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Keywords
porcelain, potters, artisan, Saint-Cloud, Encyclopedie, patent, patents, eighteenth-century France, trades

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Once porcelain experimentation began on the Continent, from the mid-seventeenth century onward, the new trade venture inspired discussion of the porcelain arts that formulated a relationship between the artisan and the object. In these public discourses—published analyses, treatises, and descriptions of the trade—the purpose of the *porcelainier* was made to disappear behind the mechanical and chemical demands of the craft. My recuperation of the *porcelainier*'s vision in this article appeals to the only written tradition in which that voice can be heard: patent documents. Correspondence exchanged between artisans and the crown from the early days of experimentation (1670–1700) to the royal regulation of the industry (1750s) offer evidence of the visionary ideas that *porcelainiers* brought to practising and promoting their craft.

AN ANONYMOUS fairy tale of 1730 features among its characters the ensemble of pieces in a porcelain tea service. The eponymous hero of *Le Prince Perinet, ou l'origine des pagodes* rules over "une partie des Indes."[1] His nemesis, Nortandose, prince of the neighbouring Blue Island, which is also known as the Island of Porcelain, has a penchant for ceramics and for cruelty. He delights in imprisoning those who cross him by transforming them into walking, talking porcelain objects. Vases, bowls, teapots, and cups send up a chorus of lament about their fragile plight as they languish in his castle. Porcelain, a highly prized and ubiquitous commodity on the world market, nonetheless occupied a magical place in the eighteenth-century imaginary. Of particular significance here is that the objects made of porcelain in this story have a vexed relationship to humanity: they are created by a curse that

[1] *Le Prince Perinet, ou L'Origine des pagodes*, in *Le Cabinet des fées*, ed. Elisabeth Lemirre (Arles: Éditions Philippe Picquier, 2000), 859–69. Research that became the foundation of this article was generously supported by a bursary from the French Porcelain Society. Special thanks to the Marriott Library, University of Utah, for images from the *Encyclopédie*. I owe a debt of gratitude to Holly Tucker and Eric Laursen for their multiple readings and insightful suggestions.

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captures a human personality in a material object. I take that predicament and the violence it implies as a point of departure for a study of the porcelain artisan, a figure of the early Enlightenment who seemingly disappeared into his or her craft.

At the turn of the eighteenth century, French artisans attempting to imitate Chinese luxury wares launched a national porcelain industry. What began as a series of experiments developed into the world-renowned Manufacture Royale de Sèvres. Yet the physical and intellectual labour entailed in this century-long effort remains surprisingly neglected by scholarship. The neglect may be partially explained by what appears to be a staggering lack of evidence regarding what porcelain artisans did and thought. Manufactory records are scant. *Porcelainiers* did not publish treatises on their empirical practices or practical knowledge; they made objects. In the case of a luxury trade ware such as porcelain, the exquisite splendour, what the period called "eloquence," of the objects themselves dominated the public discourses on the trade. Because trade arts were crafted according to a manufactory's style and responded to the fashion of a tradition rather than an individual vision, material objects could easily eclipse their makers from public—and scholarly—view.

This essay sets off from the Blue Island to explore the ways in which the porcelain artisan's skill was written out of eighteenth-century history. Once experimentation began on the Continent, from the mid-seventeenth century onward, the new trade venture inspired discussion of the porcelain arts that explored the relationship between the artisan and the object. In these public discourses—published analyses, treatises, and descriptions of the trade—the *porcelainier* was made to disappear behind the mechanical and chemical spectacle of the craft.

Beyond the material effects of their labour, *porcelainiers* did leave evidence of a professional vision, although it does not belong to the public history of the trade. Porcelain makers experimented in order to perfect secret recipes, so they did not publish what they knew. Nor did this knowledge pass through guilds or professional apprenticeship. Instead, recipes and their attendant methods were transmitted through bloodlines or carefully orchestrated political alliances, making scholarly access to that knowledge base serendipitous at best. A similar hidden life of ingenuity and innovation in trade work, dubbed "artisanal epistemology" by Pamela Smith, has been the subject of several

excellent studies that examine how European artisans self-consciously promoted their trade secrets within the cultural and commercial economy in the wake of the Scientific Revolution.[2] Ceramics and the particular case of porcelain have not been part of this scholarly recovery. My recuperation of the *porcelainier*'s voice appeals to the only written tradition in which that voice can be heard: patent documents. Correspondence exchanged between artisans and the crown from the early days of experimentation (1670–1700) to the royal regulation of the industry (1750s) offer evidence of the visionary ideas that *porcelainiers* brought to practising and promoting their craft. Privilege requests, patents, and royal decrees portray artisans as clever inventors who believed their industry should be a matter of state concern and could be a boon for the French economy, and sold that story to the king for profit.

Not as Eloquent as Their Art

> Les Ouvrages sont plus éloquents que leurs Ouvriers, et persuaderont mieux qu'eux. (ca. 1700)[3]

Before porcelain making was even possible in Europe, the conditions were already in place for a tradition that would foreground

[2] Pamela Smith's landmark study of Dutch Renaissance artisans shows them announcing themselves as "knowers of nature" and self-consciously valorizing their "artisanal epistemology." Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago: University of Chicago Press, 2004), esp. chap. 1. Important discussions about how artisans and the network of art and science publishing around them created an image of and a market for "nature" in the early modern world are collected under the title *Merchants and Marvels: Commerce, Science, and Art in Early Modern Europe,* ed. Pamela H. Smith and Paula Findlen (New York: Routledge, 2002). William Eamon identifies trade secrets as a legitimate and culturally revered form of intellectual currency in *Science and the Secrets of Nature: Books of Secrets in Medieval and Early Modern Culture* (Princeton: Princeton University Press, 1996). For background on the status of arcane knowledge in early science, see Tara Nummedal, *Alchemy and Authority in the Holy Roman Empire* (Chicago: Chicago University Press, 2007). For more on the commerce of alchemy, see Tara Nummedal, "Practical Alchemy and Commercial Exchange in the Holy Roman Empire, *Merchants and Marvels*, 201–22.

[3] M. Aubry, *Requeste au Roy, sur le secret de la vraye et parfaite porcelaine de France* (Paris, n.d.), 3, Bibliothèque Nationale de France, Littérature et Art V-11183. The passage cited above is from the first of two letters contained in the file on a privilege request submitted by the potters at the Saint-Cloud porcelain manufactory. I have modernized the orthography in cited passages. References are to this edition of the *Requeste*.

the art and minimize the artisan.[4] China's hard-paste clay and glaze reached a peak of virtuosity under the Ming dynasty (1368–1644) when artisans refined the blue on white style that became the hallmark of Chinese porcelain. By the late sixteenth century, Portuguese, Spanish, British, and Dutch traders were importing blue and white porcelain through the channels of a worldwide luxury market. The wares were stunningly beautiful and exorbitant in cost, their consumption limited essentially to royal households. Europe had excellent aesthetic and economic reasons to want to imitate porcelain objects.[5]

While porcelain is hard to procure from the earth and taxing to produce, the material is prized for the way it erases all trace of the work of its creation. The discourses on porcelain in the seventeenth century confirm that it had an elevated status in comparison with other trades, even among its sister "arts of fire": metallurgy, glassmaking, and other ceramics. John Evelyn's well-known 1660 report on arts and crafts attests to the spirit of the age. He classified the century's "Arts Illiberal and Mechanick" in eight categories: (1) Useful and purely mechanic; (2) Mean and less honourable; (3) Servile; (4) Rustical; (5) Female; (6) Polite and more liberal; (7) Curious; and (8) Exotic and very rare secrets.[6] The first category is made up of workers who labour at mechanical arts that contribute something useful to society, but are neither particularly rough nor particularly refined. Potters are found here alongside glassworkers, druggists, haberdashers, and

[4] A Renaissance example of individual vision and personal renown in the figure of Bernard Palissy supplies the exception that illustrates how thoroughly other clay workers seem to have disappeared into history. The vision of fantastical nature that Palissy sculpted in relief on earthenware used clay in a new way, and his obsession with colour contributed important advancements, especially in the science of enamel that influenced the faience tradition in Europe. In addition to marvellous objects, he left journals discussing the experiments that led to his discoveries and his philosophy of nature and of clay. See Leonard Amico, *Bernard Palissy: In Search of Earthly Paradise* (New York/Paris: Flammarion, 1996); and Pierre Ennès, introduction to *Une Orfèvrerie de terre. Bernard Palissy et la céramique de Saint-Porchaire*, ed. Pierre Ennès (Paris: Réunion des Musées nationaux, 1997).

