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The Business Organization of the Bourbon Factories: Mastercraftsmen, Crafts, and Families in the Capodimonte Porcelain Works and the Royal Factory at San Leucio

Silvana Musella Guida

Without exaggerating what was known as the “heroic age” of the reign of Charles of Bourbon of which José Joaquim de Montealegre was the undisputed doyen, and without considering the controversial developments of manufacturing in Campania, I should like to look again at manufacturing under the Bourbons and to offer a new point of view. Not only evaluating its development in terms of the products themselves, I will consider the company's organization and production strategies, points that are often overlooked, but which alone can account for any innovative capacity and the willingness of the new government to produce broader-ranging results.¹ The two case studies presented here—the porcelain factory at Capodimonte (1740-1759) and the textile factory in San Leucio (1789-1860)—though from different time periods and promoted by different governments, should be considered sequentially precisely because of their ability to impose systemic innovations.² The arrival of the new sovereign in the company of José Joaquín de Montealegre, led to an activism which would have a lasting effect.³ The former was *au fait* with economic policy strategy and the driving force of a great period of economic modernization, and his repercussions on the political, diplomatic and commercial levels provide

¹ For Montealegre, cf. Raffaele Ajello, “La Parabola settecentesca,” in *Il Settecento*, edited by Giovanni Pugliese Carratelli (Naples, 1994), 7-79. For a synthesis on Bourbon factories, cf. Angela Carola Perrotti, “Le reali manifatture borboniche,” in *Storia del Mezzogiorno* (Naples, 1991), 649- 695. More specifically, for an analysis of the two factories in the perspective proposed here, cf. Silvana Musella Guida, “La Real Fabbrica della Porcellana di Capodimonte: la sperimentazione, la struttura produttiva, la commercializzazione del prodotto,” in *Manifatture in Campania*, edited by Cesare de Seta, (Naples: Guida, 1983), 68-118; Id., “Vita e vicissitudini di un'attività durata un Regno: le Real Manifattura delle Porcellane a Capodimonte. I decori a scene di battaglia e "caccia". La produzione "monumentale" e i soggetti letterari. La produzione di oggetti d'arredo,” in *Le Porcellane dei Borbone di Napoli. Capodimonte e Real Fabbrica ferdinandea. 1743-1806*, edited by Angela Carola Perrotti, (Naples: Guida, 1986), pp. 33-46, 120-123, 209-211, 255-258; Id., “Actividad, empresariado, manufacturas. La Real Fábrica de Porcelanas de Capodimonte,” in *El arte de la Corte de Nápoles en el siglo XVIII*, Exhibition Catalogue, (Madrid, 1990), 151-157, 165-167, 178-199; Id., “Nuove considerazioni sulla Fabbrica della Seta di San Leucio: l'incremento degli impianti dal 1789 al 1860,” in *Itinerari storici ed artistici in Terra di Lavoro*, edited by Felicio Corvese and Giuseppe Tescione, (Naples: Athena, 1995), 67-95.

² For the San Leucio Factory, cf. Giovanni Tescione, *L'Arte della seta a Napoli e la Colonia di San Leucio* (Naples, 1932), with the author's appendix, *Statuti dell'arte della seta a Napoli e legislazione della Colonia di San Leucio* (Naples, 1933); Id., *San Leucio e l'Arte della seta nel Mezzogiorno d'Italia*, (Naples: Montanino editore, 1961); *San Leucio. Archeologia, Storia e progetto*, edited by Eugenio Battisti (Milan: il Formichiere, 1977).

³ Cf. Raffaele Ajello, *Storia di Napoli*, vol. 9, *La vita politica napoletana al tempo di Carlo di Borbone. “La fondazione ed il tempo eroico” della dinastia* (Naples: ESI, 1981), 461-984. Some of the economic expedients Charles of Bourbon adopted in the first years of his reign were proposed again under King Ferdinand; see, in particular, the introduction of the “English-style” earthenware factory, first experimented at the porcelain factory in 1782 and then entrusted to Gennaro and Nicola del Vecchio who set up a Factory with the economic support of the Royal House, which would be wound up in 1855; cf., Silvana Musella Guida, “La terraglia ‘all’uso inglese’,” in *Museo Nazionale di Capodimonte. Ceramiche, porcellane, biscuit, terraglie, maioliche*, edited by Nicola Spinosa (Naples: Electa Napoli, Naples, 2006), 257-261.

a backdrop to the debate on his political action from the historical point of view. It would seem that the opening of the Royal Porcelain Factory at Capodimonte fits into this context.

