Peterstal and Wistarburg: The Transfer and Adaptation of Business Strategies in Eighteenth-Century American Glassmaking

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On December 7, 1738, Caspar Wistar, a Philadelphia merchant, signed an agreement with four German glassmakers to form the United Glass Company in Salem County, New Jersey. The artisans contracted to teach Wistar and his son the art of making glass in return for one-third of the Company's profits. Wistar, on the other hand, agreed to pay for the artisans' transatlantic voyage, provide housing for them, and furnish the capital for establishing the glassworks in exchange for the remaining profits [Acton, 1885, pp. 344-5; Sickler, 1939, p. 93].

Historians writing about Wistar's enterprise and the community it produced have noted the novel nature of his contract with the glassmakers [Palmer, 1973, p. 66]. Their agreement established a company that resembled a modern corporation more than a colonial business. Similarly, Wistarburg, the village that grew up around the operation, functioned more like a nineteenth-century factory town than an eighteenth-century rural market center. In traditional historical accounts, the United Glass Company foreshadows the exceptional nature of industrial development in the United States [Sickler, 1939, p. 94].

From a twentieth-century perspective, Wistar's business organization may have been unique in the British American colonies. Viewed from within its contemporary transatlantic world, however, the New Jersey glassworks represents both the continuity of European practices and adaptations to an American environment. Government regulation of the economy and natural resources created a totally different set of circumstances in the mid-Atlantic colonies. Nevertheless, Wistar and his partners used business strategies and organizations similar to those of their European counterparts. Consequently,

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the nature of Wistar's United Glass Company did not differ drastically from eighteenth-century European glassmaking communities.

To understand more fully the transfer and adaptation of European business strategies to British America, this essay compares Wistar's enterprise with a contemporary glassworks at Peterstal, near Heidelberg in what was then the Electorate of the Palatinate. The Peterstal operation provides a logical counterpart since it was located just miles from where Wistar had apprenticed as a forester prior to his emigration [Beiler, 1994, p.68-71]. Furthermore, Simeon Griessmeyer, one of Wistar's partners, was born at Peterstal while his father was a journeyman at the glassworks.[2] The Palatine enterprise likely provided a model for Wistar's United Glass Company and presents a good example for comparison.

Government Regulation at Peterstal and Wistarburg

On January 3, 1710, Johann Peter Wentzel, a master glassmaker from Württemberg, petitioned the elector of the Palatinate for permission to establish a glassworks near Heidelberg. Wentzel proposed to build his operation on the site of a 1680s glass manufactory [GLA 229/82943, I, pp. 209-11; 296-308]. The entrepreneur claimed that the area behind the old furnace could still be used for a new works without destroying the elector's wild game. The region, he noted, was "an abominable wilderness," with "stony ridges and cliffs overgrown with old beechwood." The wild area also included "burnt-out houses," for French troops had destroyed the region seventeen years earlier. Wentzel believed his glassworks would help to clear the wilderness and he suggested that he, with his three co-partners and their workers and families, would supply immigrants to repopulate the region. Therefore, he maintained, it was in the interest of the government to support his proposal [GLA 229/82943, II, pp. 1-4].

Wentzel understood the mercantilist policies of the government, which were designed to turn natural resources into revenue while protecting them from entrepreneurs seeking individual profits at the government's expense. For this reason, his petition included a list of conditions under which he wished to establish the glassworks. Wentzel's requests signaled the beginning of his negotiations with the government to acquire the closely protected resources he needed for his enterprise [GLA 229/82943, II, pp. 5-7].

The perquisites Wentzel asked for fell into three general categories: the acquisition of timber and ashes, tax and rent reductions, and the means to provide food for his workers and their families. The most important of Wentzel's requests was for timber. Since the proposed site was in a state-owned

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[2] Griessmeyer's baptismal record is August 8, 1715, Kirchenbuch Stift Neuburg, 1700-1806, Katholische Kirchenbuchamt, Heidelberg. Documentation for the Peterstal glassworks is in "Die oberhalb Ziegelhausen gelegene Glashütte, erbbeständige Rechnung des Guts, 1661-1800," Badisches Generallandesarchiv, Karlsruhe, 229/82943, vols. I, II, III [hereafter GLA 229/82943].

forest, the elector's forestry department tightly controlled the use of wood. Manufacturing glass required significant amounts of timber to fuel the furnaces and to make the potash needed as an alkali for the glass batch. Consequently, Wentzel asked for wood to build the original structures at the glassworks and for fueling the furnaces [GLA 229/82943, II, pp. 5-7].