[5] On the rise of European porcelain trade with China in the seventeenth century, see Madeleine Jarry, *Chinoiserie: Chinese Influence on European Decorative Art, 17th and 18th Centuries,* trans. Gail Mangold-Vine (New York: Vendome Press/Sotheby's Publications: 1981); and John Carswell, *Blue & White: Chinese Porcelain Around the World* (London: British Museum Press, 2000).

[6] Reproduced in A. Forbes Sieveking, "Evelyn's 'Circle of Mechanical Trades,'" *The Newcomen Society for the Study of the History of Engineering and Technology, Volume IV, 1923–24* (London: Courier Press, 1925).

papermakers. The next seven categories begin with the lowly and continue in ascending order of refinement. In contradistinction to the human agents of these crafts who appear in category 1, glasswork and pottery making—the knowledge possessed by the artisans in those guilds—are listed among the noble "Curious" trade arts. Other curious practices include printing, engraving, grotesque design, and alchemy. Pottery's bedfellows suggest that ceramic arts were revered more than the human agents that practised them. Porcelain making was further distinguished from pottery making and even alchemy. The term applied to Chinese wares and possibly the early results of European potters' experimenting with vitrification—adding glass to earth—to make frit clay, which was somewhat whiter and thinner than earthenware.[7] Such experiments were still uncommon in 1660, and Evelyn dignified them with the title of the last group of trades, "Exotic and very rare secrets," which included mosaics and marble paper.

One of the more illuminating aspects of the classification, besides its foundations in gender and class distinction, is how it frames the relationship between the ceramic artisan and his or her artistic production. The technological and scientific process of ceramics ranks high on the scale of trade knowledge, while potters themselves are merely "useful and mechanical." While the methods of porcelain sit among the most rare, *porcelainiers*, a category not yet formalized in the European tradition, are subsumed under the term "potters." This disconnect may be partially explained by the aristocratic class system (trade products were enjoyed by, but not made by, the elite), but socioeconomics does not entirely account for the wide gulf of appreciation that separated the technical know-how of clay from the people who executed it. In the case of porcelain, this disconnect had to do with the mystery of Ming porcelain objects and Europe's struggle to compete with Asia for the world luxury market. Evelyn's

[7] Medici potters of Renaissance Italy first created clay that we now identify as frit, or soft-paste porcelain, so named in contrast to kaolin-based fine or "hard-paste" porcelain. France and England began experimenting regularly with vitrification by the 1680s. On the history of soft-paste, see the authoritative Xavier de Chavagnac and Pierre Gaston de Grollier, *Histoire des manufactures françaises de porcelaine* (Paris: A. Picard et fils, 1906); and Edwin Atlee Barber, *Artificial Soft Paste Porcelain, France, Italy, Spain and England* (Philadelphia: Pennsylvania Museum, 1907). More recently, Clare Le Corbeiller looked at the trade through the evidence of shared decorative motifs in *China Trade Porcelain: Patterns of Exchange* (New York: Metropolitan Museum of Art, 1974). Early French manufactories have over the last twenty years experienced a sharp rise in critical attention. Those studies appear below.

division between the artisan and the technology in this field set a precedent for subsequent discourses on porcelain as the practice gained momentum through imitation and experimentation.

During the seventeenth century, the Dutch created a successful industry of porcelain imitation. They enamelled earthenware (faience) in blue and white so that it resembled porcelain, and sold it as an affordable alternative to the Ming luxury item. Import and imitation businesses boomed in mid-seventeenth-century Portugal, Spain, Holland, and England. The French East India Company, however, was still a fledgling enterprise in 1670.[8] And yet the desire for Ming wares in France was no less powerful than in other countries. Perhaps because it was slow to the commercial enterprise of direct importation from the East, France became a leader in experiments to reproduce porcelain on the Continent. France's experimental technologies developed around a curious event buried in architectural history: the Trianon de Porcelaine.[9]

In 1671, Louis XIV added a *maison de plaisance* to Versailles in honour of his mistress, the Marquise de Montespan (see Figure 1). He borrowed its primary ornamental device from the Tower of Nanking, a celebrated Chinese pagoda covered in porcelain and featured in many travel narratives of the mid-century.[10] In

8 Soon after Louis XIV declared that he would rule without a prime minister (1661), he appointed Jean-Baptiste Colbert minister of finance. Colbert's major initiatives to reform the French economy and compete on the international market included the French East India Company, which was formally chartered in 1664.

9 The Trianon de Porcelaine attracted scholarly attention in the early twentieth century when architects attempted to reconstruct its construction history from accounting records in court archives. For details about its cost, materials, and reception, see Henri Belevitch-Stankevitch, *Le Goût chinois en France au temps de Louis XIV* (Paris: n.p., 1910), 100–112; and Ernest Simon Auscher, "La Céramique du château de Versailles pendant le règne de Louis XIV," *Revue de l'Histoire de Versailles* 4 (1903): 81–119. Later art historians tracking the development of chinoiserie noted the place of the Trianon de Porcelaine in that history: see Hugh Honour, *Chinoiserie: The Vision of Cathay* (London: J. Murray, 1961), chap. 3; and Pamela Cowen, "The Trianon de Porcelaine at Versailles," *Magazine Antiques* 143, no. 1 (1993), 136–43. Trianon's garden has generated recent interest among historians working on landscape architecture: see, for example, Chandra Mukerji, *Territorial Ambitions and the Gardens of Versailles* (Cambridge: Cambridge University Press, 1997); and Elizabeth Hyde, *Cultivated Power: Flowers, Culture, and Politics in the Reign of Louis XIV* (Philadelphia: University of Pennsylvania Press, 2005), chap. 5.

10 Johann Nieuhof is credited with introducing China visually to the Continent in his *Het Gezantschap der Neêrlandtsche Oost-Indische Compagnie aan den*

Figure 1. *Élévation du principal corps de logis du côté de la Cour*, R. Danis, 1911. When he served as Architecte en Chef des palais nationaux et des monuments historiques, Robert Danis drew up architectural plans to illustrate the layout of the building and the porcelain façade of the Trianon de Porcelaine. *La Première Maison Royale de Trianon, 1670–1687* (Paris: Éditions Morancé, n.d.), Institut National d'Histoire et de l'Art 4/I/164.

imitation of Nanking's tower, the Trianon de Porcelaine roof was entirely decorated with tiles, figurines, and vases made of European earthenware, or faience, painted blue and white to look like Ming porcelain. The sheer magnitude of the enterprise necessitated importing a portion of the tile from Delft, Holland, and galvanizing the efforts of potters all over France: Nevers, Rouen, Liseux, and Saint-Cloud. Faience decorative elements covering the roof and floors of the palace brought Trianon international fame and launched an unprecedented financial boom for the French ceramics industry. It also revealed a terrible truth: faience simply lacked the formal or aesthetic integrity of porcelain and would never be its equal. Unsuited to exterior decoration and too fragile to sustain foot traffic, the tiles flaked and chipped within a year of its construction. By 1687, maintenance proved so costly that the building was torn down. By comparison, the then 300-year-old porcelain tiles covering the Tower of Nanking shimmered gracefully for another 300 years until war destroyed them.

grooten Tartarischen Cham, den tegenwoordigen Keizer van China (Leyden: Jacob van Meurs, 1665). It contained 150 copperplate engravings, including the first image published in Europe of the tower in the plate illustrating Nanking.