The Capodimonte Factory: History

By the late seventeenth century, the reforms put in place by Colbert had deeply transformed Europe's economic policy, affecting the action of eighteenth-century governments, which were becoming increasingly sensitive to the issue of state intervention in the countries' economies.⁴ In Spain, Colbertism was absorbed and implemented by Don José Patiño Rosales, a skillful diplomat of Galician origin raised in Milan, whom Philip V recruited also as a consequence of Giulio Alberoni's mediation. Patiño became one of Elisabetta Farnese's most trusted collaborators. During his career as a statesman loyal to the Bourbons, he initiated a number of reforms, many of which aimed at protecting Spanish factories and encouraged the establishment of merchant companies to exploit Spanish colonies in the Americas and the Philippines. After the Kingdom of Naples was conquered, Patiño put his trusted collaborator José Joaquín de Montealegre (Seville, 1698 – Venice, 16 April 1771) in charge of Naples. After a short period spent working in the background with the young king, just after the fall of Manuel Domingo de Benavides y Aragón, duke of Santisteban, Montealegre became Secretary of State, a post he held between 1738 and 1746, when he fell into disfavour under the attacks of Maria Amalia's party. Montealegre wished to modernize the factories of Naples, which were still using obsolete production techniques. In this respect, the Capodimonte factory became his most successful experiment.⁵ The innovative role of his structural organization of the factory, the introduction of a monthly wage according to responsibility and role, the planned distribution of work time, apprenticeships to guarantee a consistent workforce and various other things that have recently been brought to light, anticipated what was considered the renewal of the production systems, thus giving rise to a process of criticism and, later, the abolition of the guild system, which excluded the most resourceful producers to ensure the survival of the weaker ones, thus being in part responsible for the lack of modernization in the manufacturing sector. The statesman's objectives were realized through his contribution to the introduction of new products, tapestries, porcelain, and glass, to give new life to what existed already—the textile, clothing, and leather industry⁶—at the same time providing incentives for businesses through a well-defined strategic foreign policy aiming to find its place within the dangerous triangle formed by Spain, England, and France at a particularly sensitive diplomatic and political moment in history.

The factories mentioned cannot all be discussed or evaluated by the same standards, however, considering their different approaches to manufacturing or reproducibility, that is, to

⁴ On Colbert's political influence on economic policies, cf. Philippe Minard, *La fortune du colbertisme, État et industrie dans la France des Lumières* (Paris: Fayard, 1998).

⁵ For a concise yet in-depth overview of the Neapolitan economists' views on the development of the factories and a detailed analysis of the economic and judicial reforms put in place by Montealegre, cf. Sonia Scognamiglio Cestaro, *Le istituzioni della moda. Economia, magistratura e scambio politico nella Napoli moderna*. (Benevento: Edizioni il Chiostro, 2008), 211-255, namely chapter XI, "Montealegre e il Supremo Magistrato del Commercio: l'affare Buisson tra spionaggio industriale e incidenti diplomatici," 533-566.

⁶ Archive documentation is vast and detailed on this specific topic, and I am planning to return to this in a more in-depth study.

the idea of reproducing similar objects (although in small series) with the ensuing possibility of commercial growth.

Only the ceramic industry as a whole and textile factories could actually create new opportunities of economic development, thanks to their technical and operational processes that had long been oriented towards reproducibility. However, because of the improvements introduced into manufacturing in other European countries, these sectors had lost prominence on the commercial scene, which meant that their development was now closely dependent on the introduction of technological innovation. Competition was particularly strong with France and England, where a transformation process involving tools, looms, mills, furnaces as well as the processing of raw materials had been started long before. In addition, these two countries, especially France, had long been studying how to improve entrepreneurial and management processes through State incentives, by centralizing work and gradually eroding the power of guilds.⁷

The tapestry and semiprecious stones factories, both based at the Monastery of San Carlo alle Mortelle, and rather innovative cases in the framework of Naples manufacturing procedures, could somehow satisfy Charles of Bourbon's wish for self-celebration, and were funded through *commandes royales*, i.e. by the Royal House. On the contrary, the porcelain and textile factories, the crystal factory based in Castellammare di Stabia, and the weapons factory of Torre Annunziata, designed in 1753 and started in 1758, resulted from a strategic approach that aimed at becoming (at least partly) independent from imports, of luxury goods in particular, and at opening up to the Mediterranean market at the same time.⁸

All these activities represented the reforming will of the new government, whose aim was—in my opinion—to produce a positive impact on the territory and to involve a number of local entrepreneurs who were put in charge of some of these factories.⁹

At the same time, because of the total lack of local tradition and of the innovative nature of these activities, it was necessary to recruit most of the workers from outside the kingdom: all of the craftsmen for the Royal Laboratory of Semi-precious Stones and for the Tapestry Factory came from the dismissed Medicean factories of Florence. Considering the existing ceramic tradition of Naples and the kingdom, recourse to foreign workers for the Porcelain Factory was limited. For more technical aspects, a fundamental contribution came from a German man naturalized in Florence, Livio Ottavio Schepeers, in spite of the controversies over his actual skills. Schepeers

⁷ On this topic and with special regard to textile and clothing, cf. *Sonia Scognamiglio Cestaro, Le istituzioni della moda. Economia, magistratura e scambio politico nella Napoli moderna* (Benevento: Edizioni il Chiostro, 2008), namely chapter 2, “Il sistema corporativo nell’assetto politico-istituzionale del Regno di Napoli,” 25-85, which focuses on the role of guilds and sumptuary laws during the vice-royalty and until 1707, which had a strong limiting effect on the development of textile factories.

