

# Court Workshops and Statecraft as Sites for Artisanal Knowledge Production and Exchange

Erma Hermens

## Introduction

---

BnF Ms. Fr. 640 comprises a miscellanea of recipes and instructions ranging from artisanal to household and medical, providing a comprehensive representation of arts and crafts techniques. While much research on such texts often focuses solely on understanding techniques and practices, it is crucial to emphasize that these recipes and instructions were written within specific contexts and for particular purposes. As Pamela Smith notes, craftspeople were “not illiterate, but were fluent, rather, in a different kind of language and knowledge.”<sup>1</sup> Indeed, treatises such as Ms. Fr. 640 challenge researchers to evaluate this different kind of language and the environment in and for which it was used. In this essay, I delve into the broader context of what might be seen simply as applied or practical knowledge, examining how Ms. Fr. 640, described by the Making and Knowing Project as a “set of working notes,” might have been compiled and used.<sup>2</sup>

The circumstances of labor, the materials and techniques used in artisanal workshops, and the orientation and choreography of tasks between master, assistants, and apprentices, are all framed by place and time. As we shall see, there were, especially among artisans, fewer trade or “disciplinary” silos and more cross disciplinary collaborations, often instigated by market demand and patronage. In the late sixteenth century, during the period Ms. Fr. 640 was produced, societal demands regarding taste, politics, and economics stimulated the establishment of what could best be described as a statecraft system. Groupings of artisanal workshops were established at courts that aimed at economic growth and brand building, fueled by knowledge exchange between the artisans and, of course, by robust competition in skills and technical innovation. Understanding these multifaceted contexts, from workshops to courts and states, in which artifacts were produced for the court’s galleries and palaces as well as for political exchange of gifts, sheds light on the motivation of the author-practitioner of BnF Ms. Fr. 640 in writing and compiling his text.

In this essay, I explore how the content of Ms. Fr. 640 can be related to late sixteenth- and early seventeenth-century workshop constellations, whether set within an urban context, and/or situated at courts that formed the administrative centers of regions, cities, and states. To develop this, I examine court workshops in Florence and Pesaro as case studies, contextualizing their practical rationale and their high appraisal of technical innovation and skill. I also examine the close proximity of different types of artistry within the workshops and evaluate its effect on technical knowledge production. Finally, I make initial observations on the political, economic, and artistic rationale behind these workshop conglomerates, or, as we might call them today, “creative industries.”

## Court Workshops: Sixteenth-Century Creative Industries

---

In the late sixteenth and early seventeenth century, various European courts, from modest small city states to grand courts such as that of the Medici in Florence, established artisanal workshop clusters, sometimes set in motion by an official court decree. These workshops were managed by the court administration and comprised a wide range of professions producing objects ranging from the temporary and ephemeral to the durable and valuable, from modest household items to serve the court to armory and fountain designs, to highly sophisticated artifacts that demonstrated skilled craftsmanship, technical innovation, and material preciousness.<sup>3</sup>

The rationale for these court workshop conglomerates with their highly skilled artisans and artists may have arisen out of a concern with practical, useful, “statecraft” knowledge, as Samuel Quiccheberg (Antwerp 1529–Munich 1567), a physician and librarian at Albrecht V’s court in Munich, described in detail in his treatise *Inscriptiones* (1565). In this work, he presents the “practical, empirical, and artisanal knowledge” incorporated in objects in the so-called *Kunstammer* collections.<sup>4</sup>

To explore a plausible context for Ms. Fr. 640 within this concept of statecraft, I first turn to the establishment at the Medici court in Florence of the so-called *Galleria dei Lavori*, a series of workshops situated on the ground floor of what is now the Uffizi Gallery. Additional information is gleaned from a similar gathering of *botteghini* in the Ducal Palace at the court of Duke Francesco Maria II della Rovere in the Duchy of Pesaro and Urbino. Finally, I briefly examine some aspects of the Louvre *logements* in Paris.

### The Florentine *Galleria dei Lavori* and the Pesaro *botteghini*

---

The Florence and Pesaro courts were related through both military and family connections. Ferdinando I de’ Medici announced the establishment of the *Galleria dei Lavori* by official decree in 1588, while the Pesaro workshops precede them, being recorded in court documents from 1581 onwards albeit in a less formalized way. It is plausible that they were both inspired by the workshops in the Casino San Marco in Florence, the predecessor of the *Galleria dei Lavori*, which housed alchemical laboratories and the Medici porcelain and ceramics workshops, glass making, gem carving and rock crystal fusing, to name but a few of what some historians have seen as the artisanal activities related to alchemy taking place there.<sup>5</sup> Ferdinando I de’ Medici’s predecessor Francesco I, saw the Casino San Marco as a “place for scientific experiment.”<sup>6</sup> He relocated most of the San Marco workshops to the Uffizi *Galleria* in 1587–88, leaving the alchemical laboratories at the Casino San Marco.<sup>7</sup>

The ample archival evidence on the Pesaro and Florentine establishments provides fascinating insights into their purpose, organization, administration, and the artists and artisans employed. The archives of both courts include numerous ledgers, chronicling payments to the courts’ craftsmen and artists. These records meticulously describe the expenses for materials and labor associated with each specific commission, accompanied by detailed notes on the maker(s) involved, and sometimes include the names of those for whom the objects were made. Furthermore, the records list the costs of the materials and the time invested in the making process.

Sometimes they even contain critical notes on the quality of the work in progress, and robust comments on the laziness of the artisans involved were regularly added.

These documents depict a lively and very active artistic environment with ample cross-disciplinary dissemination and collaborations for the manufacture of a broad range of products, both to furnish the court itself as well as for gifts.

### *Pesaro*

In 1581, in Pesaro, Francesco Maria II della Rovere (1549–1631) added a range of *botteghini*, or workshops, to the ducal palace as part of a new wing which also included a gallery and library. There were twenty-three workshop spaces opening onto the street, with living quarters on the floor above, a structure still intact today and now occupied by a range of shops, from fashion and ceramics to jewelry.