The Trianon's tremendous success ushered French potters onto the world stage, but the fragility of their product also sounded an alarm. If France was to compete with China on the luxury market, it had to do better than faience. This realization spurred a quest to discover the secret recipe of *la porcelaine des Indes*. Two of the men involved in the Trianon project, Louis Poterat of Rouen and Claude Révérend of Saint-Cloud, were the first French ceramicists to attempt to manufacture porcelain clay rather than simply import it from the East or imitate it by enamelling faience. Because Révérend founded the manufactory that later became the first successful producer of porcelain in France, his story best illustrates the treatment of the *porcelainier* in the discourses that developed around the fledgling trade in the seventeenth century.

Révérend was a merchant and potter arrived from Holland, where he had trained as a *faïencier*. On the side, he conducted experiments in an attempt to "contrefaire la porcelaine des Indes." In the 1680s, the faience business thrived under the direction of Pierre Chicaneau, a highly skilled potter and importer of porcelain, and his wife, Barbe Coudray, with whom he ran the manufactory. Porcelain experiments begun by Révérend continued under the reign of Chicaneau, undocumented and hidden in a back room of the faience manufactory. By the 1690s, the widowed Barbe Coudray and her children had achieved enough success with their experiments that they began selling their wares as "artificial porcelain." The soft-paste or frit clay they made closely resembled fine porcelain and became synonymous with the manufactory's home, Saint-Cloud, as fine porcelain had become synonymous with China.[11]

British traveller Martin Lister famously visited the manufactory in 1698 and made a declaration that both announced and helped fuel its success: "I saw the Potterie of Saint Cloud, with

[11] Much of the important work done over the past two decades on Saint-Cloud manufacturing history appears in *Discovering the Secrets of Soft-Paste Porcelain at the Saint-Cloud Manufactory, c. 1690–1766*, ed. Bertrand Rondot (New Haven: Yale University Press, 1999). See also Christine Lahaussois, *Porcelaine de Saint-Cloud* (Paris: Réunion des musées nationaux, 1997); Clare Le Corbeiller, "Reflections of Court Taste in Early Saint-Cloud Porcelaine," in *Versailles, French Court Style and Its Influence*, ed. Howard C. Collinson (Toronto: University of Toronto Press, 1992), 103–111; and Geneviève le Duc, "Contribution à l'étude de la manufacture de faïence et de porcelaine de Saint-Cloud pendant ses cinquante premières années," *Keramik-Freunde der Schweiz/Bulletin des amis suisses de la ceramique, Mitteilungsblatt* 105 (March 1991): 3–53.

Figure 2. Teabowl and trembleuse saucer, ca. 1700–15, Saint-Cloud porcelain factory, France. V&A Images/Victoria and Albert Museum, reproduced by permission.

which I was marvelously well pleased, for I confess I could not distinguish betwixt the Pots made there, and the finest China ware I ever saw ... The Ingenious Master told me, he had been 25 years about the Experiment, but had not attained it fully, till within this 3 years."[12] Today, historians know the identities and genealogies of all the potters involved in porcelain production at Saint-Cloud. At the time, Lister did not think to name the Ingenious Master who made the marvels he admired. It was rather the consistent style of the wares during the first decades of production that secured recognition. Through the mid-eighteenth century, Saint-Cloud was best known by a signature design that borrowed Ming colours: a white background ornamented with thin blue patterns of lambrequins derived from French ornamental prints (see Figure 2). Lister overlooked the identity of the master potter because the visual splendour of Saint-Cloud porcelain drew attention to the phenomenon—Europe had surpassed China—not to the artisans.

Early porcelain marks similarly nationalized porcelain rather than associating it with an individual style. Saint-Cloud wares before 1730 bear one of three marks: the fleur-de-lis, the sun,

[12] Martin Lister, *A Journey to Paris in the Year 1698* (London: Jacob Tonson, 1699), 138, 140.

and another that configured the name of the manufactory in a decorative acronym. There are many versions of each mark, and they are now associated with the styles of different periods (and thus different master painters) and are used to date wares. But at the time of their creation, the ciphers served primarily to denote local provenance. Some *porcelainiers* embossed the underside of each piece with the emblems of the crown, identifying them with Louis XIV. Acronyms made wares at Saint-Cloud distinguishable from those crafted in other cities within France: Rouen and Chantilly, in particular. Abroad, they were all easily identifiable as French, and no matter what the ethnic origin of the potter who physically crafted it, the creation of a porcelain object in France made it French. The masters of the manufactory were gathered under the designation "Saint-Cloud," which proclaimed France's, even Louis XIV's perfection of the porcelain secret in Europe. Potters were not as eloquent as their art because it spoke for them, and it spoke in the language of empire. This wisdom dominated during the eighteenth century. For the scholar, impediments to recovering the porcelain artisan's presence in this environment abound because discourses about porcelain exhibit the same gentility as the wares themselves.

Porcelain Is to Man as Gold Is to Nature

Major changes happened in the porcelain trade during the first decades of the eighteenth century. A serendipitous discovery of feldsparic clay (later identified as kaolin) near Dresden in 1708, followed by a detailed report from a Jesuit missionary identifying Chinese porcelain as a combination of "petuntse" and "kaolin," brought to light the chemical components of hard-paste clay (both the discovery and the report will be discussed below). The advent of hard-paste potential in Europe accelerated the evolution of techniques and artistry in the industry. Soft-paste clay had only enjoyed a brief advantage on the European ceramics market before the chemical superiority of fine porcelain challenged its integrity. Still, in the earliest years of the century, it was the experimental potters who made artificial porcelain that gave the trade its language. *Porcelainiers* emphasized what Evelyn and Lister had suggested were the highest attributes of the luxury objects: their transcendent beauty and the arcane complexity of their technology. This perspective moved into the public realm

through published treatises and descriptions of the trade. Paradoxically, then, porcelain potters reinforced the very terms of the debate that would cause them to disappear from history.

The Chicaneau family of potters at Saint-Cloud submitted a privilege request in 1700 urging the king to protect their porcelain-making secret, which they had brought to fruition, and to grant them exclusive rights to production of soft-paste porcelain in France. One of their arguments echoed the mystical status accorded the porcelain arts in Evelyn's ranking of trades: "La vraie Porcelaine fine, et qui soutient les liqueurs bouillantes, est de l'aveu de tout le monde, après l'or et l'argent, ce que l'on a de plus beau, de plus propre, de plus commode, et d'un plus grand usage, soit pour l'ornement des Palais, des appartements et des jardins, soit pour le service actuel. Et l'on pourrait dire que ce secret est le miracle de l'art comme l'or est le miracle de la nature" (*Requeste*, 4). White gold, as porcelain was known, had an international reputation that went back to Marco Polo and, as the moniker implies, the value of precious metal on the world market. But the comparison makes more than a simple porcelain-gold correspondence, and bears on the nature of the process involved in porcelain's creation. Alchemy is brought to mind through the proximity of the words "miracle" and "art" in the metaphor for the creative process, "this secret." In this passage is a barely audible reference to purity, "de plus propre," couched between the qualities of beauty ("de plus beau") and usefulness ("de plus commode")—the virtues most often associated with porcelain tableware. Yet, purity was porcelain's finest quality and the area in which it superseded even precious metal: "Il est même certain que la Porcelaine est en une infinité de choses d'une bien plus grande propreté que ny l'or ny l'argent, parce qu'elle ne contracte aucun goût" (4). Skilfully formed from clods of earth, porcelain fired divinely white and acquired other unearthly qualities. It was clean, impermeable, and resistant to heat.