⁸ Cf. Franco Strazzullo, *Le manifatture d’arte di Carlo di Borbone*, introduction by Raffaele Ajello (Naples: Liguori, 1979); For tapestries, cf. Nicola Spinosa, *L’arazzeria napoletana* (Naples: Libreria scientifica editrice, 1971); for semiprecious stones, cf. Alvar González-Palacios, “Il real Laboratorio delle Pietre Dure,” *I Quaderni dell’Antiquariato*, n. 20, (Milan: Fabbri editori, 1988). A fundamental contribution to studies in this sector is the Exhibition Catalogue of *Civiltà del ‘700 a Napoli, 1734-1799*, II (Florence: Centro DI, 1980). For the weapons factory of Torre Annunziata, cf. Gregorio E. Rubino, “La Real Fabbrica d’armi di Torre Annunziata e l’opera di FF. Sabatini, L. Vanvitelli e F. Fuga, (1753- 1775),” in *Manifatture in Campania, ... cit.*, 68-150. Much work is still needed for the crystal factory, but the topic can be developed through archive documents.

⁹ This is the case with the wealthy textile merchant Donato Cangiano who, through a royal privilege received in 1739, was put in charge of setting up a brocade factory in the San Carlo alle Mortelle complex. This was after an earlier initiative by a French weaver known only by his surname—Troullieur—that failed due to administrative reasons and technical problems, cf. *Sonia Scognamiglio Cestaro, op. cit.*, 134, 536-40.

was soon helped by his son Gaetano who had already worked at the Royal Mint.¹⁰ The appeal to foreign powers which had had successful experiences was difficult and complex at the time. Only industrial espionage and secret activities made it possible to attract expert painters like Giovanni Sigismondo Fischer to Naples, when porcelain manufacturing was already at an advanced stage, and all the skilled workers who developed Fleuriot's and Boucharlat's brocades in 1740.¹¹

Under Charles of Bourbon, the spreading of Colbertism, which occurred here several decades later than elsewhere, produced a more organic policy to support and develop industry and trade.¹² Following the *méthode Colbert*, economic support entailed the concession of buildings and a financial contribution, which could be either direct (for the setting up of the earliest plants) or indirect (through the substantial royal concessions that followed the restoration of the Royal Palace of Naples, the new palaces of Caserta, Capodimonte and Portici as well as of a few minor sites.

A different case was that of the establishment of Fleuriot's and Boucharlat's brocade factories. When the government granted financial and diplomatic support at the beginning, the management was entrusted to the French entrepreneurs, who received economic support in the form of major *commandes royales* for the supply of clothing items to the royal family, the local aristocracy, and in several cases, tapestries for the Royal Palace of Naples.¹³

Innovation

The factory itself appears to be an innovative choice. It consisted of a building in the woods of Capodimonte that was refurbished to meet practical needs, i.e., a complete manufacturing cycle with a layout allowing the workers to live at the work place. This layout in which workers lived their entire lives, working hours marked by the seasons and the management hierarchy,

¹⁰ Of the Capodimonte Factory documents remain the transcriptions by Camillo Minieri Riccio, cf. *La fabbrica della porcellana in Napoli e sue vicende*, Memoir read out at the Accademia Pontaniana on 27 January 1878; *Notizie intorno alle ricerche fatte dalla R. Fabbrica della Porcellana di Napoli: per rinvenire materiali a migliorare e perfezionare sempre più la manifattura della pasta della porcellana, le sue dorature e le miniature*, Memoir read out at the Accademia Pontaniana on 10 February 1878; *Gli artefici ed i miniatori della real fabbrica della porcellana di Napoli*, Memoir read out at the Accademia Pontaniana on 3 and 17 March 1878; *Delle Porcellane della Real Fabbrica di Napoli: delle vendite fattene e delle loro tariffe*, Memoir read out at the Accademia Pontaniana on 17 April 1878.

¹¹ Silvana Musella Guida-Sonia Scognamiglio Cestaro, "Il 'tempo eroico' e la politica commerciale di Montealegre: la Manufacture Royale de Joseph Fleuriot et François Boucharlat," *Napoli Nobilissima* (September-December 2009), 195-206.

¹² On the confusion in Naples' legislation in the early eighteenth century, cf. Raffaele Ajello, *Il problema della riforma giudiziaria nel Regno di Napoli nella prima metà del XVIII secolo* (Naples: Jovene, 1961). On Colbert's political influence on the economic policy, cf. Philippe Minard, *La fortune du colbertisme, ... cit.* On the Naples economists and the factories, cf. Scognamiglio Cestaro, *Le istituzioni della moda*, 211-255, with a rich bibliography.

