse. What is important to stress is that one's capacity to imitate and adhere closely to Petrarchan formulae was highly prized in sixteenth-century lyric production. It is worth drawing a parallel, therefore, between poetic imitation that would have been clear to readers of Ronsard's poem and the imitation of nature that was central to the products of life casting. Like the poems, life casts were prized for their ability to imitate their natural counterparts. With the subject of the rose to link these two objects of artistic creation, one could certainly imagine Renaissance individuals discussing these links between poetry and sculpture when standing before a life-cast rose.

The practice of casting flowers in metal and poetic discourse around flowers were directly united in the activities of a major literary society in Toulouse, known in the sixteenth century as the College de l'Art et Science de Rhétorique. Since 1513 at the latest, the College took responsibility for organizing the Jeux Floraux, an annual competition first held in Toulouse in May of 1324 to honor achievement in lyric poetry.[12] Since its inception, the Jeux Floraux offered winners prizes of metal flowers. Initially only one flower, a golden violet, was offered as a prize, but soon after two other flowers—a wild rose (*églantine*) and a marigold—were also awarded to competition winners.[13] The exact casting techniques used for these flowers are not known, but among the earliest surviving flowers associated with the Jeux Floraux are those attached to a fourteenth-century marble sculpture repurposed to represent Clémence Isaure, an invented donor who in 1540 was said to have left a bequest to the College for the Jeux Floraux (*Fig. 7*, *Fig. 8*).[14] In 1557 the sculpture was placed in the Hôtel d'Assézat in Toulouse, where the Jeux Floraux are still held annually to this day.[15]

Fig. 8. Detail of the so-called statue of Clémence Isaure (Fig. 7). Hôtel d'Assézat, Toulouse. The metal flowers are cast from life (date of the flowers unknown). Photo with kind permission of the Union des Académies de l'hôtel d'Assézat, Toulouse.

The production of such metal flowers suggests that artisans in Toulouse had honed particular skills surrounding this type of sculpture, although this is not to say that the author-practitioner of Ms. Fr. 640 was involved in making these objects for the Jeux Floraux.[16] It does confirm the existence of a well-educated audience that esteemed both the finery of metal flowers and the treatment of this motif in poetry. Pierre de Ronsard, whose lyric poem of 1553 was cited above, received a special honor as part of the Jeux Floraux in 1558.[17]

While there is no proof that the author-practitioner of Ms. Fr. 640 was himself engaged in poetic production, he may have benefitted from contact with individuals involved in the College. A number of poems presented there in the sixteenth and early seventeenth centuries show an interest in alchemy, astrology, and natural philosophy, as François de Gélis and John Dawson have both observed in their studies of the manuscript documenting the College's activities.[18] Several such poetic verses cited by Dawson seem potentially relevant to the activities of the author of Ms. Fr. 640.[19] For example, the verses "Je suis grande alchimiste et qui de la nature/ Recherche curieux les plus rares secretz" (I am a great alchemist and I seek with care the rarest secrets of nature) from a

poem of 1591 show an interest in the transformations and secrets of nature. Other verses reference alchemical and astrological ideas explicitly, while others are overtly Aristotelian, such as “La matière aspirant à la forme parfaicte” (the material aspires to the perfect form). If one follows de Gélis and Dawson’s suggestions that the Jeux Floraux could foster discourse on these topics, it seems possible that the College established a shared space in Toulouse for individuals interested in these matters. The objectives of the author-practitioner of Ms. Fr. are highly practical and rooted primarily in practical processes of making, and thus distant from texts of alchemy and natural philosophy, however the College may nonetheless have provided a social and intellectual network that nourished the interests of the author-practitioner in material transformation and nature’s secrets.[20]

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1. Ms. Fr. 640, fols. 116r, 117r, 117v, 129r, 145v, 154v, 155r, 157r, 160r.↩