Nothing could argue more persuasively in favour of porcelain tableware over the metal plates and goblets that were in common use at the turn of the eighteenth century. To market wares as pure meant eliminating any hint of the clay's laboured transformation: dug from the earth, formed through the calloused hands of a master craftsman, and fired in a furnace where the very vapours scorched flesh. That work was done quite literally in porcelain's final firing process, which set the bright colours of

its underglaze and turned its milky overglaze to glass. Workshop conditions had no place in the documents that pertained to the manufacture of porcelain—even those composed by the manufactories themselves.

The early century's most important treatises on porcelain continued purifying and ennobling the trade. Faience makers and porcelain experimenters alike belonged to glassblowers' guilds in the latter half of the seventeenth century, as experiments in earthenware increasingly involved vitrification: incorporating glass into the paste through a frit process that imparted strength and whiteness. Glassmaking and frit clay processes resulted in luxury products that were in ever-increasing demand throughout Europe. By century's end, both professions were considered worthy of the nobility, as opposed to the more rustic trades suitable only to the working class. In the preface to his 1699 treatise on glassmaking, Jean Haudicquer de Blancourt echoed Evelyn when he argued that the arts of vitrification (glass, porcelain, mirrors) were discovered by noble families and could be practised by gentlemen "sans déroger à leur noblesse."[13]

A decisive turn in the eighteenth-century perception of the porcelain maker came when Jesuit missionary François Xavier d'Entrecolles sent the first description of Chinese porcelain manufacturing back to France in 1712.[14] D'Entrecolles worked with a mission at Jingdezhen in Jiangxi province and thus had first-hand experience with potters in the city where the finest porcelain was made under the Ming and Qing dynasties. Responding to more than a century of European inquiry, his treatise on Chinese porcelain clarified a few aspects of the elusive secret. He provided translations of the two key ingredients used in high-end production Chinese porcelain clay: petuntse, pulverized rock formed into clods, and kaolin, white feldspathic clay known for its plasticity. Both were abundant in China, but kaolin occurred only in certain areas.[15] With a formal identification of materials, the letter insinuated that it was simply not possible

[13] *L'Art de verrerie où l'on apprend à faire le verre, le cristal, et l'émail: La manière de faire les Perles, les Pierres précieuses, la Porcelaine, & les Mirroirs* (Paris: Jean Jombert, 1697), iii.

[14] Published in Yen Chu, *Description of Chinese Pottery and Porcelain, Being a Translation of the Tao Shuo*, ed. Stephen W. Bushell (Oxford: Oxford University Press, 1995), 181–209.

[15] For a technical discussion of the components of fine hard-paste porcelain, see S.J. Vainker, *Chinese Pottery and Porcelain* (London: British Museum Press, 1997), 217–20.

through cleverly enhancing its composition to turn just any mud into white gold.

This ingredient detail solved a mystery that had occupied the minds of artisans for several generations, but had the secondary effect of discrediting the innovative science that had buoyed porcelain experimentation in France. Highly skilled in the art of vitrification, the potters at Rouen and Saint-Cloud made superior soft-paste clay. D'Entrecolles's revelation established firmly that hard-paste could never result from such mixing. Potters at Meissen, then a city in the kingdom of Saxony, had famously stumbled on feldspathic clay and began producing what they billed as fine porcelain in 1710, two years before D'Entrecolles's letters were published. On the heels of Meissen's success, the confirmation in the letters of the long-standing fear that porcelain did require a secret ingredient and that what the Saxons found had to be kaolin, tied porcelain to the land and, therefore, to the crown that owned that land. If they had not been looking actively before, princes now scoured their lands for traces of the essential raw materials in hard-paste porcelain.[16] With the advent of fine porcelain in Europe, at the highest end of the trade's production, potters were only as good as the clay they could find in nature.[17] The miracle of art turned out to be a miracle of nature first. D'Entrecolles had unwittingly cheapened the knowledge of France's experimental *porcelainiers*.

16 Meissen hard-paste was created by Ehrenfried Walther von Tschirnhaus and Johan Friedrich Böttger for Augustus II of Saxony when they discovered kaolin outside of Dresden in 1708. The Meissen manufactory opened in 1710. Vienna opened the second manufactory in 1718 under the direction of Claudius Innocentius Du Paquier with the help of Samuel Stözel, an expatriated painter from Meissen. France found kaolin near Limoges in 1768, and production commenced at the Royal Manufactory of Sèvres in 1769. As I was writing this article, England announced the possible discovery of hard-paste pots in the collection of the Burghley House in Lincolnshire. Identified as "Duke of Buckingham China," they date from before 1683, when the 2nd Duke of Buckingham had a successful glassworks at Vauxhall, which would make them at least twenty-five years older than the first hard-paste objects produced at Meissen.

17 In spite of the craze to find kaolin in European soil, the innovative production of frit clays continued with admirable success. They were less expensive and possessed intrinsic properties that made them more suited to certain designs than hard-paste. Saint-Cloud stayed in business until 1766. An important manufactory at Vincennes perfected excellent soft-paste clay and continued to produce it alongside hard-paste until 1804. Several of Vincennes's early soft-paste masters went on to found the manufactory at Sèvres (1756), which also produced soft-paste successfully alongside hard-paste until around 1800.

Learning from the Chinese porcelain makers he met working at their craft, d'Entrecolles further offered a way of thinking about the art that mechanized it and eclipsed the artisan behind the superior physicality of the wares themselves. He quotes a metaphor of the body used by a Chinese merchant to explain the complementary functions of the two main ingredients that constitute hard-paste clay: petuntse is the body and kaolin the bones. With this idea, the merchant mocked European attempts to create porcelain without kaolin, the equivalent of "wanting a body without bones to support its flesh." The analogy between porcelain composition and animal anatomy ascribes to porcelain material—in opposition to other types of clay—a physical complexity akin to the structural arrangement of a vertebrate. The idea that bowls, cups, and vases were "bodies" more worthy of admiration than their makers follows easily from this premise.

The effacement of the potter's effort in learned treatises became commonplace in popular descriptions of trade work as well. In word as in image, the next significant record of arts and crafts after Evelyn's classification, Diderot's *Encyclopédie* (1751–72), reinforced the message that porcelain wares were made in environments befitting their value and purity. The main article on porcelain by Louis le Chevalier de Jaucourt covered "Porcelaine de la Chine" (volume 13, 1765) and relied on d'Entrecolles's account of its production.[18] Jaucourt made no mention of porcelain experiments or production in Europe. An addendum to the main article, "Observations sur l'article précédent" by M. de Montami, rectified the omission and conducted an in-depth comparison of the production methods of the East with those of Europe.[19] Montami's opening observation is of interest:

[18] Louis le Chevalier de Jaucourt, "Porcelaine de la Chine," *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, vol. 13, ed. Denis Diderot and Jean-Baptiste le Rond d'Alembert (Paris, 1765), http://encyclopedie.uchicago.edu/. References are to this edition. Jaucourt was responsible for approximately one-fourth of the articles in the *Encyclopédie*, which partially explains the emergence in each article of what Madeleine Morris, an early biographer, called his "vision cohérente" and "message clair." Morris, *Le Chevalier de Jaucourt: Un ami de la terre* (Geneva: Droz, 1979), 18.