¹³ Cf. Musella Guida- Scognamiglio Cestaro, "Il 'tempo eroico';" Scognamiglio Cestaro, *Le istituzioni della moda*, namely chapter 11, "Montealegre e il Supremo Magistrato del Commercio: l'affare Buisson tra spionaggio industriale e incidenti diplomatici," 533-566. For the Royal House's budget on clothing, cf. Ilaria Zilli, *Carlo di Borbone e la rinascita del Regno di Napoli. Le finanze pubbliche (1734-1742)* (Naples: Esi, 1990), and Scognamiglio Cestaro, *Le istituzioni della moda*, 507-519.

expressed a new productive manufacturing reality oriented to optimizing the system and subject to strict supervision.¹⁴

The first plant was entirely financed by the king's personal funds; when the shop opened in 1745, however, the aim was probably to become independent from royal funding although this was not achieved. Indirect funding came through important orders such as the porcelain Parlour for the Royal Palace of Portici.¹⁵



Fig. 1. The porcelain factory in the Capodimonte wood.

The uniqueness of the Capodimonte porcelain factory becomes evident when compared to previous and contemporary productions elsewhere in Europe. In France, although soft-paste porcelain had been produced in the numerous factories of Chantilly, Menecy, Saint-Cloud, Bordeaux, Limoges, etc. as early as the seventeenth century, as well as in the partially state-controlled factory of Vincennes in 1753 (which was to become totally state-controlled in 1756), work began to be centralized with the establishment of the Sèvres Factory, which is still state-managed as *Manufacture Nationale de Sèvres*.¹⁶ Europe's most innovative factory in terms of materials, commercial system and products was *Etruria*, founded by Josiah Wedgwood and designed by Joseph Pickford, at Stoke-on-Trent in Staffordshire. Established in 1759, it is still operating today.¹⁷ In Meissen, Augustus the Strong's factory was a leader in hard-paste porcelain

¹⁴ Musella Guida, "La Real Fabbrica della Porcellana di Capodimonte," 68-118; Musella Guida, "Vita e vicissitudini di un'attività durata un Regno," 33-46.

¹⁵ Cf., Silvana Musella Guida, "Il Salottino di Maria Amalia di Sassonia nella Reggia di Portici. Storia di un arredo in porcellana di Capodimonte," *Poiein* (FMR), n.8 (1993): 7-25, re-published on the opening of the first floor of the Capodimonte Museum with the title: "La cineseria nel Boudoir. Il Salottino di porcellana a Capodimonte," *FMR*, (February 1996): 106-123. Id., "Le chinoiserie nei boudoir di corte di Napoli e Arajuez," in *Nel Regno delle Due Sicilie. Le cineserie* (Palermo: Nuova tavolozza Editrice, 1994): 43-73. For the opening of the shop, cf., Silvana Musella Guida, "La Real Fabbrica della Porcellana di Capodimonte," 90-95.

¹⁶ Marcelle Brunet- Tamara Preaud, *Sèvres. Des origines à nos jours* (Paris: Office du livre, 1978).

¹⁷ Francis Donald, Klingender, *Arte e rivoluzione industriale* (Turin: Einaudi, 1972), 62; and ff.; Wolf Mankowitz, *Wedgwood*, 3rd ed. (Leicester: Magna Books, 1992); *The genius of Wedgwood*, edited by Hilary Young (London: Victoria and Albert Museum, 1995). In brief, cf. Silvana Musella Guida, "La Manifattura di Sèvres, e Le porcellane

production. Despite the royal privilege it enjoyed and the support of the Crown through direct control over production (it was located in Albrechtsburg Castle), the factory did not have its own plant and centralized production in Triebisch until 1861. In previous years production had been based on the division of work and outsourcing of the painted decorations to *hausmalerei* on a piecework basis.¹⁸

In the first half of the eighteenth century, Europe's manufacturing and entrepreneurial systems were very diverse, though in many cases they maintained a pre-industrial workshop-like organization notwithstanding their larger size. The personnel on the site was part of the program, organized into a strict hierarchy wherein each sector was required to report to the Directors of the individual departments, each of whom was answerable to the Superintendent. Expressed in modern terms, there was a horizontal specialization within different production sectors and a vertical specialization in the overall firm system.

In the various areas of production—paste composition, painting, moulding, carving, turning, and baking—the tasks were performed following the logic of work. The manager was the designer while the craftsmen were in charge of refining and reproducing the objects, an activity which required less artistic skill but greater technical competence. The sector of decoration shows greater homogeneity and generally good artistic skills, specializing in the subjects to paint: large and small figures, flowers, villages, still nature, *chinoiserie*, etc., the general style being dictated by the sector manager (first Giovanni Caselli, then John Sigismund Fischer, and finally Giuseppe Restile) and by the taste of the time¹⁹. The hierarchy among the various tasks is shown by the pay each worker received.