Contemporary chronicler Antonio Zacconi provides “A note on the craftsmen that were kept by the Most Serene Francesco Maria the Second, Duke of Urbino, in the workshops in his own palace in Pesaro, hired and salaried by him.” Zacconi lists “Two painters, that is Terenzio Terenzi da Pesaro, who works in human figures, Giovanni Sceppere from Flanders, who works in landscapes. Valerio Mariani da Pesaro, a singular and rare miniaturist, who in a similar profession has few equals that can be compared with him or surpass him. Simonzio Lupi da Bergamo, he, too, a singular and excellent miniaturist. Boniforte Griciotti, jeweller from Milano. Nicolò Todesco, goldsmith, Nicolo Mogiasco, silversmith, Jacopo Cossa from Piemonte, inlayer in ebony, Vespasiano Griffi from Pesaro, clockmaker, Aloisio Paccotti da Boncifieddo, also clockmaker, Bartolomeo Tedesco, bookbinder.”<sup>8</sup>

Other documents from the Pesaro court add yet more professions such as sculptors, scientific instrument makers, embroiderers, potters, gun makers and fountain builders. The duke paid this wide range of artists and artisans a monthly wage, plus a supply of candles, firewood, and, especially important, a fixed volume of wine. Materials for each commission were paid separately and the artisans were allowed to also sell directly to the public once their obligations to the court were fulfilled. Their production was meant to furnish the new gallery with precious objects, but also provide political and diplomatic gifts.<sup>9</sup> The correspondence of the duke with his ambassadors across Italy and abroad shows an active search for the best artists and artisans, who would be selected on the basis of their superior skills.<sup>10</sup>

### *Florence*

A similar grouping of workshops was established in 1588 by Ferdinando I de' Medici (1587–1609) by official decree. Artists and craftsmen from Florence, from the Casino San Marco and workshops across the city, as well as from abroad were hired by the court and provided with a workshop on the ground floor of what is now the Uffizi Gallery.<sup>11</sup> Again, there is a wide range of professions represented: “jewelers, all the stone cutters of every type, cosmographers, goldsmiths, miniaturists, guardians of the *Galleria*, wood turners, confectioners, distillers, artisans of porcelain, sculptors, and painters, and workers of a crystal-kiln, including also Michele della Zecca [of the mint], Marcello master of the arquebus, and Colonnese the writer....”<sup>12</sup> There are also *botteghe* housing

a smith, a certain maestro Gulielmo Francese with his German assistant, two stone-cutters, two German cabinet makers with their two German assistants, frame makers, two rock crystal workers, a clockmaker, three goldsmiths, a gem and stone worker, stone and gem polishers, two stone sawyers, a weapon maker, a miniaturist, two painters, an architect, alchemists and glass blowers, furbishers, harquebus makers, firework makers, fountain builders.” The list also mentions the *bottega* of goldsmith Jaques Bylivelt (Delft 1550–Florence 1603), a highly skilled goldsmith from Delft in the Netherlands, who acted as the supervisor of the *Galleria* and, next to his own work, was especially concerned with quality control and timely delivery. There were special rooms for sawing with water, grinding with emery, and a storeroom for all the offcuts from semi-precious stone and marbles, which the artisans could recycle if suitable for other commissions.<sup>13</sup>

This extensive list immediately elicits a comparison with the professions represented throughout Ms. Fr. 640. The author-practitioner too mentions in the many recipes and instructions a wide range of professions from frame makers, furbishers, iron etchers, glass workers, metal workers, gilders, cabinet makers, gem cutters, stone sawyers, alchemists, harquebus makers, painters, gold and silversmiths, to dyers and fountain builders.

We have gleaned from the historical records of the Florentine *Galleria dei Lavori* and the Pesaro *botteghini* that, in addition to local talent scouting, there are indications of nationwide and international recruitment endeavors, particularly in regions renowned for cultivating superior technical skills. For example, gold- and silversmiths and cabinet makers from Germany, a French blacksmith, gem and stone cutters from Milan, and bookbinders from Flanders. Similarly, in Ms. Fr. 640, references are made to specific international expertise: painters from Flanders are praised (fol.s 60v (<https://edition640.makingandknowing.org/#/folios/60v/f/60v/tl>)–61r (<https://edition640.makingandknowing.org/#/folios/61r/f/61r/tl>)) and glassworkers’ techniques from Lorraine (fol. 20r (<https://edition640.makingandknowing.org/#/search/folio/20r/tl>)) and Germany (fol. 32v (<https://edition640.makingandknowing.org/#/folios/32v/tl>)) are highlighted.

A more detailed practical picture of the organization of the workshops can be deduced from the Florentine *Guardaroba* documents. These documents, varying from ledgers, invoices and receipts, project descriptions and lists of materials and tools, as well as full workshop inventories, indicate the manufacture of objects of varying quality and costs, corresponding to different purposes and markets. The procuring of materials was centrally organized, and the *Guardaroba Medicea* documents contain what now would be described as spreadsheets, listing materials bought for the various workshops (*Fig. 1*). There was also a continuous search for the best materials, such as semi-precious stones imported from the Middle East, rare rubies and diamonds bought from reputable merchants, and high-quality pigments from Venice, at the time the center for the import of raw materials such as lapis lazuli and its local processing into high quality ultramarine. Similarly, among Ms. Fr. 640’s entries can be found, for example, silver made from Spanish coins (fol. 164r (<http://edition640.makingandknowing.org/#/folios/164r/f/164r/tl>)) and morions from Milan (fol. 32r (<http://edition640.makingandknowing.org/#/folios/32r/f/32r/tl>)), lead from Flanders used by the Germans for casting (fol. 63r (<http://edition640.makingandknowing.org/#/folios/63r/f/63r/tl>)), paper from Florence “which is the finest” (fol. 81r (<http://edition640.makingandknowing.org/#/folios/82r/f/82r/tl>)).

Fig. 1. “Spreadsheet” of payments for materials for the various *botteghe*. Guardaroba Medicea 183, unnumbered folios, Archivio di Stato, Florence.

Household objects to serve the court, as well as objects and scenography for temporary, ephemeral installations for celebratory events were produced by the same workshops that made intricate and precious artifacts for diplomatic gifts or to adorn the ducal palace.<sup>14</sup> The extensive collaborations among employees of different workshops are also evidenced by the archival documents and the objects made, such as the Barberini cabinet (Fig. 2), which, as its combination of materials demonstrates, must have been produced by a rock crystal cutter, workers in *pietre dure*, ebony workers, and cabinet makers. Its design, based on woodcut illustrations of Aesop’s fables (from a 1485 edition by Francesco Tuppò) with additional flower still lifes, was most likely provided by the court painter and miniaturist Jacopo Ligozzi (1547–1627). Such collaborations, and hence the potential for exchange of technical knowledge, stimulated a competitive environment leading to a taste for technical ingenuity and innovation. In this kind of environment, skills came more sharply into focus, leading to attempts both to write down processes and to set standards.





Fig. 2. Barberini cabinet, Galleria dei Lavori, Florence, c. 1601–1623. Oak and poplar veneered with various tropical hardwoods, ebony moldings and plaques of marble, slate (paragon); *pietre dure* work consisting of colored marbles, rock crystal, and various hardstones. 59.1 x 96.8 x 35.9 cm.

Metropolitan Museum of Art, New York. Wrightsman Fund, 1988. 1988.19. Permalink: <https://www.metmuseum.org/art/collection/search/207712> (<https://www.metmuseum.org/art/collection/search/207712>) (CC0 1.0 (<https://creativecommons.org/publicdomain/zero/1.0/>)).