[19] M. de Montami, "Observations sur l'article précédent [Porcelaine de la Chine]," *Encyclopédie*, vol. 13, http://encyclopedie.uchicago.edu/. Montami's "Observations" appears at the end of Jaucourt's article. In a 1755 letter to Friedrich Melchior Grimm, Diderot described Montami as "premier maître d'hôtel de M. le duc d'Orléans, fort versé dans la chimie." *Correspondance littéraire, philosophique et critique ... par le Baron de Grimm et par Diderot*, 17 vols. (Paris: Longchamps et F. Buisson, 1813), 1:296.

"Quoique de nombre de manufactures de porcelaine se soit actuellement fort multiplié, et que chacune des manufactures emploie des matières très différentes dont elle fait mystère, et qu'elle regarde comme un secret qui lui est particulier, on peu cependant réduire la *porcelaine* en général à deux espèces; savoir la *porcelaine des Indes,* et sous ce nom ou comprend celle qui se fait à la Chine et au Japon; la seconde espèce peut être appelée *porcelaine d'Europe*, et sous ce nom se comprend toutes les différentes manufactures qui s'en sont établies en Europe" (117). Broad strokes painted "us and them" identities onto the world ceramic map in 1765. Knowledge had already become associated with nations rather than individuals in the conception of genius associated with the trade. An East-West dichotomy, "porcelaine des Indes" versus "porcelaine d'Europe," further subsumed what had become a substantial number of national secrets scattered across the globe under large hemispheric categories. High above the world's workshops, the encyclopedic gaze ignored the important national divisions in what had become a fierce competition in Europe for supremacy in the art.

The treatment of porcelain in the *Encyclopédie* must be understood in terms of the overarching logic of Diderot's system and Jaucourt's reliance on d'Entrecolles in his essay. Logically, this article appears attached to the rubric, "Art de la poterie." In the schematic classification of human wisdom that opens the *Encyclopédie*, known as the tree of knowledge, the ceramic arts belong to "Arts and Crafts Manufactures," which grows among the many forms of historical knowledge branching off under "Memory" from the trunk of "Understanding." Memory includes those skills whose successful practice depended upon the human faculty of recollection, as opposed to speculative thought (philosophy) or the imagination (fine art). The classification emphasized, as d'Entrecolles's letters did, the antiquity and genealogical nature of knowledge associated with the ceramic arts. Little was done to acknowledge innovation and diachronic evolution throughout the history of the craft, whether it be the work of generations of Chinese potters who transformed their techniques over the centuries or the creative science of European potters who, in their own words, "invented" a new kind of porcelain in their attempts to imitate the East. While Montami's "Observations" improved Jaucourt's limited map by documenting the modern clays developed in Europe, it did not challenge the

article's fundamental neglect of the changing tides that had, over time, shaped the contemporary porcelain landscape.

The plates that were later published to complement the discursive *Encyclopédie* explanations of human knowledge illustrate arts and crafts by depicting physical elements of their processes as well as reproducing examples of the objects created. Images captured the processes differently from textual description, to be sure. While written explanations emphasized the science behind the artistic result, the plates figure the workshop and tools—the technology that forms the physical objects. Even more significant are the human subjects pictured in this environment employing the technology of their craft. That Diderot would place human subjects in the firing rooms of faience and porcelain manufactories signals an attempt in the visual part of the *Encyclopédie* to acknowledge labour, not miracle, as the creative force behind the mechanical arts. The depiction of workers labouring at machines constitutes an important step towards writing the artisan back into history. Yet, while the plates depict spaces with remarkable specificity, the figures in them are idealized and only superficially related to their environment.

In the preliminary remarks to the *Recueil de Planches*, Diderot presents the method behind this visual encyclopedic enterprise: "On a envoyé des dessinateurs dans les ateliers. On a pris l'esquisse des machines et des outils. On n'a rien omis de ce qui pouvait les montrer directement aux yeux." Coverage of the *Arts de la céramique* includes brief overviews accompanied by images of the production environments for faience, porcelain, pipes, and earthenware.[20] Forty plates illustrate manufacturing, from the workshop space and the tools proper to each step of the process, to the shape and decorative elements of ceramic objects. Ateliers are rendered with great attention to visual detail in an attempt at architectural and mechanical accuracy. In the most complex image of the porcelain series, four spaces represent the stages of manufacture: preparation of the stone and earth materials, moulding, firing, and setting (see Figures 3, 4, and 5). Occasionally, cultural details can be discerned. One example is the well-stocked warehouse lined with pottery-covered shelves depicted in the second plate of the faience series. The sheer volume of the objects stored there suggests massive production

[20] A recent facsimile edition is devoted to these arts: *L'Encyclopédie Diderot et d'Alembert, Art de la Céramique* (Tours: Bibliothèque de l'Image, 2002).

and demonstrates the health of this industry. When it comes to porcelain, potters are seated in a large open workspace where more of them are occupied by fewer pieces, suggesting that the work of porcelain was more detailed and costly than that of faience and resulted in fewer products overall.

In contradistinction to the precision with which clay pits, ovens, and worktables are set into the overall compositions, nothing about the atmosphere suggests taxing physical labour. The sleek look of the environments is reflected in the human figures appearing in many of the plates. They inhabit their work spaces in a cavalier manner. Dressed in period style that vaguely recalls the station of the work (painters wear a *justaucorps*, while moulders wear only chemise and knickers—both sometimes wear hats), they are nevertheless physically unrelated to their surroundings. Perhaps the most striking feature of the characters in these visual narratives is their fastidiousness. Potters appear to work with mud, powdered chemicals, and burning ovens without soiling either their clothes or the floor. No garments or accessories identify the men in the image as potters, in sharp contrast to the detail in the drawing of the room that marks it unambiguously as a clay manufactory (see Figure 6). If we compare the figures that inhabit other workshops with porcelain workers, we find the same man—a generic eighteenth-century artisan—portrayed as blacksmith, printer, *porcelainier*, and more.[21]

This late-century erasure of the potter's individuality is symptomatic of a general sanitizing effect that characterizes the visualization of trades in the *Encyclopédie*.[22] But it also echoes

[21] The encyclopedia portrays all clay workers as male, while illustrations of other trades feature female workers. The decision to omit women from the porcelain workshop contradicts the historical record. Barbe Coudray, introduced earlier as Pierre Chicaneau's wife, had an equal hand in the management of the Saint-Cloud manufactory when Chicaneau took it over from Révérend. She sustained the porcelain experimentation after her husband's death and until her oldest son, Jean, could assume its direction. With her second husband, Henri Trou, she became the factory's owner. Her daughter, Geneviève Chicaneau, learned the trade with her brothers and appears on privilege requests as a member of the family corporation. Perhaps because of the precedent set by Coudray's role in the manufactory's early history, several women became operative in the success of the family business. For biographical sketches, see Geneviève Le Duc, "The Soft-Paste Porcelain Manufactury [*sic*] in Saint-Cloud and the So-Called Saint-Cloud Porcelain Manufactory in Paris (ca. 1693–1766)," in *Discovering the Secrets of Soft-Paste Porcelain at the Saint-Cloud Manufactory*, 71–82.