In general terms, in spite of this hierarchy, the factory may be said to have had a high degree of both vertical and horizontal specialization, though within individual processing sectors. It is very likely that only the *Sovrintendente* and the *Economo* were not required to have any specific competences.

The monthly wage was an additional and new element of differentiation, and apprenticeships in each sector gave continuity to the workforce. Inside the factory, thanks to the presence of the families, sometimes whole households were employed in the same or different areas of work, leading to integration and interrelations amongst families with many inter-marriages taking place between them.

inglesi,” in *Museo Nazionale di Capodimonte. ... cit.*, 228-242, 255-257.

¹⁸ This practice was very widespread, especially in the second half of the eighteenth century, in the many factories set up in cities—including Paris—with very different organisations, cf., Régine de Plinval de Guillebon, *La porcelaine à Paris sous le Consulat et l'Empire. Fabrication, commerce, étude topographique* (Paris: Société Française Archéologie, 1985). For Meissen cf., Stefan Bursche, *Meissen. Steinzeug und Porzellan des 18. Jahrhunderts. Kunstgewerbemuseum Berlin* (Berlin, 1980); Patricia Brattig, *Barockes Porzellan. Exh. cat. Museum für angewandte Kunst Köln*, Exh. cat. Cologne, January 24–April 25 (Stuttgart, 2010).

¹⁹ Cf. Paola Giusti, *La Manifattura di Capodimonte. Caratteri e tipologie della produzione*, in AA.VV, *Porcellane di Capodimonte. La Real Fabbrica di Carlo di Borbone 1743-1759* (Naples: Electa, 1993), 23-37. A major, in-depth analysis of the sources of inspiration was carried out on the occasion of the exhibition *Le Porcellane dei Borbone di Napoli. Capodimonte e Real Fabbrica ferdinanda. 1743-1806*, edited by Angela Carola Perrotti (Naples: Guida, 1986), *passim*; the studies showed that a major source of inspiration for the decorations and the sculptures was French painting, namely François Boucher, Antoine Watteau in particular, and Jean-Baptiste-Siméon Chardin, as well as several painters from the first half of the 17th century; cf. *Le Porcellane dei Borbone di Napoli. Capodimonte e Real Fabbrica ferdinanda. 1743-1806*, edited by Angela Carola Perrotti (Naples: Guida, 1986), *passim*.

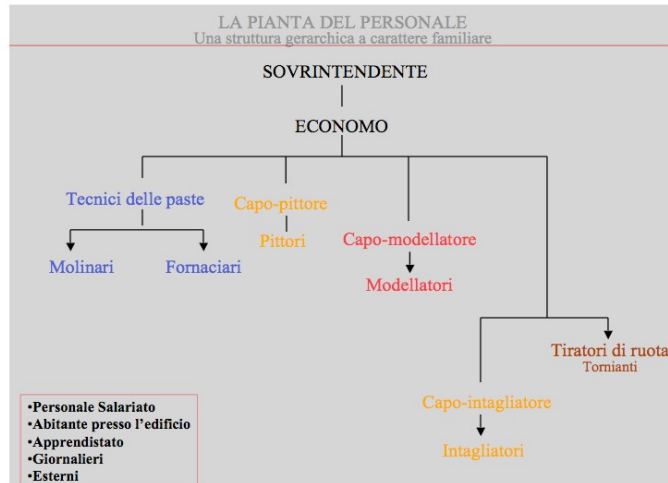


Fig. 2. The personnel.

In 1740, porcelain was still a new material in Europe. Nevertheless, for at least three centuries, people had admired the peculiarity of the white translucent, transparent, and durable material; at the same time superstitions proliferated about its miraculous qualities, especially where good results were achieved in Germany and France. There experiments had begun in the late seventeenth century, preserving the results while maintaining the secrecy of the procedure. It was therefore difficult to rely on skilled workers, although, as was customary in other sectors, there was frequent recourse to industrial espionage in order to attract experienced workers.

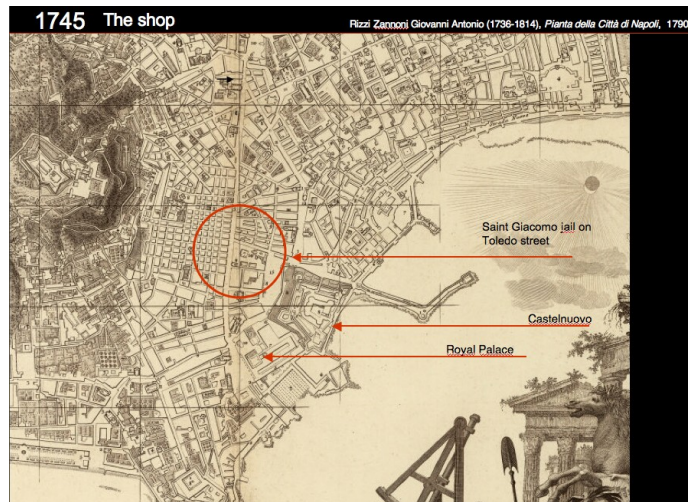


Fig. 3. The shop.