The range of workshops at the different courts and the regular changes in the workshops' occupants, which may have been connected to the collecting patterns of the sovereign, seems to have given rise to notes on process, such as a manuscript on miniature painting, dedicated to Duke Francesco Maria II della Rovere, authored and compiled by the ducal court miniaturist, Valerio Mariani da Pesaro, mentioned in Zacconi's list above as "a singular and rare miniaturist."<sup>15</sup> Part of the treatise is based on *Ricordi di belli Colori*, a small collection of notes presently in the Vatican library, but originally part of the library of Francesco Maria II della Rovere. The notes cover technical instructions written by Gherardo Cibo (1512–1600), a nobleman and amateur botanist and artist who specialized in botanical illustrations and was well known for making red lakes and colorants from local plants.<sup>16</sup> The recipes provide fascinating insight into the Duke's artistic interests, as demonstrated by his collection of illuminated manuscripts of the lives of his famous ancestors, several illuminated by Mariani, and

illustrated copies of Andrea Mattioli's translation of Dioscorides *Materia Medica*, botanical illustrations, as well as Netherlandish style landscape drawings. The treatise demonstrates an interest in recording applied knowledge to teach and to set standards of technical skill for workshop production, aimed at the workshops at the Pesaro court, where Mariani was employed.

## Quiccheberg's Theatre and Statecraft

---

The nineteenth-century historian Antonio Zobi describes how Ferdinando I de' Medici, grand duke of Tuscany, educated in Rome in the arts, sciences, and literature within the splendor of the Papal court, established the *Galleria dei Lavori* at the Florentine court as a political statement: "and wise as he [Ferdinando] was, having understood that the arts are those which with a most splendid light stud the diadems of the kings with gems, he tried to protect them, granting the craftsmen of major reputations favours, distinctions and large premiums; as they were first-class."<sup>17</sup> This description of the aims of establishing the *Galleria dei Lavori* indicates succinctly the demand for quality and branding: to metaphorically stud the diadems of the Kings with the most splendid light, in this case those of Ferdinando de' Medici.

The Medici and Pesaro court workshop conglomerates aimed to create a well-organized production center for crafts administered by the court and/or state. The exquisite craftsmanship and creativity resulted in so-called statecraft, its splendor representing the power and magnificence of its sovereigns. The manufacturing of high-quality artifacts often coincided with the building of galleries and libraries at the courts, as well as with the establishment of collections, the so-called *Kunstammer* (chambers of art), filled with *naturalia* (things of nature) and *artificialia* (human-made artifacts).<sup>18</sup> One such *Kunstammer* was that of the Duke of Bavaria, Albrecht V (r. 1550–1579) established in 1563.

In 1565, Albrecht's librarian, Samuel Quiccheberg, wrote one of the first treatises on assembling a collection for a *Kunstammer*, *Inscriptiones, vel tituli theatri amplissimi* ("Inscriptions or Titles of the Most Ample Theater encompassing particulars of the whole creation and outstanding images, or . . . a storehouse of artificial and wonderful things . . . which, for those who spend time to examine and engage with them, will bring about a singular knowledge of things and admirable prudence")<sup>19</sup> (*Fig. 3*). In the text, Quiccheberg imagines a complex of buildings dedicated to art production, collecting, and display, education, research, and artistic experimentation.<sup>20</sup> The treatise covers arts, crafts, and measuring instruments and techniques, with a strong focus on knowledge production and skill, and aimed at the establishment of a "political showcase for princely magnificence."<sup>21</sup> However, this "showcase" of objects, as Quiccheberg explains, also serves the state in other ways: "Indeed, I also judge that it cannot be expressed by any person's eloquence how much wisdom and utility in administering the state—as much in the civil and military spheres as in the ecclesiastical and cultural—can be gained from the examination and study of the images and objects we are prescribing."<sup>22</sup> Quiccheberg allocates a key role to objects and artifacts in the administration of the state. On the title page of *Inscriptiones* he writes that the *Theatre* is a "storehouse of artificial and marvelous things." He recommends that "these things should be brought together here in the theater so that by their frequent viewing and handling one might quickly, easily, and confidently be able to acquire a unique knowledge and admirable understanding of things."<sup>23</sup>

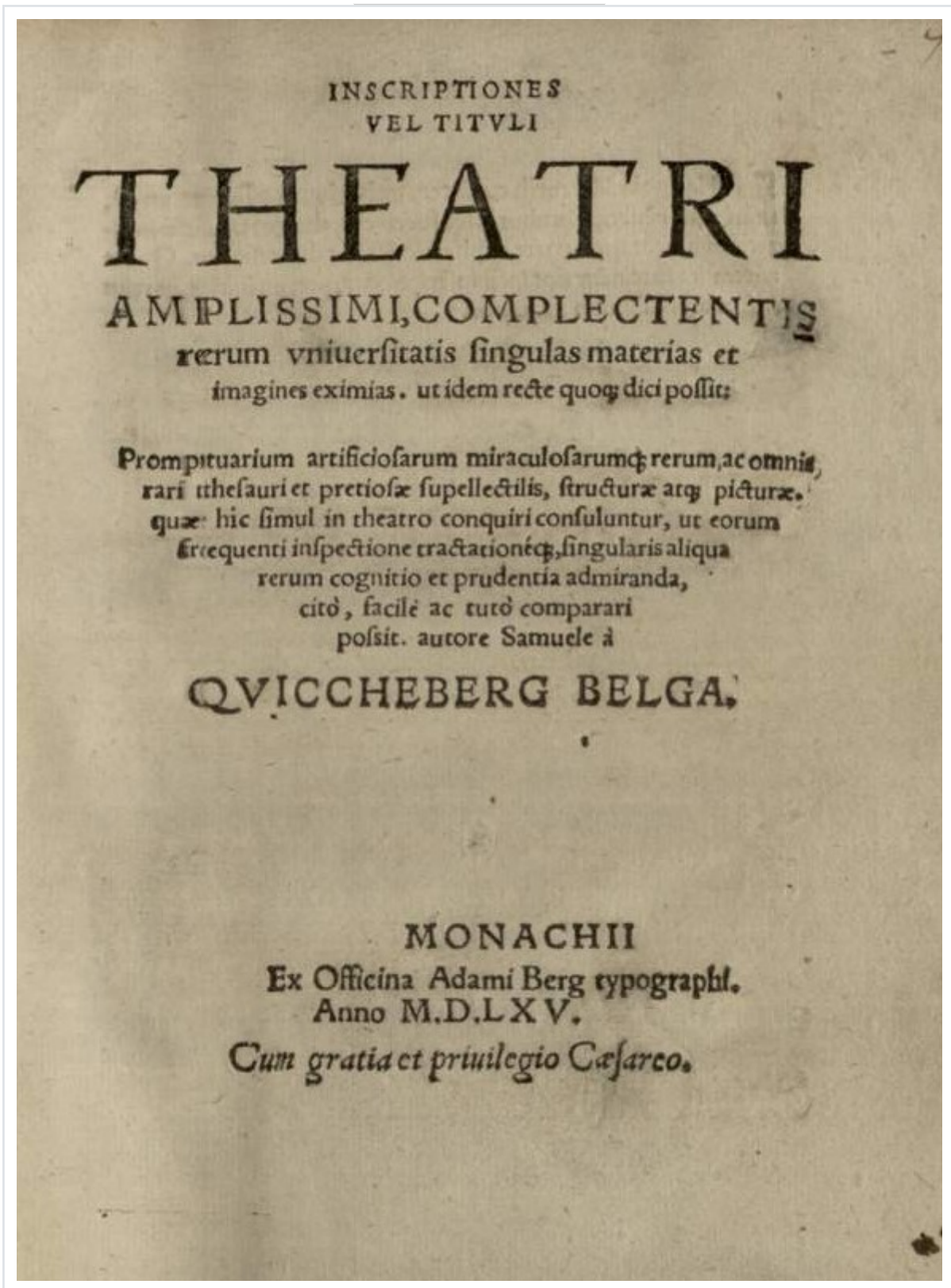


Fig. 3. Title Page, Samuel von Quiccheberg, *Inscriptiones vel tituli theatri: amplissimi, complectentis rerum universitatis singulas materias et imagines eximias...Promptuarium artificiosarum miraculosarumque rerum...ut eorum frequenti inspectione tractationeque, singularis aliqua rerum cognitio et prudentia admiranda...*, 1565.