[22] By pointing out some of the ways in which the *Encyclopédie* overlooked the empirical conditions of trade work, I do not mean to minimize its

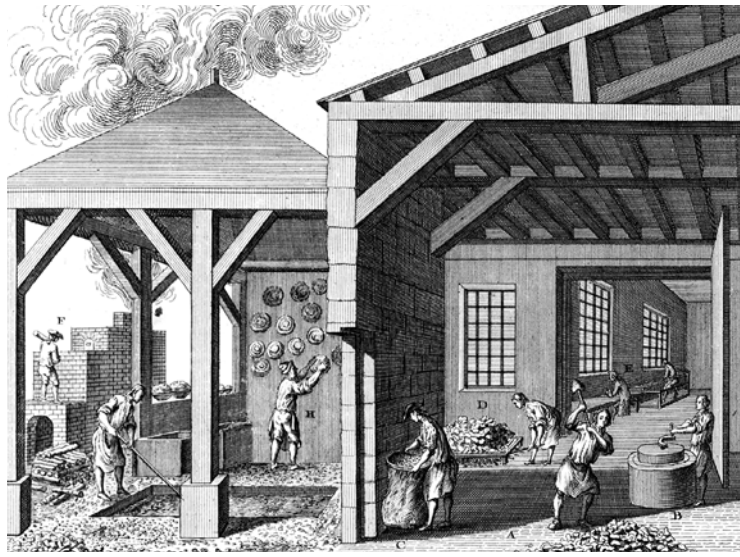


Figure 3, above. *Porcelaine*, Planche 1, *Supplément planches* (Paris, 1777). Rare Books Division, Special Collections, J. Willard Marriott Library, University of Utah. Reproduced by permission.

Figure 4, below. *Fayancerie*, Planche 2, *Recueil de planches* 4 (Paris, 1765). Rare Books Division, Special Collections, J. Willard Marriott Library, University of Utah. Reproduced by permission.

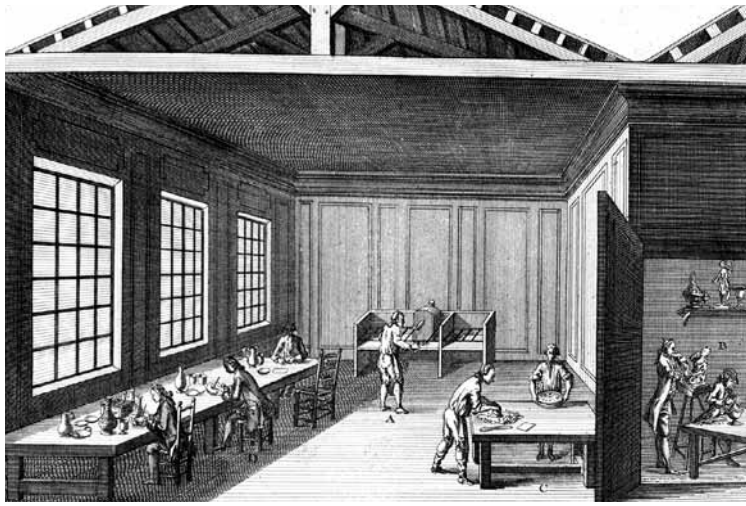
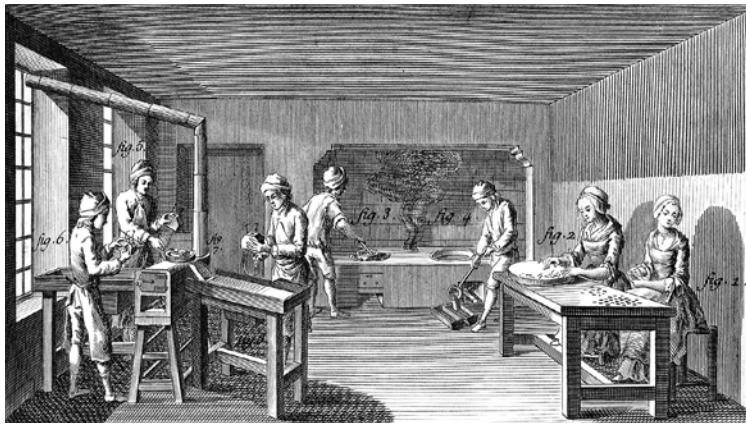


Figure 5, above. *Porcelaine*, Planche 3, *Supplément planches* (Paris, 1777). Rare Books Division, Special Collections, J. Willard Marriott Library, University of Utah. Reproduced by permission.

Figure 6, below. *Fonderie en caractère*, Planche 1, *Recueil de planches* 2 (Paris, 1763). Rare Books Division, Special Collections, J. Willard Marriott Library, University of Utah. Reproduced by permission.



what had become, by that time, a long tradition of rhetorical reframing in literature on the porcelain arts. At the mid-point in the century, as the chemical sciences gained in importance and acquired a nomenclature, there was an opportunity to show if not the potter's physical labour, then at least the ingenious mental work that went into mixing European porcelain clay. It was the occasion of the first substantial documentation of soft-paste porcelain processes for the French crown. Jean Hellot, director of the Académie Royale des Sciences in the 1750s, was trained as a chemist and commissioned by Louis XV to "constater avec certitude les divers secrets concernant l'exploitation de la manufacture de porcelaine établie à Vincennes."[23]

A specialist in "l'art du feu" (ceramics, metallurgy, and glass-works), Hellot published a *Recueil de tous les procédés de la porcelaine*.[24] His descriptions of raw clay composition, the mixing process, and firing temperatures are numerical. The *Recueil* is full of recipes with percentages of the greatest and smallest ingredients in each kind of clay produced at the manufactory. The historical value and scientific insight of this document cannot be overestimated. No one had viewed porcelain through such a powerful lens of empirical science before Hellot. In high Enlightenment fashion, he magnified the minutiae of an art that still preferred to remain secret. Then again, stripped down to its chemical processes, porcelain gained intellectual weight but sacrificed some of its "body."

Porcelainiers: Potters of Privilege

At the climax of the 1730 fairy tale that opens this essay, Prince Perinet is captured by Nortandose and incarcerated in his castle on the Blue Island as a teapot. Perinet eventually triumphs by perching himself—his teapot self—above a doorframe and

contribution to our appreciation of material culture and, in the words of John Pannebeker, "how writers, artisans, and plate designers sought to represent early modern technology." Pannebeker, "Representing Mechanical Arts in Diderot's *Encyclopédie*," *Technology and Culture* 39, no. 1 (1998): 37.

23 Cited in Antoine d'Albis, "Procédés de fabrication de la porcelaine tendre de Vincennes, d'après les livres de Hellot," *Faenza* 69, nos. 3–4 (1983): 202–16; 202.

24 Jean Hellot, *Recueil de tous les procédés de la porcelaine de la Manufacture royale de Vincennes, décrits pour le roi* (Paris, 1753). The only extant copy of the *Recueil* is in the Sèvres Museum archives, Y.51bis. For a description of the process in Hellot, see Albis.

falling on the villain's head when he walks through the door. This feat of bravery breaks the spell and releases all the human victims from their ceramic prisons. While breaking history's spells lies beyond the scope of this study, the following discussion is an attempt to recover some of the virtuosity porcelain artisans brought not only to their craft, but also to their trade as an industry. Though the eighteenth century worked hard to focus public attention on the technology and beauty of porcelain, documents that passed between the court and the workshop are records of an artisanal presence, specifically how *porcelainiers* presented their knowledge to the king.