A second set of conditions that Wentzel negotiated with the government concerned tax exemption and his status as a renter. Wentzel argued that since the glasshouse would require a significant outlay of capital, he should receive several rent-free years. He also wanted special privileges for himself and his workers that included "personal freedom" (*Personalfreiheiten*) or exemption from the mandatory government service, military service, and quartering of soldiers required of most Palatine subjects. Finally, Wentzel wanted the government to make him and his partners hereditary tenants (*Erbbeständer*) of the glassworks, a privilege which would allow his heirs to inherit the right to continue his enterprise [GLA 229/82943, II, pp. 5-7].

A third category of requests that accompanied Wentzel's petition concerned provisioning the glassmakers and their families. As hereditary tenants in the state's forest, Wentzel and his workers would not have the traditional citizenship rights of Palatine villagers. Therefore, it was crucial to confirm his provisioning rights in his negotiations with the government. Wentzel wanted guaranteed permission to purchase as much food and drink as his workers would consume. In addition, he asked for the government's consent to farm cleared land and to enclose grazing pastures for the cattle at the site. Wentzel also requested permission for him and his workers to fatten a specified number of swine on communal property, rights that were usually auctioned off annually to villagers [GLA 229/82943, II, pp. 5-7].

Establishing his operation, however, was not as simple as listing the conditions for investing his capital. Wentzel's proposal was submitted to a group of advisors who rendered their opinions on how his enterprise would affect the government's interests. Karl von Venningen, the head of the forestry administration and one of the advisors, agreed that Wentzel's proposed enterprise would benefit the state. He noted that "the establishment of a Glasshouse would be more useful than harmful to the woods and game, especially if some fields and meadows could be cleared" [GLA 229/82943, II, pp. 16-21].

The administrator thought, however, that some of Wentzel's conditions might hurt the state's resources if not limited. For example, he recommended that the glassmakers be restricted to a specific district; "otherwise," he said, "they will want to cut down half of the woods." He also thought the glassmakers should be required to graze their cattle in their own district. If not restrained, von Venningen believed "they will want to maintain a whole herd of cattle and will want to graze it far and wide" [GLA 229/82943, II, pp. 16-21]. In his advice, the administrator sought to restrict Wentzel from obtaining too many of the government's valuable resources.

The final agreement Wentzel signed with the government contained many of his original conditions, but with more constricting details. For example, the contract's limitations concerning timber and potash were

extensive. While lumber for the initial buildings was free, Wentzel had to pay for any repairs or new buildings. He and his workers could cut timber from the glasshouse district (300 *Morgen*) for fuel but at his own expense and for the exclusive use of the furnaces. Selling timber to Dutch wood merchants was a lucrative source of revenue for the state and local villages. Government officials wanted to ensure that Wentzel did not raise cash by peddling the state's timber. The contract also required the glassmakers to cut the wood systematically and to replant the district so that by the time the last plot was cleared, the first would be ready to cut again. The forestry department was to monitor both timber-cutting and potash production at the site.[3]

Wentzel's contract did make him and his partners hereditary tenants of a specified district, gave them "personal freedom" and two rent-free years. Thereafter, however, they were required to pay an annual rent (180 *Gulden*) in addition to the other legal fees required for hereditary tenants. The terms in the contract for provisioning the workers were also quite explicit. Wentzel and his workers could clear fields and meadows for farming but they had to pay annual tithes. They could let their cattle graze in their own district as long as their animals did not cross over the bounds and damage the property of the neighboring villages. Finally, Wentzel was allowed to import food and drink for his workers if he paid the appropriate duties and did not charge any fees to those who consumed his provisions [GLA 229/118077].

Clearly the government intended to monitor closely Wentzel's enterprise and its use of the surrounding forest. As long as the glassworks promoted state interests by supplying revenues, repopulating the area, and clearing unused land, it was viewed as an asset. Almost immediately, however, the glassworks at Peterstal cost the government time and money. The exchequer's court and local officials were involved almost constantly in negotiating disputes and easing tensions between the glassworkers and neighboring villages about the use of common land and fees for ashes [GLA 229/82943, II and III, all].