Production began under the eye of Livio Vittorio Schepers, an arcane coin maker who already worked for the Royal Mint, and the miniaturist Giovanni Caselli (1698 -1752), born in Parma and former court painter to the King. Testing started after the laboratories were transferred from the Royal Palace in Naples to the *Casina di Capodimonte* in the woods, and production

began with 17 workers with whom Giuseppe Gricci had been working since 1743 (c. 1720 - 1770) as the modeller responsible for moulding and production.²⁰

Tabella dei movimenti del personale

	1741	1742	1743	1744	1745	1746	1747	1748	1749	1750	1751	1752	1753	1754	1755	1756	1757	1758	1759
Economo			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tecnici			2	2	2	2	2	2	3	3	3	3	3	3	3	3	2	2	2
Pittori			2	4	8	10	15	15	16	16	16	15	16	19	18	19	21	22	23
Modellatori			1	1	2	2	5	5	5	6	6	6	6	7+1	7+1	7	8	8	8
Intagliatori			1	1	4	5	5	6	6	6	6	6+1	7	8	8+1	8	8	8	8
Tornianti			3	4	4	4	4	4	4	4	4	4	5	5	8	8	8	8	8
Fornaciari			4	5	5	6	6	6	7	7	7	7	7	7	8	9	9	10	10
Giornalieri															5	7	8	8	8
Molinari			3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4
Garzoni				2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Orafi						1	2			1		2	1	1					
Totale			17	23	31	35	43	44	47	48	48	48	52	64	68	70	70	72	73

■ salariati
■ esterni
+ apprendisti

Fig. 4. Personnel turnover.

TABELLA DEI SALARI NEL 1755

ECONOMO	GIACINTO BOSCHI	
	TOMMASO BONICELLI	
COMPOSITORI DELLE PASTE	GAETANO SCHEPERS	25 D
	PAOLO FORNI	20 D
	J. S. FISCHER	20 D
PITTORI	GRU. DELLA TORRE	18 D
	LUIGI RESTILE	9 D + 1 zecchino al mese
	G. BATT. DELLA TORRE	10 D
	SAVERIO BRANCACCIO	12 D
	FRA. DELLA TORRE	9 D
	CARLO COCCORESE	9 D
	FRANCESCO PASCALE	9 D
	ANTONIO PROVINCIALE	6 D
	FERDINANDO SORRENTINO	9 D
	MARIANO NANI	9 D
	NICOLA DELLA TORRE	8 D
	RAFFAELE DELLA TORRE	3 D
	FRANCESCO BRANCACCIO	3 D
	NICOLA DONADIO	3 D
	AGOSTINO	schiavo
	SAVERIO BRANCACCIO	
	GIUSEPPE DEL CUOCO	Apprendista
	ANTONIO CIOFFI	Apprendista
MODELLATORI	GIUSEPPE GRICCI	22 D
	STEFANO GRICCI	9 D
	SALVATORE NOFERI	6 D
	CARLO FUMO	4,5 D
	MACEDONIO FUMO	4,5 D
	CARLO	Apprendista
INTAGLIATORI	AMBROGIO DI GIORGIO	15 D
	GAETANO FUMO	15 D
	GIO. BATTISTA DI BATTISTA	9 D
	GIUSEPPE FUMO	3 D
	ANTONIO MORELLI	6 D
	ANTONI CHIARI	6 D
	GIUSEPPE SANTORO	Garzone
		3 D
	PAOLO ANTONIO DI GIORGIO	3 D
	ANTONIO	Schiavo bianco del Re
TIRATORI DI RUOTA	GIUSEPPE GROSSI	15 D
	PARQUALE TUCCI	9 D
	CARLO TUCCI	9 D
	PAOLO TUCCI	4,5 D
	NICOLA BOTTINO	4,5 D
	MATTEO CIARLONE	5 carlini al giorno
FORNACIARI	GAETANO TUCCI	9 D

Fig. 5. Scale of wages for 1755.

²⁰ On the geographical origin of the workers' families, cf., Francesco Stazzi, *L'arte della ceramica. Capodimonte*, (Milan: Görlich, 1972), passim. For their activity in Madrid, cf. *Manufactura del Buen Retiro. 1760-1808*, exhibition catalogue edited by Carmen Mañueco Santurtún (Madrid: Patrimonio Nacional, 1999), 19-128.

Without retracing the entire history of the development of the factory whose main stages are illustrated by the table in **Fig. 4**, I would point out that for over nineteen years the intention was to create a production system that could meet the needs of the market thanks to its excellent style, the experience of the craftsmen and painters, and a high technical standard by dint of considerable care, continuous experimentation, and research into both raw materials and design. Figures 2 and 3 show that from the early years up to 1759 there was a significant and proportionate increase in personnel in all the sections. Over the years, however, the painters' workshop would acquire the most workers as products were diversified through painted decoration. In the early years, standard services were produced using a larger number of engravers, modellers and painters (at least in the 40's). Later, it was decided to produce more moulded items and differentiate these products through small details. Both painted items and models contributed, albeit in limited issues, to the uniqueness of the product (**Figs. 6-7**). This was to satisfy the expanding market in which the privileged classes of the finest courts of Europe were eager to acquire luxury goods throughout the eighteenth century.²¹ The commercialization process concluded in 1745 with the opening of a shop for retail distribution near the prison of *San Giacomo* in Via Toledo, Naples (**Fig. 3**).