Quiccheberg starts his treatise with a list of “Inscriptions,” divided over five classes, which present an inventory of the objects that should be part of a *Kunstammer* collection. Quiccheberg’s list certainly makes for interesting reading, as many of the objects can be related to the entries in Ms. Fr. 640, as well as to the purposeful conglomeration of workshops at court discussed above that provided the sovereign with many magnificent objects, that became part of collections, and would help to create a “brand” (more on that below). Without going into every detail, it is fair to say that the *Inscriptiones* describe a broad range of objects, ranging from samples of raw materials such as metals, gems, semi-precious stones, and earths, to “processed” materials such as “Colors and pigments, such as those that are spreadable, friable, mineral, water-based, oil-based, vitreous, and the like,” to rare animals, in some manner of conservation kept free from decay and dried. Despite the often great technical detail, there are some more general categories such as “Handiwork of artisans, made from any sort of metal. For example, the work of goldsmiths, braziers, clock makers, swordsmiths, and other outstanding artisans who, through the art of sculpting and founding, produce some artifacts from any kind of ingot or sheet of metal,” and, he continues, “Artisanal works of every kind, made from wood, stone, gems, woven fabrics, and other materials of the most diverse kinds. Items produced by the art of turners, plasterers, fine sculptors, glassblowers, embroiderers, weavers, and those who create other artifacts of this sort besides those listed above.”<sup>24</sup> Not only artisans are listed, but also painters, both in oil and water color, printmakers, scientific instrument makers, as well as manufacturers of props and ephemera constructions for festivals, spectacles, and other political events. Add to this the many descriptions of tools as part of the theater: “Instruments for workshops and laboratories used by the most skilled artisans, such as the tools of sculptors, turners, goldsmiths, foundry workers, woodworkers, and indeed of all artisans whom this world supports in our age.”<sup>25</sup>

Quiccheberg describes in the second part of his treatise where all these artifacts, tools, and materials are displayed, made, and stored: “Museums, Workshops, and Storerooms, Such as Are meant for Furnishing Wisdom and Pleasing Arts, Which are sometimes Constructed Separately in Palaces and Sometimes joined together.”<sup>26</sup> The *Galleria di Lavori* at the Medici court in Florence, the Pesaro *botteghini* that was added to the Ducal Palace together with a new gallery and library, and other examples at European courts, seem to follow a similar formula as Quiccheberg’s concept for the Bavarian court. Quiccheberg emphasizes the educational aspect of his Theater and its potential for the “aspiring leader” to study every kind of discipline and matter through objects and materials since, as he states, “all those topics are present that universal nature embraces, that all books teach, that all of human life can offer, it is perfectly clear that no discipline can be taught, no work of art examined, no state of life imagined, that does not have its foundations, equipment, means of support, or examples here in the theater.” The “aspiring leader,” if familiar with “a certain style of learning, and has examined what things should be considered as similar, different, opposite, or in a further subordinate class—it cannot be but that in the shortest time, without great exertion and dangers or troubles (which would in general have to be faced in the investigation of things), he will acquire unbelievable practical knowledge regarding everything and a manifestly divine wisdom.”<sup>27</sup>

Thus, the formation of institutionalized workshops, administered by the court, occurred in tandem with the establishment and building of art galleries, *Kunstammer*, and libraries. Furthermore, the ever-expanding diplomatic and political networking required signature gifts. This, and the rapid development of a merchant class and increased urbanization, led to new market demands and hence the development of novel, sometimes more efficient, manufacturing methods, and quality standards for production. The court workshops should be placed at the center of this all, as they were established to strengthen the sovereign’s cultural, economic, and

political status through high-quality manufacture of artifacts with a strong element of identity “branding.” The need for the development of political and cultural identities through objects and artifacts led to statecraft with a specific style, technical ingenuity, and innovation in a specific discipline, constructing an artistic court identity or branding.<sup>28</sup> For example, highly skilled *pietre dure* work was—and still is—associated with the Florentine Medici court as their specialized workshops were renowned for their innovative and rather secretive technical skills and designs, often the result of collaborations between painters such as Jacopo Ligozzi and the *pietre dure* artisans.<sup>29</sup>

## Statecraft, Cities, and Branding

---

Quichberg’s *Inscriptiones* provide a framework for such statecraft, cultural identity, and branding, leading to courts as well as urban environments where such frameworks are actively developed by court administrations for cultural, political, and economic reasons. Such frameworks go back to the physical branding of objects in medieval times and relate to the guilds and their systematic ways of controlling quality and setting standards, with “the hallmark as visual manifestation.”<sup>30</sup> Although this varied according to region and type of trade, Bert De Munck considers guild officials who applied such hallmarks as “an extension of either merchants or the manufacturing masters themselves,” describing the marks as brand development or even franchising.<sup>31</sup> For example, in the early seventeenth century, the Antwerp brand of two hands and a tower on the back of oak panels used as a support for paintings, acknowledged the location of production and confirmed the guild ordinances, sealing the quality of the product. In addition, the panel maker would also brand his work with his initials (*Fig. 4*).<sup>32</sup> The criteria used to apply a hallmark imply a value judgment, not only about the quality of the materials and manufacturing process, but also about the level of skill of the actual masters in the guilds and their trustworthiness in particular, which places branding of artifacts into both economic and political systems. Although a discussion of quality control and branding used by the guilds is beyond the scope of this essay, the systematic, sometimes competing, controls by local guilds of material and technical quality at times resulted in brand differentiation between cities.







In the mid to late sixteenth century, urbanization led to what De Munck and Bellavitis describe as “creative cities.”<sup>33</sup> They state that the “self-evident idea that Renaissance cities were ‘creative’ as they were the centers of every kind of exchange—human, economic, cultural—is the result of a long-time history.” The growth of the city in a material, economic, and demographic sense was closely related to the “narratives, discourses, and imaginaries about the fame of the city and the talents of its inhabitants.”<sup>34</sup> Such creative cities, with administration centers often led by the court or urban aristocracy, would provide the ideal environment for the movement of what Rens Bod coined as “cognitive goods: shared epistemic tools of knowledge-making disciplines that can be transferred across disciplinary boundaries.”<sup>35</sup> Guilds still played a role, and they, together with the urban authorities and aristocracy, stimulated the development of technical knowledge and innovation, by giving privileges to talented highly skilled artists, artisans, and inventors from outside the city, offering them membership of local guilds, patents for their products, and other incentives.<sup>36</sup> The skills of the artisans and the high quality of their products contributed to the development of a trademark connected to the city’s name, and the provision of a recognized reference for its products, such as Murano glassware and Limoges enamel, a system still in use today, and, as many recent discussions on the ownership of such trademarks show, closely connected to politics and economics.