In contrast to Wentzel, Caspar Wistar signed no contract with the government in order to establish his glassworks in Salem County, New Jersey. In fact, he received no permission from the government at all to begin his enterprise. Colonial administrators first noted Wistar's glassworks in 1740 when a customs official reported to the Commissioners for Trade in London that "there has lately been Erected a Glass work" near Salem "by one Casper Wester a Palatine, and [it] is brought to perfection so as to make Glass" [*Documents*, 6, p. 98]. In spite of British mercantilist policies, the establishment of Wistar's glassworks apparently was not viewed as a threat nor did the government initially attempt to control it.

Instead of petitioning the government for the use of timber and land, as Wentzel had done, Wistar purchased 100 acres of woodland from Clement Hall and leased 18,000 cord of wood and 50 acres of land for "a plantation" from John Ladd Jr. in January 1738 [Sickler, 1939, p. 93]. His agreement with Ladd

[3] "Abschrift zweier kurpfalz. Urkunden von 1710 u. 1735 über die erbbeständliche Verleihung der Glashütte bei Ziegelhausen," GLA 229/118077 (no pagination).

allowed Wistar cut the specified amount of wood over a twenty-five year period in exchange for £300. Payments on the lease were to be made in six annual installments.[4] Whereas Wentzel paid a yearly rent to the government during his lifetime, Wistar paid off his lease to a private individual in six years. The Palatine government restricted Wentzel from obtaining timber outside of the glasshouse district, an area that soon proved too small for Wentzel's needs. On the other side of the ocean, Wistar and his son Richard purchased additional woodland from neighboring New Jersey landholders when they needed more fuel. By the time of Richard's death in 1781, the "Glasshouse tract" included more than 2000 acres of land.[5]

The same striking difference between the government's control of natural resources at Peterstal and the absence of restrictions at Wistarburg emerges when comparing the tax obligations of the two enterprises. Wentzel may have received two years of free rent, but from the beginning he had to pay a series of taxes, tithes, and duties on supplies and land to a variety of authorities. Wistar, on the other hand, did not pay any provincial taxes on his glasshouse tract for the first twelve years of the company's operation. The New Jersey colonial government supported itself by issuing bills of credit rather than through general taxes. Consequently, from 1735 to 1751 the legislature levied no taxes [Wacker, 1989, pp. 24-5].

The year 1751, however, proved to be a turning point; that year the legislature agreed on a provincial tax bill. A preliminary estimate of the tax quotas valued the United Glass Company at £1,000 [Wacker, 1989, p. 33]. In response to the proposed legislation, Wistar and his partners submitted a petition requesting tax exemption status for the glassworks. Like Wentzel, they pointed out the advantages the enterprise brought to New Jersey. Not only did the glassworks keep money in the colony that would otherwise be sent abroad to purchase glass; it also brought cash into the province through its exports of glass to nearby colonies. Furthermore, the company fueled the local economy by purchasing ashes and provisions for workers from neighboring farmers.[6]

The records remain silent on whether or not Wistar received tax exemption status from the taxes levied beginning in 1752. Nevertheless, the United Glass Company enjoyed at least twelve years of production without the burden of paying extensive government fees. Whereas Wentzel's production came to a halt because he could not pay back-rents and taxes, Wistar's company enjoyed substantial profits in its early years.

A final area of difference in government regulation at Peterstal and Wistarburg concerns provisioning their workers. Wistar did not have to worry about receiving permission to graze cattle for food for his workers. Nor did he

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[4] Lease, John Ladd to Caspar Wistar, Jan. 13, 1738, Ladd Papers, Stewart Collection, Rowan University, Glassboro, NJ.

[5] NJ Wills, Gloucester Co., #1374 and Salem Co. Deeds, A, p. 266, New Jersey State Archives, Trenton, NJ.