2. For the molding of a marigold, see “Flowers,” fol. 145v.↩

3. In the sixteenth century, such words could be translated as “petal” or “leaf”—the word *pétale* was first used in 1649 by Fabio Colonna precisely in order to differentiate petals from leaves. See Émile Littré, *Dictionnaire de la langue française* (Paris: L. Hachette, 1873–77), III: 1084. In this entry, “*feuilles*” likely refers to petals, as the entry later emphasizes the softness of the *feuilles*.↩

4. In a note in the margin on fol. 156v, the author notes that should there be any defects in the fly’s wings, they can be substituted by simply cutting out a thinly hammered piece of tin, gold, or silver. Such a substitution seems less likely for the more conspicuous rose petals.↩

5. On Palissy, Jamnitzer, and the process of life casting, see especially Pamela H. Smith, “Between Nature and Art: Casting from Life in Sixteenth-Century Europe,” in *Making and Growing: Anthropological Studies of Organisms and Artefacts*, ed. Elizabeth Hallam and Tim Ingold (Aldershot, Vt.: Ashgate, 2014), 45–63; Pamela H. Smith and Tonny Beentjes, “Nature and Art, Making and Knowing: Reconstructing Sixteenth-Century Life-Casting Techniques,” *Renaissance Quarterly* 63 (2010): 128–79; Edgar Lein, “Über den Naturabguss von Pflanzen und Tieren,” in *Nürnberger Goldschmiedekunst 1541–1868. Band II. Goldglanz und Silberstrahl. Begleitband zur Ausstellung im Germanischen Nationalmuseum, Nürnberg. 20. September 2007 – 13. Januar 2008*, ed. by Karin Tebbe (Nürnberg: Verlag des Germanischen Nationalmuseums, 2007), 205–15; Petra Kayser, “The intellectual and the artisan: Wenzel Jamnitzer and Bernard Palissy uncover the secrets of nature,” *Australian and New Zealand Journal of Art* 7 (2006): 45–61; Ernst Kris, *Le Style rustique: le moulage d'après nature chez Wenzel Jamnitzer et Bernard Palissy (1926) suivi de Georg Hoefnagel et le naturalisme scientifique (1927)* (Paris: Macula, 2005).↩

6. “Master Bernard Palissy, inventor of rustic figulines to the king and the queen mother.” On the title page of *Discourse admirables*, Palissy is referred to without the *maistre* and with a minor variant: “*la royne sa mere*” instead of “*la royne mere.*”↩

7. See Bernard Palissy, *Discours admirables de la nature des eaux et fontaines, tant naturelles qu'artificielles, des métaux, des sels et salines, des pierres, des terres, du feu et des émaux* (Paris: Martin le Jeune, 1580).↩

8. For example, Palissy notes that flowers (including roses) lose their colors "en un instant," whereas natural stones do not. See Palissy, *Discours admirables*, 240.↩

9. On this object and its relation to Palissy's artistic production generally, see Pamela Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago and London: The University of Chicago Press, 2004), 100–106; Leonard Amico, *Bernard Palissy: In Search of Earthly Paradise* (Paris and New York: Flammarion, 1996), 94.↩

10. *Mignonne, allons voir si la rose/ Qui ce matin avoit desclose/ Sa robe de pourpre au Soleil,/ A point perdu ceste vesprée/ Les plis de sa robe pourprée,/ Et son teint au vostre pareil. /Las ! voyez comme en peu d'espace,/ Mignonne, elle a dessus la place/ Las ! las ses beautez laissé cheoir !/ Ô vrayment marastre Nature,/ Puis qu'une telle fleur ne dure/ Que du matin jusques au soir / Donc, si vous me croyez, mignonne,/ Tandis que vostre âge fleuronne/ En sa plus verte nouveauté,/ Cueillez, cueillez vostre jeunesse :/ Comme à ceste fleur la vieillesse/ Fera ternir vostre beauté.* This translation and transcription of the poem are from: Norman Shapiro, ed. and trans., *Lyrics of the French Renaissance: Marot, Du Bellay, Ronsard* (New Haven: Yale University Press, 2002), 324–25.↩