This line of political thought is echoed in various contemporary political accounts, such as in *Delle cause della grandezza delle città* (1588) (“On the causes of the greatness and magnificence of cities”) by the Italian philosopher and political writer Giovanni Botero (1544–1617). Originally trained as a Jesuit, Botero spent a substantial period of time, from ca. 1586 to ca. 1595, at the papal court of Cardinal Federico Borromeo (1564–1631) in Rome, which proved to be formative years for his anti-Machiavellian and Catholic writings. His chapter, “On Industry,” is of interest for our reflection on branding through artisanal excellence, in both urban and court environments. Botero states “Nothing is more important for causing a state to grow ... than industry and a great number of crafts.”<sup>37</sup> He explains how “From this comes a flow of money and people, who are workers or who deal in the finished goods, or who supply workers with materials, or who buy, sell and transport the ingenious products from human hands and minds from one place to another,” firmly placing artisanal production in a political and economic context. These workers making the “ingenious products from human hands and minds” are the artisans, the manufacturers, and, he goes on, “things made by skilled human hands are far more numerous and costly than those produced by nature,” explaining it is human ingenuity that, for example, makes “the filthy secretion of a lowly caterpillar into something prized by princes and esteemed by queens, and finally sought after by everyone for adornment,” which “support a large numbers of inhabitants with jobs and far outstrips what trade in natural resources can provide.”<sup>38</sup>

Indeed, Botero emphasizes, following his Machiavellian interests, how industry plays an equally crucial role for the running of a prosperous court and the status of its sovereign: “a prince who wishes his city to be well populated must establish all kinds of crafts and industries there, which he can do by bringing in skilled artisans from other countries and giving them suitable workplaces and lodgings, by taking more ingenious minds and appreciating the rare and singular inventions they devise, and by offering prizes for perfection and excellence.”<sup>39</sup>



## Paris *Logements*

The necessary provision of workplaces and lodgings in a city and/or at the court, as seen in both the Florentine and Pesaro courts, was crucial to attract skilled artisans and hence assure high quality. Another somewhat later example can also be found in the so-called *Logements* in Paris. On December 22, 1608, a Royal Letters Patent was issued for the establishment of twenty-seven *logements* and ateliers for “Maitres des Arts et Mestiers” in the Louvre palace in Paris.<sup>40</sup> The *logements* were located on the ground floor of the *Grande Galerie*, which was built along the banks of the Seine by Henri IV, King of France (1553–1610), as part of an impressive program of restoration and building projects in Paris. The Patent explains that the aim of this project was

*to arrange the building in such a form that we can comfortably lodge there a number of the best [...] masters who could cover; painting, sculpture, gold smithery, clock making, cutting jewels, and many others of best excellent arts, so much to serve us from here, as if to be among the same means employed by our subjects in that they would need their industry, and also to create something like a nursery for workers from which, under the apprenticeship of such good masters, several would come who later would spread throughout our kingdom and who would know how to serve the public very well.*<sup>41</sup>

Henri IV, like the other sovereigns discussed in this essay, wanted to regulate the arts and crafts and protect the artists and artisans “against the anxious jealousy and the enterprises of less skillful and less favored colleagues.”<sup>42</sup> The emphasis on quality is again at the forefront, and the descriptions of the occupants of each *logement* regularly emphasize their ingenious skills and technical innovations. For example, a certain Ferrier receives permission on October 2, 1607, to occupy a *logement* in the *Grande Galerie*. He is a master watchmaker who through the “proofs and experiences he has given of his inventions and works of all kinds of instruments of mechanics and of mathematics and generally of all works of the lathe, the hammer, and the file,” qualified for this obviously prestigious establishment, due to his novel and highly skilled techniques.<sup>43</sup>

The list of artisans makes interesting reading, showing that all received a court appointment as well as an appointment as *valet de chambre* of, for example, *La Reine*, the Queen, or of the *Duc d’Orleans*. Some of the artisans were found through international relations, such as Pierre Courtois, goldsmith, who around 1600 was the “goldsmith and enameller” of the Duchess of Florence, Christine de Lorraine, spouse of Ferdinando I, and hence formerly employed at the *Galleria dei Lavori*.<sup>44</sup> The royal Patent states that the masters employed may take two apprentices each and are supposed to work for the city of Paris only, and that, for example, the goldsmiths will brand every object with their city of Paris hallmark.<sup>45</sup> The apprentices are those who will spread the learned skills throughout the kingdom and no doubt through the court’s many diplomatic gifts.

Surveying the aims and contexts of these three court-based projects, the twenty-first-century definition of creative industries as “those based on individual creativity, skill and talent, or which have the potential to create

wealth and jobs through the development or production of intellectual property,” to which I alluded in the introduction of this essay, seems appropriate.<sup>46</sup>

## Conclusion

As apprentices, some of the *Logements*’ artisans with their innovative technical knowledge may have passed through the Languedoc region where the author-practitioner of Ms. Fr. 640 most likely practiced and wrote his manuscript, entering his own technical knowledge and compiling that of other practitioners. When set against the court workshop clusters in Florence and Pesaro, as well as the Paris *Logements*, and the political and economic rationales behind them, the detailed artisanal and artistic recipes and instructions of Ms. Fr. 640, many of them experimented and tested by the author-practitioner, can plausibly be seen in this light, thus setting the manuscript apart from the Books of Secrets literature. Indeed, Ms. Fr. 640 can be even more closely linked to statecraft through its connection to Philippe de Béthune (1561–1649), who wrote in his 1633 *Le conseiller d’Estat* that

*Prudence, as befits a Prince, must be accompanied by a universal knowledge of all sorts of sciences, not in detail, as if to make them his trade and profession; but he must know as much as is necessary to discern truth from falsehood and understand those who converse upon it as it may happen. His trade is not to be an Engineer, to build houses, to erect a bridge, to be a good cannon founder, but to recognize those who are best suited, and to make sensible use of people from all sorts of professions.*<sup>47</sup>

1. Pamela H. Smith, “Historians in the Laboratory: Reconstruction of Renaissance Art and Technology in the Making and Knowing Project,” *Art History*, special issue on Art and Technology, 39.2 (2016): 210–233, 211.<sup>↵</sup>
2. The Making and Knowing Project, <https://www.makingandknowing.org/> (<https://www.makingandknowing.org/>).<sup>↵</sup>
3. For a description of the Pesaro and Florentine court workshops, see Erma Hermens, “*The Botteghe degli Artisti*: Artistic enterprise at the della Rovere and Medici courts in the late sixteenth century,” in *The Renaissance Workshop*, ed. David Saunders, Marika Spring, and Andrew Meek (London: Archetype, 2013), 105–113.<sup>↵</sup>