[6] Petition to Legislature, Jan. 29, 1752, New Jersey State Archives, Trenton, NJ [hereafter Petition, 1752].

have to purchase communal rights from neighboring villagers to fatten hogs. Instead, he bought more than 1,000 bushels of grain and 10,000 weight of pork each year from local farmers [Petition, 1752]. Whereas Wentzel argued with his neighbors over closely controlled communal usage rights, Wistar's enterprise created income for surrounding individual inhabitants who were working to improve their land [GLA 229/82943, II, pp. 81-5; 189-233].

The government's involvement in the glassmaking communities at Peterstal and Wistarburg differed dramatically. Whereas state officials monitored every step of the process in Wentzel's operation from before its inception to its demise, Wistar's glassworks went virtually unnoticed until after it was well-established. High taxes and rents, restrictions on cutting wood, and a series of insolvent partners severely hindered glass production at Peterstal. In New Jersey, freedom from government restrictions on obtaining natural resources, inexpensive land, and low taxes allowed Wistar's enterprise to flourish.

Business Strategies at Peterstal and Wistarburg

If the involvement of the government in the daily operations of the two glassworks differed significantly, the business strategies of their entrepreneurs had much in common. Wistar's contractual arrangement with his partners may have been unique in the British colonies but internal contracts were common among glassmakers in Europe. In setting up his company, Wistar transferred European practices to his American context.

Once again the Peterstal enterprise offers an excellent contemporary comparison. Wentzel established his original glassworks in company with three other glassmakers – Johann Christoph Wentzel, Leonhard Friederich Wentzel, and Johann Henrich Wentzel. Within a year of beginning production, Johann Peter accused Johann Christoph Wentzel of embezzling money from the sale of glass that they had produced jointly. Accusations evolved into threats and physical brawls. Before long, the journeymen and workers at the furnace threatened to leave the site. A government commission resolved the dispute in Johann Peter Wentzel's favor and production struggled on. In 1712 Johann Martin Gottfried Hermanni purchased the three partners' shares of the company and divided ownership of the glassworks equally with Johann Peter Wentzel [GLA 229/82943, II, pp. 1-4; 67-101].

To prevent any similar disputes with his new partner, Wentzel signed an agreement with Hermanni explicitly outlining their partnership. Hermanni, who was not a glassmaker, became the primary investor in the company. Wentzel was responsible for overseeing the daily operation of the manufactory and received a special salary for his on-site responsibilities. As the primary investor, Hermanni agreed to deposit 500 *Gulden* in cash in the partnership's fund which was to remain there for three years without interest. The partners also hired a joint factor who acted as bookkeeper and business manager for the firm [GLA 229/82943, II, pp. 105-15].

Like Wentzel's contract with Hermanni, Wistar's 1738 agreement with the glassmakers in New Jersey centered around a primary investor, skilled

artisans, and a factor. As the primary investor, Wistar agreed to pay for his partners' transportation costs, provide capital for living quarters, and pay the start-up costs of the company. In return, he received the exclusive rights to his partners' skills – they promised to teach only him and his son the art of glassmaking. Like the glassworks at Peterstal, the United Glass Company had a factor, who was the bookkeeper and general business manager.[7]

Wistar also adopted a similar organizational structure to that of the Peterstal operation. Both enterprises were arranged as individual companies within a larger company. At Peterstal, Wentzel and Hermanni oversaw their own ovens and their own workers. Each partner was responsible for furnishing his workers with food, tools, and supplies – including timber, potash, and sand. Each man also paid his own workers' wages. However, the two men shared the general administrative costs of the company. Government fees, building and repair costs, and wages for wood and glass cutters came out of the joint partnership's fund. Wentzel and Hermanni agreed to calculate the income and expenses of the partnership after each blast of the furnace and to share equally in the profits or losses [GLA 229/82943, II, pp. 145-8].

The structure of the United Glass Company at Wistarburg was similar, although a bit more complex. Like Wentzel and Hermanni, Wistar and the four glassmakers established small companies within a single larger company. The "whole" company covered the costs for maintaining the ovens and buildings and for making potash. Wistar carried two-thirds of the costs of the "whole" company while the four glassmakers jointly paid one-third of its expenses. The "whole" company also had three subsidiary "particular" companies. Each of the "particular" companies centered around the glassmakers themselves. Johann Wilhelm Wentzel and Caspar Halter each had their own "particular" company in partnership with Wistar. Each of the men paid one-third of the costs and received one-third of the profits from his "particular" company's production. The remaining two glassmakers, Simeon Griessmeyer and Johan Martin Halter, shared the third "particular" company with Wistar. Together they paid one-third of the costs and shared one-third of the profits from their "particular" company [Account Bk. G].