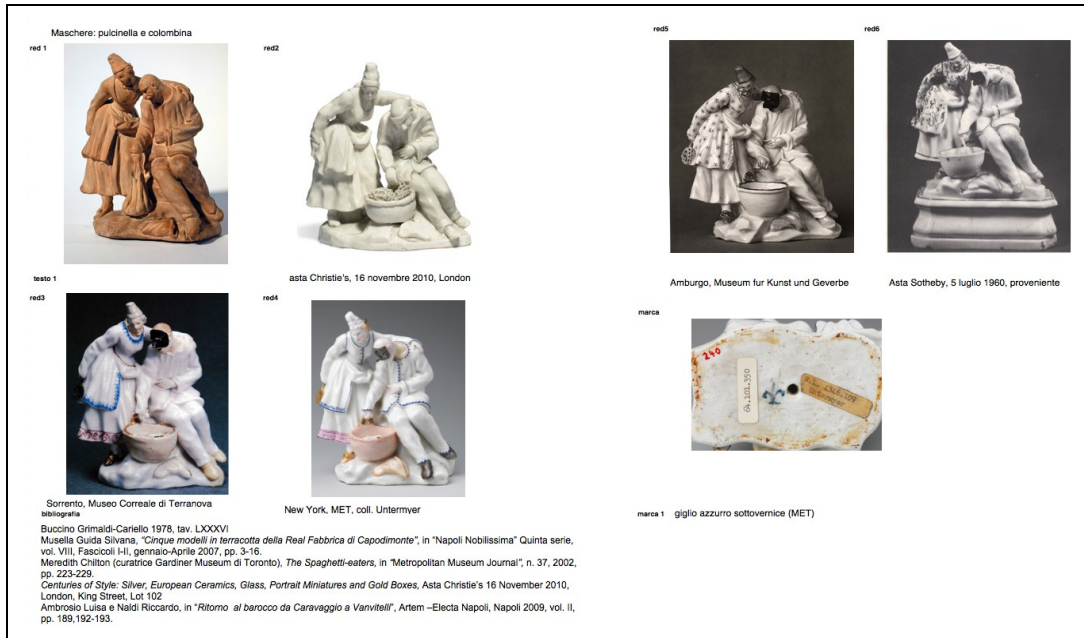


Fig. 6. From the terracotta template to porcelain replicas.1. *Pulcinella e Colombina*, terracotta, Naples private collection; 2. Auction at Christie's, 16 November 2010, 3. Sorrento, Museo Correale, 4. New York, 4. Metropolitan Museum, coll. Irwin Untermeyer, 5. Hamburg, Museum fur angewandte kunst, 6. Auction at Sotheby' 5 July 1960.

²¹ Silvana Musella Guida, "Come operava la Real Fabbrica di Capodimonte," *Ceramica Antica* (Belriguardo) (September 1993): 30-42.



Fig. 7. *Pulcinella e Colombina.*
Auction at Sotheby's, Milan,
San Paolo Converso,
10 June 2002, lot 376.