4. Samuel Quiccheberg, *The First Treatise on Museums: Samuel Quiccheberg's Inscriptiones 1565*, trans. Mark A. Meadow and Bruce Robertson (Los Angeles: Getty Research Institute, 2013), Preface, viii. <sup>⌚</sup>
5. Daniela Mignani, *Le botteghe di Firenze. Storia dei mestieri artigiani dalle corporazioni ad oggi* (Florence: La Casa Usher, 1988), 20–23; Hermens, *The Botteghe degli Artisti*, 105–113; Georgiana D. Hesedan, “Alchemy and Paracelsianism at the Casino San Marco in Florence,” *Nuncius* 36 (2022), 119–143, 124. <sup>⌚</sup>
6. Hesedan, “Alchemy and Paracelsianism at the Casino San Marco in Florence,” 124. <sup>⌚</sup>
7. Fanny Kieffer, “The Laboratories of Art and Alchemy at the Uffizi Gallery in Renaissance Florence: Some Material Aspects,” in *Laboratories of Art: Alchemy and Art Technology from Antiquity to the 18th Century*, ed. Sven Dupré (Cham: Springer, 2014), 105–127, 113. <sup>⌚</sup>
8. Biblioteca Oliveriana Pesaro (BOP), Ms. 322, c. 174v. <sup>⌚</sup>
9. Erma Hermens, “A Seventeenth-Century Italian Treatise on Miniature Painting and Its Author(s),” in Arie Wallert, Erma Hermens, Marja Peek, eds, *Historical Painting Techniques, Materials, and Studio Practice: Preprints of a Symposium Held at the University of Leiden, the Netherlands, 26–29 June, 1995* (Marina Del Rey, CA: Getty Conservation Institute, 1995), [http://hdl.handle.net/10020/gci\\_pubs/historical\\_painting](http://hdl.handle.net/10020/gci_pubs/historical_painting) ([http://hdl.handle.net/10020/gci\\_pubs/historical\\_painting](http://hdl.handle.net/10020/gci_pubs/historical_painting)), 48–58. <sup>⌚</sup>
10. Erma Hermens, “A Seventeenth-Century Italian Treatise on Miniature Painting and Its Author(s).” <sup>⌚</sup>
11. Erma Hermens, “The Mariani-Cibo Treatise: Contents and Context,” in *The Object in Context: Crossing Conservation Boundaries*, Contributions to the Munich IIC Congress 2006, ed. David Saunders, Joyce H. Townsend, and Sally Woodcock (London: The International Institute for Conservation of Historic and Artistic Works, 2006), 260–266; Hermens, “*The Botteghe degli Artisti*”; and Kieffer, “The Laboratories of Art and Alchemy at the Uffizi Gallery in Renaissance Florence.” <sup>⌚</sup>
12. Antonio Zobi, *Notizie Storiche Sull'origine E Progressi Dei Lavori Di Commesso in Pietre Dure Che Si Eseguiscono nell' I. E R. Stabilimento Di Firenze*, 2<sup>nd</sup> ed. (Stamperia Granducale, Florence 1853), 162–163. See also Warren Kirkendale and Lorenzo Bianconi, *Emilio de' Cavalieri “Gentiluomo Romano.” His Life and Letters, His Role as Superintendent of All the Arts at the Medici Court, and His Musical Compositions* (Florence: L. S. Olschki, 2001), 85–86. <sup>⌚</sup>
13. Archivio di Stato Florence (ASF), Guardarobe Medicea 245, c.9 ff. <sup>⌚</sup>
14. On instructions for and references to ephemeral art in Ms. Fr. 640, see Pamela H. Smith, Tianna Helena Uchacz, Sophie Pitman, Tillmann Taape, and Colin Debuiche, “The Matter of Ephemeral Art: Craft, Spectacle, and Power in Early Modern Europe,” *Renaissance Quarterly* 73 (2020): 1–54. <sup>⌚</sup>
15. Hermens, “A Seventeenth-Century Italian Treatise on Miniature Painting and Its Author(s).” Versions of this treatise are kept in the Special Collections, Leiden University, the Netherlands, and the Beinecke Library, Yale University, USA. Hermens is preparing a publication of the treatise. <sup>⌚</sup>

16. Hermens, “The Mariani-Cibo Treatise.” Cibo wrote several other short treatises on techniques; see Giorgio Mangani and Lucia Tongiorgi Tomasi, eds., *Gherardo Cibo, dilettante di botanica e pittore di “paesi.” Arte, scienza e illustrazione botanica nel XVI secolo* (Ancona: Il Lavoro Editoriale, 2013).<sup>2</sup>
17. Zobi, *Notizie Storiche Sull'origine E Progressi Dei Lavori Di Commesso in Pietre Dure*, 162.<sup>2</sup>
18. There is ample literature on Kunstkammers. See especially, Dirk Syndram, “Amassing Magnificence: The Role of the Kunstkammer in Princely Self-Representation,” in *Making Marvels: Science and Splendor at the Courts of Europe*, ed. Wolfram Koeppe (New Haven, London: Yale University Press, 2020), 35–40.<sup>2</sup>
19. The full title of Quiccheberg’s book is *Inscriptiones vel Titvli Theatri Amplissimi, Complectentis rerum vniversitatis singulas materias et imagines eximias. ut idem recte quoq[ue] dici possit: Promptuarium artificiosarum miraculosarumq[ue] ac omnis rari thesauri et pretiosæ suppellectilis, structuræ atq[ue] picturæ. quæ hic simul in theatro conquiri consuluntur, ut eorum frequenti inspectione tracationeq[ue], singularis aliqua rerum cognitio et prudentia admiranda, citò, facilè ac tutò comparari possit, auctore Samuele à Qviccheberg Belga. Monachii Ex Officina Adami Berg typograph. Anno M.D.LXV. Cum gratia et priuilegio Cæsareo* (Munich: Adam Berg, 1565).<sup>2</sup>
20. Quiccheberg, *The First Treatise on Museums: Samuel Quiccheberg’s Inscriptiones 1565*, trans. Meadow and Robertson, Introduction by Meadow, vi. See also for a detailed discussion, Koji Kuwakino, “The Great Theatre of Creative Thought: The *Inscriptiones vel tituli theatre amplissimi*...(1565) by Samuel von Quiccheberg,” *Journal of the History of Collections*, 25, no. 3 (2013): 303–324.<sup>2</sup>
21. Quiccheberg, *The First Treatise on Museums: Samuel Quiccheberg’s Inscriptiones 1565*, Introduction, 5.<sup>2</sup>
22. Quiccheberg, *The First Treatise on Museums: Samuel Quiccheberg’s Inscriptiones 1565*, 5.<sup>2</sup>
23. Quiccheberg, *The First Treatise on Museums: Samuel Quiccheberg’s Inscriptiones 1565*, 61.<sup>2</sup>
24. Quiccheberg, *The First Treatise on Museums: Samuel Quiccheberg’s Inscriptiones 1565*, 64.<sup>2</sup>
25. Quiccheberg, *The First Treatise on Museums: Samuel Quiccheberg’s Inscriptiones 1565*, 67–68.<sup>2</sup>
26. Quiccheberg, *The First Treatise on Museums: Samuel Quiccheberg’s Inscriptiones 1565*, 71.<sup>2</sup>
27. Quiccheberg, *The First Treatise on Museums: Samuel Quiccheberg’s Inscriptiones 1565*, 91.<sup>2</sup>
28. Pamela H. Smith, “Courtly Marvels and the New Experimental Philosophy,” in *Making Marvels: Science and Splendor at the Courts of Europe*, ed. Wolfram Koeppe (New Haven, London: Yale University Press, 2020), 41–50. On branding, see Bert De Munck, “The Agency of Branding and the Location of Value: Hallmarks and Monograms in Early Modern Tableware Industries,” *Business History*, 54, no. 7 (2012): 1055–1076.<sup>2</sup>