11. Thomas Greene, *The Light in Troy: Imitation and Discovery in Renaissance Poetry* (New Haven and London: Yale University Press, 1982), 197–219; JoAnn DellaNeva, *Unlikely Exemplars: Reading and Imitating beyond the Italian Canon in French Renaissance Poetry* (Newark, Del.: University of Delaware Press, 2009), 222–89.↩

12. The history of the Jeux Floraux and the shifting institutions surrounding its administration is too complex to be described here. While the exact date in which the Collège de Rhétorique administered the Jeux Floraux is uncertain, it seems likely that this body took control of the games between 1498 and 1513, in coincidence with the dating of a manuscript known as the *Livre Rouge*, which is separated in two volumes and contains records of the College's activities. The organizations running the Jeux Floraux had been the Gaya Sciensa (also called the *Gay Saber*) from 1324 until the late fifteenth century, the Collège de l'Art et Science de Rhétorique until 1694, and the Académie des Jeux Floraux from 1694 onwards. The history of the Jeux Floraux from its inception through the seventeenth century is presented in John Charles Dawson, *Toulouse in the Renaissance. The Floral Games; University and Student Life; Etienne Dolet (1532–1534)* (New York: AMS Press, Inc., 1966); François de Gélis, *Histoire critique des Jeux Floraux depuis leur origine jusqu'à leur transformation en académie (1323–1694)* (Geneva: Slatkine, 1981). On the history of the Jeux Floraux after its governing body was officially reorganized as an academy, see Axel Duboul, *Les deux siècles de l'Académie des Jeux Floraux*, (Toulouse: Edouard Privat, 1901), 2 vols.↩

13. On these prizes, see Dawson, *Toulouse in the Renaissance*, 4–5; Gélis, *Histoire critique*, 104–8.↩

14. On Clémence Isaure, see Pierre-Louis Boyer, *Clémence Isaure. Vérités sur une chimère toulousaine* (Paris: Atlantica, 2010). While the addition of these particular flowers to the sculptures has not been precisely

dated, it seems likely that they were added by 1581, by which time a bronze plaque identifying the figure as Clémence Isaure was placed on the statue's pedestal. The presence of the flowers is also recorded in eighteenth-century prints showing the statue. See Boyer, *Clémence Isaure*, 67–77, 111–13.↩

15. For information on the Jeux Floraux at present, see their website: http://jeuxfloraux.fr/ (http://jeuxfloraux.fr/).↩

16. For the Toulouse goldsmiths who cast these flowers, see Sarah Muñoz and Colin Debuiche, "Artisans of Toulouse," in *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, ed. Making and Knowing Project, et al. (New York: Making and Knowing Project, 2020), https://edition640.makingandknowing.org/#/essays/ann_332_ie_19 (https://edition640.makingandknowing.org/#/essays/ann_332_ie_19). The types of flowers awarded for the Jeux Floraux do not exactly match those in the manuscript, although the wild rose (*églantine*) bears a similar form to the pansies treated by the author.↩

17. On the prize for Ronsard, see De Gélis, *Histoire critique*, 108.↩

18. See François de Gélis, "Les poètes humanistes des Jeux Floraux," *Mémoires de l'Académie des sciences inscriptions et belles-lettres de Toulouse,* Ser. 11, vol. 7 (1919): 45–68. Dawson, *Toulouse in the Renaissance*, 35–38.↩

19. In addition to reproducing these verses, Dawson includes dates that refer to the year in which these refrains are cited in the *Livre Rouge*. See Dawson, *Toulouse in the Renaissance*, 37–38.↩

20. For a discussion of the manuscript in relation to contemporary books of secrets, see Raymond Carlson and Jordan Katz, "Casting in Frames," in *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, ed. Making and Knowing Project, et al. (New York: Making and Knowing Project, 2020), https://edition640.makingandknowing.org/#/essays/ann_010_fa_14 (https://edition640.makingandknowing.org/#/essays/ann_010_fa_14).↩

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