Exchanges about porcelain as a domestic industry that occupied potters and state officials throughout the century testify to a reality overlooked in treatises on the porcelain arts: *porcelainiers* had full awareness of how their trade could grow and argued for their strategic utility in the business of French statecraft. The archival materials treated here—privilege requests, royal patents, and royal decrees—are conversations between artisans and kings about the former's right to experiment with and to produce porcelain for France. Lacking detail about physical labour, they instead memorialize the *porcelainier*'s efforts in self-promotion. Again, the seeds of themes and language present in documents of the eighteenth century were sown by potters experimenting with artificial porcelain in the seventeenth century. All routes to large-scale production and financial success passed inevitably through the king's chambers where Louis XIV's stamp of *privilège* determined an artisan's fate. Early on in porcelain experimentation potters learned to exploit the reputation their fledgling trade had acquired on the world stage and position themselves in rhetorically powerful ways not only to win favour with the king (the ostensible purpose of the request), but also to educate him. They made the case that this new work could invigorate France's economy and secure its international reputation in a field dominated by Asia.[25]

Porcelainiers began the campaign for their craft by distinguishing it from other ceramic and glass crafts, and elevating it from a trade to a national treasure. To make the case for the crown's protection, privilege requests detailed the valuable

[25] Petitions are signed by lawyers and court officials. I am arguing here that whether or not they were physically written by artisans, the themes and strategies put forth in them came from the people practising the craft.

services provided by the *porcelainier* to family, country, and—most importantly—monarchy. They ask in return that the king respect the master potter's secret. Claude Révérend's 1664 request to experiment in porcelain making, the first of its kind, established this tradition. Claiming to have spent considerable time abroad, from whence he returned with a secret, Révérend petitioned the court to conduct experiments in the hopes of creating clay that rivalled "la Porcelaine des Indes": "[Il] nous a très humblement fait remontrer qu'il a par ses peines et travaux dans les voyages qu'il a faits chez divers pays estrangers trouvé un secret admirable et curieux qui est de faire la Fayance et contrefaire la Porcelaine aussi bien et plus que celle qui vient des Indes orientales, lequel secret, il a mis dans sa perfection à Hollande où il a fait quantité dont la plupart y est encore, mais comme il espère continuer à faire ladite Porcelaine sans donner connaissance aux étrangers."[26] The request assured the king of Révérend's commitment and virtuosity, which made him a worthy candidate for the king's approval. Further, he claimed already to have produced successful wares. Although no extant evidence supports his claim, it serves as an intriguing rhetorical strategy anchored in a businesslike concern for trade secrets: his knowledge could not be written down, lest it be stolen from him, rendering the petition superfluous and destroying his livelihood.[27] Révérend had to supply proof of his abilities in another way. Instead of producing material objects, he simply announced their existence and located them too far away to be analysed. Subsequent potters waited to seek the king's protection until they had objects in hand to demonstrate the excellence of their secrets—a less creative scheme than Révérend's, but one that also saved them from having to reveal their methods.

Révérend was a merchant as well as the keeper of a valuable secret. He would have understood something of the role porcelain played on the world market and of the way the economy

[26] Handwritten privilege request for Claude Révérend, entitled "Pérmission de fabriquer à Paris et la Fayance et de contrefaire la Porcelaine des Indes," Archives Nationales O/1/6, folio 239.

[27] Even as scholars revisit the distinction between artisanal and scientific knowledge, they continue to affirm the political and economic efficacy of secrets within the trades. On secrecy versus published knowledge, see Alice Stroup, "The Political Theory and Practice of Technology under Louis XIV," in *Patronage and Institutions: Science, Technology, and Medicine at the Courts of Europe,* ed. Bruce Moran (New York: Boydell Press, 1991), 211–34.

buoyed political power. His petition stated that although he trained abroad, he wanted to continue producing porcelain in France, which he suggested was the best way to keep the secret method from prying foreign eyes. By 1664, Louis XIV had assumed personal reign, adopted the mythic sun as his device, and begun expanding Versailles. Few monarchs could have protected—or exploited—Révérend's talents as well as the Sun King. To his credit, the master potter appears to have been aware of that fact and flattered the young king's ambitions in order to gain favour and protection. The petition request succeeded for Révérend, who became the first artisan in France to conduct experiments in porcelain making.

Subsequent petitions in France did not fail to dedicate the potter's secret to the crown for the sake of the national economy. Louis Poterat of Rouen was granted a privilege to produce porcelain in 1673.[28] It recounts Poterat's credentials, which would have been enumerated in his request. Not quite a decade after Révérend laid his case before the king, Poterat had already borrowed his approach: "Louis Poterat has most humbly pointed out that he, by dint of long journeying in foreign lands and by constant diligence and application, has found the secret of making genuine Chinese porcelain."[29] In this privilege, the claim to a secret has become formulaic. There is little evidence that Poterat travelled at all, much less to China, while he trained in his father's workshop as a *faïencier*. Instead, he took advantage of a narrative strategy that could do what his personal credentials could not: identify him as a worthy investment. In his case, the claim of exotic travel is purely rhetorical. There was no need to prove a first-hand encounter with the land of the secret as Révérend had to do, since Poterat had production experience to make his case. Details show that he had taken porcelain clay from the moulding wheel through the firing process: "It is impossible, however, to produce the said porcelain except in conjunction with the production of Dutch faïence because the porcelain can

28 Production in Rouen lasted about twenty years, and several pieces believed to be made at Rouen are extant today. The decline of the manufactory there coincides with the death of Louis Poterat and the rise of production at Saint-Cloud.

29 Gilles Grandjean, "The Porcelain of Rouen," in *Discovering the Secrets of Soft-Paste Porcelain at the Saint-Cloud Manufactory*, 58. Grandjean has reproduced his translation of the privilege in "The Porcelain of Rouen," 57–70.

only be fired if it is surrounded entirely with faïence to protect it from the violence of the furnace."[30] Both the words "impossible" and "entirely" attest to the trade knowledge of an expert. It would only be after hundreds of trials that a potter could make such specific claims. Once he understood the porcelain-firing process with this level of certainty, he could make successful wares. Furthermore, by differentiating the behavioural properties of his porcelain clay from those of faience, he illustrates the novelty of the recipe he possesses. A ceramic so delicate could revolutionize the trade and mould a new role for the potter in society. In the decades that followed, the pottery Révérend had founded at Saint-Cloud attempted to do just that.

Drawn up ca. 1700 and granted in 1702, an eight-page letter submitted by the Chicaneau family requested exclusive rights to production at Saint-Cloud. This is probably the first petition of its length about porcelain experimentation. While it reiterates the formulae about secrets and services offered to the king that eventually became standard in the genre, it also boldly articulates what the potters expect from their sovereign in return. These are their "rights" as artisan-subjects of the crown: to experiment with their secret knowledge, to profit from this secret knowledge, and to be protected from competition. Between the time of Révérend and the beginning of the eighteenth century, porcelain ceramicists had perfected their technique and become brilliant marketers of their knowledge. In word if not in deed, they became their own *négotiants* within the political economy of Louis XIV's France:

> Ce Secret est d'autant plus important, que non seulement rien n'est ni d'une plus grande propriété, ni plus agréable que la Porcelaine, ni même d'un plus grand usage, soit pour le service, soit pour l'ornement; Mais que c'est d'ailleurs la seule chose que l'on n'a pu, jusqu'à présent, exécuter en France, et que l'on était obligé d'aller chercher dans un autre monde à grands frais et avec des peines infinies.
>
> *Qu'il est non seulement de l'intérêt, mais même de la réputation et de la gloire de la Nation*, qu'il n'y ait rien d'inconnu pour elle dans les Arts les plus cachés, et qu'elle élève par elle-même des Manufactures publiques, et soit en état de donner (comme font les Suppliants) aux Chinois mêmes et aux Indiens, des modèles d'une chose qu'ils avaient toujours regardée comme un Secret et un avantage qui leur était absolument particulier.[31]