29. Annamaria Giusti, "The Grand Ducal Workshops at the Time of Ferdinando I and Cosimo II," in *Treasures of Florence: The Medici Collection 1400–1700*, ed. Cristina Acidini Luchinat (Munich and New York: Prestel, 1997), 115–143. [↵](#)
30. De Munck, "The Agency of Branding and the Location of Value," 1057. [↵](#)
31. De Munck, "The Agency of Branding and the Location of Value," 1057. [↵](#)
32. Jørgen Wadum, "The Antwerp Brand on Paintings on Panel," in *Looking through Paintings*, ed. Erma Hermens, A. Ouwerkerk, N. Costaras (London: De Prom/Archetype, 1995), 179–198. [↵](#)
33. Bert de Munck and Anna Bellavitis, "The Urban Imaginary as a Social and Economic Factor: Renaissance Cities and the Fabrication of Quality, Fifteenth to Seventeenth Centuries," in *Cities and Creativity from the Renaissance to the Present*, ed. Byllja Van Damme, Bert De Munck, Andrew Miles (New York: Routledge, 2017). [↵](#)
34. De Munck and Bellavitis, "The Urban Imaginary as a Social and Economic Factor," 53–54. [↵](#)
35. Rens Bod et al., "The Flow of Cognitive Goods: A Historiographical Framework for the Study of Epistemic Transfer," *Isis*, 110, no. 3 (2019): 483–496, 488. [↵](#)
36. De Munck and Bellavitis, "The Urban Imaginary as a Social and Economic Factor," 54. [↵](#)
37. Giovanni Botero, *On the Causes of the Greatness and Magnificence of Cities 1588*, translated and introduced by Geoffrey Symcox (Toronto, Buffalo, London: University of Toronto, 2012), 42–53. Original title: *Delle Cause della Grandezza delle Città. Libri III. Di Giovanni Botero Benese. All'Illus.ma et Eccell.ma Signora, Donna Cornelia Orsina d'Altemps, Duchessa di Gallese, &c.* In Roma, Apresso Giovanni Martinelli M.D.LXXXVIII. [↵](#)
38. Botero, *On the Causes of the Greatness and Magnificence of Cities 1588*, 42–53. [↵](#)
39. Botero, *On the Causes of the Greatness and Magnificence of Cities 1588*, 44. [↵](#)
40. Georges Huard, "Les Logements des artisans dans la grande galerie du Louvre sous Henri IV et Louis XII," *Bulletin de la Société de l'histoire de l'art français*, 1939, 18–36. [↵](#)
41. Jules-Joseph Guiffrey, "Logements d'artistes au Louvre," in *Nouvelles archives de l'art français: recueil de documents inédits* (January 1873): 1–221, <https://gallica.bnf.fr/ark:/12148/bpt6k206172h> (<https://gallica.bnf.fr/ark:/12148/bpt6k206172h>). [↵](#)
42. Guiffrey, "Logements d'artistes au Louvre," n.p. [↵](#)

43. Aurélien Ruellet, “Les fabricants d’instruments mathématiques logés dans la Grande Galerie du Louvre (ca. 1600–ca. 1660): quelques notices biographiques,” *HAL archives ouvertes* 2014, 4, <https://halshs.archives-ouvertes.fr/halshs-01117458> (<https://halshs.archives-ouvertes.fr/halshs-01117458>).↵
44. Huard, “Les Logements des artisans,” 22.↵
45. Guiffrey, “Logements d’artistes au Louvre,” n.p.↵
46. “Creative industries,” Scottish Government website, <https://www.gov.scot/policies/creative-industries/> (<https://www.gov.scot/policies/creative-industries/>).↵
47. Philippe de Béthune, *Le conseiller d’Estat* (Paris: E. Richer, 1633), 387–88. See Colin Debuiche, “Ms. Fr. 640 and the Béthune Collection,” trans. Christine Julliot de la Morandière and Philippe Barré, 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\\_337\\_ie\\_19](https://edition640.makingandknowing.org/#/essays/ann_337_ie_19) ([https://edition640.makingandknowing.org/#/essays/ann\\_337\\_ie\\_19](https://edition640.makingandknowing.org/#/essays/ann_337_ie_19)).↵

## Bibliography

---

Archivio di Stato Florence (ASF), Guardarobe Medicea.

Béthune (de), Philippe. *Le conseiller d'Estat*. Paris: E. Richer, 1633.

Bianconi, Lorenzo and Warren Kirkendale. *Emilio de' Cavalieri "Gentiluomo Romano." His Life and Letters, His Role as Superintendent of All the Arts at the Medici Court, and His Musical Compositions*. Florence: L. S. Olschki, 2001.

Biblioteca Oliveriana Pesaro (BOP).

Bod, Rens, Jeroen van Dongen, Sjang L. ten Hagen, Bart Karstens, and Emma Mojet. "The Flow of Cognitive Goods: A Historiographical Framework for the Study of Epistemic Transfer." *Isis*, Vol. 110, number 3 (2019): 483–496.

Botero, Giovanni. *On the Causes of the Greatness and Magnificence of Cities 1588*. Translated and introduced by Geoffrey Symcox. Toronto, Buffalo, London: University of Toronto Press, 2012.

Debuiche, Colin. "Ms. Fr. 640 and the Béthune Collection," translated by Christine Julliot de la Morandière and Philippe Barré. In *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, edited by Making and Knowing Project, Pamela H. Smith, Naomi Rosenkranz, Tianna Helena Uchacz, Tillmann Taape, Clément Godbarge, Sophie Pitman, Jenny Boulboulé, Joel Klein, Donna Bilak, Marc Smith, and Terry Catapano. New York: Making and Knowing Project, 2020. [https://edition640.makingandknowing.org/#/essays/ann\\_337\\_ie\\_19](https://edition640.makingandknowing.org/#/essays/ann_337_ie_19) ([https://edition640.makingandknowing.org/#/essays/ann\\_337\\_ie\\_19](https://edition640.makingandknowing.org/#/essays/ann_337_ie_19)).