At Wistarburg, as at Peterstal, the "particular" companies revolved around the individual ovens where the glassmakers worked. Each of the artisans owned the ovens and tools from their specific companies and paid the wages of the workers under them. The tools and implements for making potash and cutting timber belonged to the "whole" company [Account Bk. G].

Finally, just as Wentzel and Hermanni agreed to settle their accounts at the end of each year's blast, so Wistar and the four glassmakers at Wistarburg calculated their expenses and profits annually. The first firing of the United Glass Company's ovens began in the fall of 1739 and continued through the spring of the following year. Because of the summer heat, the blasts generally

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[7] A clarification of the original agreement between Wistar and his partners is in Caspar Wistar, Account Book G, 1743-1769, Wistar Family Papers, Historical Society of Pennsylvania, Philadelphia, PA [no pagination; hereafter Account Bk. G].

lasted from October to May. Wistar and the glassmakers (like Wentzel and Hermanni) usually closed out their accounts in May, immediately following the end of the blast, or in the fall, before the new firing began [GLA 229/82943, II, pp. 105-15; Account Bk. G].

Although the people and specific organization of the Wistarburg enterprise changed after Wistar's death in 1752, the general structure remained the same. Like its European counterpart, the United Glass Company continued to operate as a series of companies within a company and the Wistars continued as the primary investors who marketed the glassmakers' products. In establishing his glassworks, Wistar transferred the business strategies of European entrepreneurs to his American context.

Labor and the Communities of Peterstal and Wistarburg

If the business organizations of the British-American and Palatine glassworks had much in common, the relationships within the enterprises illustrate both the transfer and adaptation of European forms to a new environment. At the two sites, villages emerged in the wilderness as workers arrived to support the enterprises. Both Wentzel and Wistar became patrons within their respective communities. Nevertheless, conditions in New Jersey fostered new forms of labor and freedom from government regulation continued to generate new opportunity.

The villages that grew up around the two glassworks were made up of people who earned their living from the companies. Both Wentzel and Wistar relied most heavily on skilled artisans for the production of their glass. At Peterstal, Wentzel, who was a master glassmaker, had achieved the highest level of European training. In addition, journeymen and apprentices helped him in producing glass. By 1713, at least eight journeymen were working at Hermanni's oven, and Wentzel likely had a similar number of skilled artisans assisting him [GLA 229/82943, II, pp. 145-8].

Skilled glassmakers also played a central role at Wistarburg. Evidence does not reveal how much training Wistar's original partners received in Europe. Benjamin Franklin reported that the company had begun with only two glassmakers but they had trained four men for a total of six skilled artisans by 1747 [Labaree, 3, p. 114]. Although Wistar's contract made all four of the original glassmakers partners in the enterprise, it is possible that only Johann Wilhelm Wentzel and Caspar Halter were master glassmakers. The status of Johann Martin Halter and Simeon Griessmeyer as journeymen at the beginning of the venture likely dictated their joint "particular" company [Account Book G].

Wistar's partnership revolved around the original glassmakers, but clearly other men worked and trained under them. The two men who rounded out the six glassmakers Franklin reported in 1747 were "Engel" and "Heinrich," whose wages all four of the original glassmakers contributed to in 1745 and 1746. Additional German immigrants also worked as glassmakers at Wistarburg, either as journeymen or apprentices [Account Bk. G].

In addition to skilled artisans, other kinds of workers contributed to the enterprises at Peterstal and Wistarburg. Both companies hired wood cutters and driers, glass cutters, potash burners, and carters. However, whereas Wentzel relied on wage labor for such tasks, Wistar supplemented wage labor with indentured servants. In his petition to the legislature in 1752, Wistar stated that there were 60 people who earned a living from the glassworks, many of whom were servants [Petition, 1752; GLA 229/82943, II, pp. 145-8]. Indentured servitude represented a new form of contract labor in America where transportation costs were equally important to the training a servant received.