30 Cited in Grandjean, 59.

31 Second letter, *Requeste,* 2 (emphasis added).

Reputation and glory were organizing principles of the Sun King's reign. Supremacy was one of their desired effects. Potters at Saint-Cloud shrewdly cast porcelain as the final frontier of knowledge and economic hegemony. It was the only art at which France lagged behind great empires, the only art that France was forced to purchase, and their success uniquely proved that nothing was unknown to France. Porcelain makers won the battle for the crown and asked in return that he protect the manufactory's good name and exclusive fortune.[32]

The year 1693 appears in the document as the date that the manufactory began successful production of porcelain—nearly ten years before the petition for exclusive rights was drafted. Few wares made before 1700 remain, and none has been attributed to these first years of production, making the date difficult to verify. While generally accepted by art historians as a reasonable claim without much significance, the year 1693 may have served a strategic purpose for the petitioners. It marks a milestone in the relationship between the trades and French statecraft. In 1693, Louis XIV created the Compagnie des Arts et Métiers, collecting under one government agency the research efforts of artisans across the trades. Significantly, the Compagnie was then absorbed into the Académie Royale des Sciences in 1699, just a year or two before the Chicaneaus submitted their petition. These all-important gestures recognized trades as a form of technology that could serve the modern kingdom's social and political ends.[33] Dating the first practical success of their secret experiments to coincide with the crown's new desire to incorporate the efforts of artisans into state building was a way of identifying Saint-Cloud's scientific and artistic progress with France's political evolution.

32 Although it may seem an excessive argument to make today, the early eighteenth century was ripe for such nationalistic hyperbole regarding porcelain. As Bruce Moran elegantly suggests, the porcelain arcanum was a universally recognized form of political currency: "the discovery of the white, translucent material that led to the establishment of Europe's first hard-paste porcelain factory at Desden in 1710—not the Philosopher's Stone exactly, but, from the point of view of political economy, every bit as valuable." Moran, *Distilling Knowledge: Alchemy, Chemistry, and the Scientific Revolution* (Cambridge: Harvard University Press, 2005), 148.

33 Pontchartrain was instrumental in forming the Compagnie des Arts et Métiers. See Stroup, *Royal Funding of the Parisian Académie Royale des Sciences during the 1690s*, Transactions of the American Philosophical Society (Philadelphia: American Philosophical Society, 1987), 57.

Remarkably, the Chicaneaus's first attempt to secure the king's support failed to result in a privilege, nearly derailing the development of the soft-paste porcelain industry in France and requiring an immediate follow-up petition of the same length written with sterner resolve. In the end, they secured royal protection and established Saint-Cloud as an important centre of soft-paste porcelain production over the next twenty-five years. From the small shop that a Chicaneau son opened on the rue de la Madeleine in Paris, French porcelain made its way to royal tables across Europe, and even, a later petition claimed, to China. Fitting homage to the impact the Chicaneaus had on the ceramics trade came in 1720 when the merchant-potter Claude Barbin set up a workshop in Paris to make porcelain "à la manière de Saint-Cloud"; for the first time, France had its own porcelain model to imitate.[34]

Through both persuasion and eventual material success, France's porcelain artisans secured the sovereign's protection and attention by the beginning of the eighteenth century. From the relatively small enterprises at Rouen and Saint-Cloud would emerge a lucrative industry with major soft-paste porcelain manufactories appearing at Chantilly, Vincennes, and finally Sèvres. Vincennes is the second major success story for French porcelain since the manufactory's creation post-dates the discovery of kaolin in Saxony. Potters there built their reputation on a recipe "façon de Saxe," making frit in imitation of the new hard-paste porcelain made at Meissen. The superior Vincennes soft-paste clay was an attempt to bring the focus of luxury trade, temporarily displaced onto Augustus II's discovery in Saxony, back to France. When the plan began to bear fruit, potters sought exclusive rights to production. Master potter Charles Adam experimented in porcelain "de la même qualité que celle qui se fait en Saxe, pour dispenser les consommateurs de ce royaume de faire passer leurs fonds dans le pays étranger pour se procurer cette espèce de curiosité." A petition of 1745 announced that he had succeeded in producing superior wares: "Il a eu le bonheur de voir réussir son entreprise, puisque différentes pièces qu'il a mises en dernier lieu sous leurs yeux, après avoir été examinées par les marchands débitants la porcelaine de Saxe, ont été approuvées et reconnues même pour supérieures dans la qualité de la matière première."[35]

34 Cited in Lahaussois, 147.

35 "Arrest du Conseil d'Etat du Roy Qui accorde à Charles Adam le privilége

That merchants should have acted as arbiters of porcelain quality in 1745 is revelatory. It suggests that by the mid-eighteenth century, nearly one hundred years after porcelain experiments began in France, sellers and consumers had inserted themselves into the dialogue between potters and the crown.[36] The triangular relationship brought commerce into the equation, which only strengthened the potter's argument for the king's support. Once France had developed its own standards for porcelain and publicized them as a scientific achievement, they would supersede those of the East. The tireless rhetorical effort that potters made to establish porcelain as a domestic product helped to create an international market that demanded French wares. Pride in porcelain became a form of nationalism that sustained French soft-paste production against the competitive edge of hard-paste porcelain from China and Saxony—and finally Sèvres in 1769—for decades.

Over the century, patent letters helped record the otherwise elusive talents of the men and women behind France's porcelain arts. Underlying the remarkable history of how a late seventeenth-century cottage industry became a global economy for France was a special mentality among *porcelainiers*. There is a conventional way of thinking about artisan craft in the eighteenth century that sharply divides the creators from the traffickers of art objects. *Marchands merciers* were glibly known as "makers of nothing, sellers of everything." Artisans may have been makers of everything, but they were not sellers of nothing. As the patent literature shows, if artisans were not solely responsible for publicizing their porcelain wares, they were engaged in marketing their knowledge for profit. Potters played a formative role in the development of the porcelain industry by moulding it in the royal image and casting themselves as artisans of France's glory.

In the nineteenth century, chemists at last began to write about the physicality of clay work. The portrait they painted was far less appealing than the plates in the *Encyclopédie*. Alexandre

pour l'établissement de la Manufacture de Porcelaine façon de Saxe, au Château de Vincennes du 24 juillet 1745," Archives Nationales, O/1/2059.

36 On the role of merchants in the reception and valuation of luxury objects, see Carolyn Sargentson, *Merchants and Luxury Markets: The "Marchands Merciers" of Eighteenth-Century Paris* (Los Angeles: Getty Publications, 1996).

Brongniart, head chemist and director of the Manufacture Royale de Sèvres, 1800–47, paid tribute to the hardship endured by French porcelain makers. His *Traité des arts céramiques* (1844) explained the heavy price early artisans paid with their health to launch the industry in France: "Le façonnage de la porcelaine tendre artificielle ancienne était très compliqué et nuisible à la santé; car la pâte n'ayant pas une plasticité suffisante pour être ébauchée, était toujours façonnée par moulage et tournassée à sec, d'où résultait une poussière alcaline vitreuse funeste aux organes pulmonaires."[37] Although the absence of the artisan's body from the early historical record may seem a lamentable omission today, at the time it created a space for—indeed forced—porcelain makers to reinvent themselves as other than the genteel labourers the world took them to be. Their correspondence with the court allows us to overlay the generic artisan in the *Encyclopédie* with the image of a political strategist and an entrepreneur. There is little doubt that the discursive erasure of the man in order to ennoble the trade helped the porcelain arts flourish in the eighteenth century. Perhaps less obvious is how it created conditions that favoured the self-actualization of the *porcelainier*.

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[37] *Traité des arts céramiques, ou des poteries considérées dans leur histoire, leur pratique et leur théorie*, reprint of the 3rd ed. (Paris: Dessain et Tobra, 1977), 34.