De Munck, Bert. "The Agency of Branding and the Location of Value: Hallmarks and Monograms in Early Modern Tableware Industries." *Business History*, 54, no. 7 (2012): 1055–1076.

De Munck, Bert and Bellavitis, Anna. "The Urban Imaginary as a Social and Economic Factor: Renaissance Cities and the Fabrication of Quality, Fifteenth to Seventeenth Centuries." In *Cities and Creativity from the Renaissance to the Present*, edited by Byllja Van Damme, Bert De Munck, Andrew Miles, 45–64. New York: Routledge, 2017.

Giusti, Annamaria. "The Grand Ducal Workshops at the Time of Ferdinando I and Cosimo II." In *Treasures of Florence: The Medici Collection 1400–1700*, edited by Cristina Acidini Luchinat, 115–143. Munich and New York: Prestel, 1997.

- Guiffrey, Jules-Joseph. "Logements d'artistes au Louvre." In *Nouvelles archives de l'art français: recueil de documents inédits*. January 1873: 1–221. <https://gallica.bnf.fr/ark:/12148/bpt6k206172h> (<https://gallica.bnf.fr/ark:/12148/bpt6k206172h>).
- Hermens, Erma. "The Botteghe degli Artisti: Artistic enterprise at the della Rovere and Medici courts in the late sixteenth century." In *The Renaissance Workshop*, edited by David Saunders, Marika Spring, and Andrew Meek, 105–113. London: Archetype, 2013.
- Hermens, Erma. "The Mariani-Cibo Treatise: Contents and Context." In *The Object in Context: Crossing Conservation Boundaries*, Contributions to the Munich IIC Congress 2006, edited by David Saunders, Joyce H. Townsend, and Sally Woodcock, 260–266. London: The International Institute for Conservation of Historic and Artistic Works, 2006.
- Hermens, Erma. "A Seventeenth-Century Italian Treatise on Miniature Painting and Its Author(s)." In *Historical Painting Techniques, Materials, and Studio Practice: Preprints of a Symposium Held at the University of Leiden, the Netherlands, 26–29 June, 1995*, edited by Arie Wallert, Erma Hermens, and Marja Peek, 48–58. Marina Del Rey, CA: Getty Conservation Institute, 1995. [http://hdl.handle.net/10020/gci\\_pubs/historical\\_painting](http://hdl.handle.net/10020/gci_pubs/historical_painting) ([http://hdl.handle.net/10020/gci\\_pubs/historical\\_painting](http://hdl.handle.net/10020/gci_pubs/historical_painting)).
- Hesedan, Georgiana D. "Alchemy and Paracelsianism at the Casino San Marco in Florence," *Nuncius* 36 (2022): 119–143.
- Huard, Georges. "Les Logements des artisans dans la grande galerie du Louvre sous Henri IV et Louis XII." *Bulletin de la Société de l'histoire de l'art français* (1939): 18–36.
- Kieffer, Fanny. "The Laboratories of Art and Alchemy at the Uffizi Gallery in Renaissance Florence: Some Material Aspects." In *Laboratories of Art: Alchemy and Art Technology from Antiquity to the 18th Century*, edited by Sven Dupré, 105–127. Cham: Springer, 2014.
- Kuwakino, Koji. "The Great Theatre of Creative Thought: The *Inscriptiones vel tituli theatre amplissimi...* (1565) by Samuel von Quiccheberg." *Journal of the History of Collections*, 25, no. 3 (2013): 303–324.
- The Making and Knowing Project. <https://www.makingandknowing.org> (<https://www.makingandknowing.org>).
- Mangani, Giorgio and Lucia Tongiorgi Tomasi, eds. *Gherardo Cibo, dilettante di botanica e pittore di "paesi."* *Arte, scienza e illustrazione botanica nel XVI secolo*. Ancona: Il Lavoro Editoriale, 2013.
- Mignani, Daniela. *Le botteghe di Firenze. Storia dei mestieri artigiani dalle corporazioni ad oggi*. Florence: La Casa Usher, 1988.
- Quiccheberg, Samuel. *The First Treatise on Museums: Samuel Quiccheberg's Inscriptiones 1565*. Translated by Mark A. Meadow and Bruce Robertson. Los Angeles: Getty Research Institute, 2013.
- Quiccheberg, Samuel. *Inscriptiones vel Tituli Theatri Amplissimi, Complectentis rerum vniversitatis singulas materias et imagines eximias. ut idem recte quoque dici possit: Promptuarium artificiosarum*



*miraculosarumq[ue] ac omnis rari thesauri et pretiosæ suppellectilis, structuræ atq[ue] picturæ. quæ hic simul in theatro conquiri consuluntur, ut eorum frequenti inspectione tractioneq[ue], singularis aliqua rerum cognitio et prudentia admiranda, citò, facilè ac tutò comparari possit, auctore Samuele à Qviccheberg Belga. Monachii Ex Officina Adami Berg typograph. Anno M.D.LXV. Cum gratia et priuilegio Cæsareo. Munich: Adam Berg, 1565.*

Ruellet, Aurélien. “Les fabricants d’instruments mathématiques logés dans la Grande Galerie du Louvre (ca. 1600–ca. 1660): quelques notices biographiques.” *HAL archives ouvertes*, 4 (2014): 1–6. <https://halshs.archives-ouvertes.fr/halshs-01117458> (<https://halshs.archives-ouvertes.fr/halshs-01117458>).

Scottish Government. “Creative industries.” <https://www.gov.scot/policies/creative-industries/> (<https://www.gov.scot/policies/creative-industries/>).

Smith, Pamela H. “Courtly Marvels and the New Experimental Philosophy.” In *Making Marvels: Science and Splendor at the Courts of Europe*, edited by Wolfram Koeppe, 41–50. New Haven, London: Yale University Press, 2020.

Smith, Pamela H. “Historians in the Laboratory: Reconstruction of Renaissance Art and Technology in the Making and Knowing Project.” *Art History*, special issue on Art and Technology, 39.2 (2016): 210–233.

Smith, Pamela H., Tianna Helena Uchacz, Sophie Pitman, Tillmann Taape, and Colin Debuiche. “The Matter of Ephemeral Art: Craft, Spectacle, and Power in Early Modern Europe.” *Renaissance Quarterly* 73 (2020): 1–54.

Syndram, Dirk. “Amassing Magnificence: The Role of the Kunstkammer in Princely Self-Representation.” In *Making Marvels: Science and Splendor at the Courts of Europe*, edited by Wolfram Koeppe, 35–40. New Haven, London: Yale University Press, 2020.

Wadum, Jørgen. “The Antwerp Brand on Paintings on Panel.” In *Looking through Paintings*, edited by Erma Hermens, A. Ouwerkerk, N. Costaras, 179–198. London: De Prom/Archetype, 1995.

Zobi, Antonio. *Notizie Storiche Sull'origine E Progressi Dei Lavori Di Commesso in Pietre Dure Che Si Eseguiscono nell' I. E R. Stabilimento Di Firenze*, 2<sup>nd</sup> ed. Florence: Stamperia Granducale, 1853.