Laborers in the two villages were also similar in their dependence on the entrepreneurs for food. Wentzel's contract with the government reveals how he obtained provisions for his employees, but not his system for distribution. In Wistar's case, evidence outlines how he dispensed food and supplies. The United Glass Company purchased food in bulk from neighboring farmers. Wistar ran a general store at the glassworks and his son owned a grist mill nearby. In his store, Wistar's employees and partners purchased goods on credit against the profit of the glass they would make that year. At the end of each blast, the United Glass Company's factor added the annual expenditures in the store into the accounts between Wistar and the four partners [Petition, 1752; Account Bk. G]. Whether through credit or in accordance with the terms of a contract, both Wistar and Wentzel provided food and housing for their employees.

By the time of their deaths, Wentzel's in 1743 and Wistar's in 1752, both men were viewed by others as patrons to villages that had not existed prior to the establishment of their enterprises.[8] Wentzel, in spite of ongoing problems with his partners and the government, managed to keep the glassworks functioning more or less until his death. After he and his large family converted to Catholicism, the entrepreneur sponsored the building of a chapel for his workers. From then on, the village surrounding Wentzel's glassworks was known as "Peterstal" – Peter's valley [Hoppe, 1940, pp. 40-1].

One of the few historians to chronicle Wentzel's enterprise points to the negative image of patronage he had among his neighbors. Petitioners from the bordering district accused him and his partner of "little by little, single-handedly taking all kinds of riff-raff and rabble into their protection, among whom were Jews and many criminals who were expelled from other places or were exiles who found no other haven." Furthermore, the two partners "made them their subjects and collected protection money from them" [Hoppe, 1940, p. 41]. Wentzel's chroniclers emphasized a view of him as a money-hungry entrepreneur who was attempting to establish his own little fiefdom at Peterstal.

In perhaps similar ways, Wistar came to be recognized as the patron for the village that grew up around the United Glass Company. The best indication of his status is the name of the village. Just as Peterstal was named after

[8] Wentzel died on Aug. 25, 1743, Peterstal Katholische Kirchenbuch, 1738-1810, Katolische Kirchenbuchamt, Heidelberg. Wistar died in Philadelphia on March 21, 1742 of dropsy; family Bible records, Historical Society of Pennsylvania, Philadelphia, PA.

Wentzel, so Wistarburg received the name of its proprietor. While none of Wistar's neighbors complained that he was becoming a petty lord, he did, in fact, establish a community of dependent laborers. The people at the glassworks relied on Wistar and his family for their housing, food and supplies. Many of the workers were indentured servants, who depended on Wistar for their most basic needs.

Interestingly, the chroniclers of Wistarburg's history tell the story of Wistar's patronage in a different light from those of Peterstal. In his history of Salem County, Joseph Sickler notes that Wistar's general store was also the center of community life for the village. "From the old chronicles come stories of winter sleighing parties coming to the store for their balls, dances, entertainments and other diversions of those pre-Revolutionary days" [Sickler, 1939, p. 94]. Instead of being a left-over vestige of feudalism, whose neighbors condemned him for extracting dues from his vagabond workers, Wistar was a benevolent, paternalist proprietor, whose neighbors and dependents participated in the benefits of his generosity.

The two perspectives historians offer of Wentzel and Wistar, however, reveal more about twentieth-century interpretations than eighteenth-century realities. True, Wistar experienced far fewer government restrictions in New Jersey than Wentzel in the Palatinate. Ultimately Wentzel was forced out of business and glassmaking died out as an industry in the region. While the American Revolution put out the fires at the United Glass Company's ovens, new glassmaking companies flourished in nineteenth-century South Jersey, where timber and sand remained easily accessible and unregulated. Nevertheless, the business strategies of American glassmakers and the internal structures of their organizations and communities varied little from those of their European counterparts. The companies within a company that appear so unique to Wistar's enterprise were simply a continuation of business organizations in Continental Europe. The United Glass Company, like the glassworks at Peterstal, relied on investors, skilled artisans and factors to carry out production. And, as in Europe, Wistar became a patron to a village of dependent families that grew up in the wilderness. Placing the glassmaking community at Wistarburg within its eighteenth-century transatlantic context dispels the image of colonial American enterprise as exceptional. It reveals that European artisans and entrepreneurs brought with them knowledge and experience which they adapted to their new environments.

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