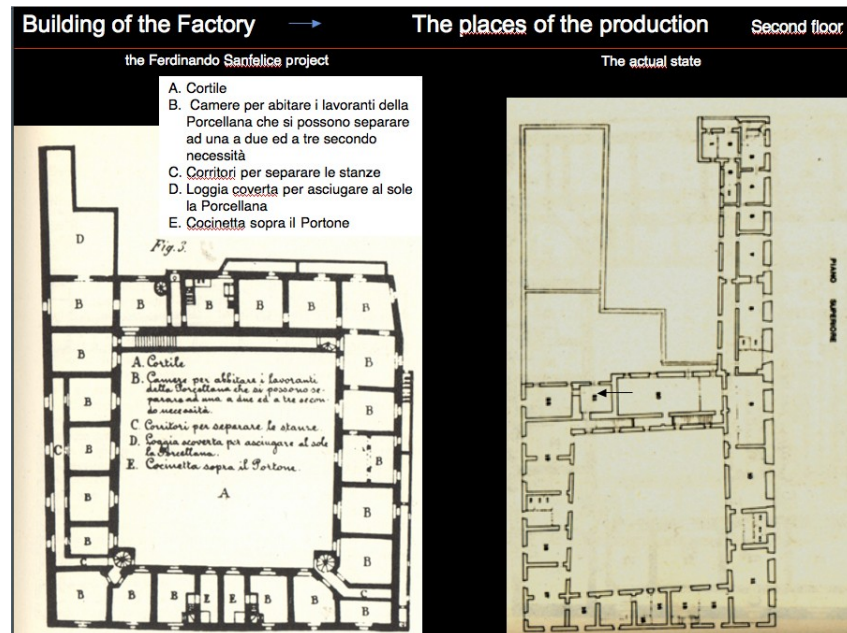
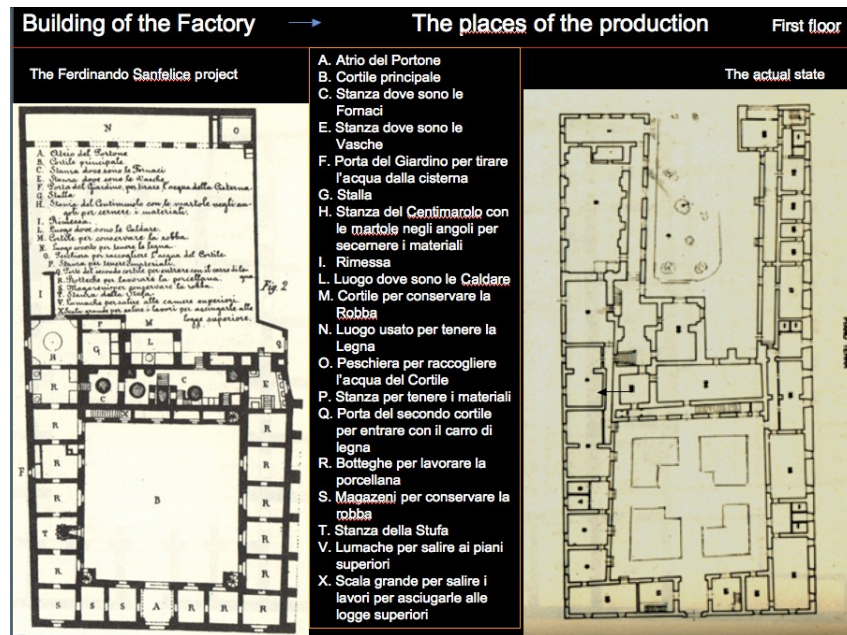
The places of production

The architecture of the porcelain factory was designed to be purely at the service of the manufacturing process. The planning phase took into account the objectives, which were sufficiently clear as far as the organization of work and layout were concerned. Although the factory was located in a preexisting building, formerly the lodgings of the *Guardia Maggiore* of the Capodimonte wood, the renovations and upgrading carried out by the court architect Ferdinando Sanfelice strictly adhered to a logic informed by factory work.²² The building, already arranged around a central court, was conceived as a proto-phalanstery on two stories. The rooms of the lower floor were set aside for porcelain work, designed as a series of communicating workshops overlooking the courtyard and were differentiated according to function, while the upper floors contained the accommodation for workers. The distribution and functionality of the living spaces also adhered to a work-related policy with a standard format but able to adapt to the needs of families with the possibility of creating flats, with two or three rooms as necessary, introducing a concept of mobility closely linked to the dynamics of the factory. The optimization of living spaces was completed by the common areas such as the kitchenette outside the *loggia* next to the spiral staircase. Analysis of the plan shows that the wing parallel to the entrance must have housed the furnaces, dryer, and tanks for paste processing and decantation. A comparison between ancient plans and the present situation shows that the backyard was surrounded by two buildings.²³ The first on the left, which included a clock

²² Cf., *Ferdinando Sanfelice. Napoli e l'Europa*, Proceedings of the International Conference (Naples-Caserta 17-19 April 1997), edited by Alfonso Gambardella, (Naples, 2004).

²³ Today the ancient Bourbon porcelain building houses the *Istituto Professionale per l'industria e l'artigianato della Ceramica e della Porcellana* "Giovanni Caselli".

tower, was built after 1746 to serve as a “Painting gallery” directed by Giovanni Caselli. The parallel wing, although not explicitly mentioned in the documents, also seems to be ancient. In my opinion, it was built to house the furnaces and the dryer, probably not at the very beginning, but soon after. For practical reasons, the two areas had to be adjoining so that the dryers could benefit from the heat produced by the furnaces. Sanfelice’s design had located the furnaces in the wing opposite the main entrance, and no special sections had been envisaged for the dryers, which were often placed in areas covered by a single roof. A more rational approach is likely to have led to the extension of the building in the second courtyard (Figs. 8-9).



Figs. 8-9. Comparison between the ground and first floor plans of the building drawn by Ferdinando Sanfelice and the present situation.

The architectural structure as a whole does not differ much from the one used in the residential buildings that encircled a central courtyard—a model dating back to seventeenth- and eighteenth-century country villas and still a recurring element in Bourbon times because it ensured control and safety of the workers.²⁴ The long façades on the sides are linear and simply marked by the series of windows, with no concessions to mere decoration.

With respect to this, it is useful to read what Francesco Milizia wrote in his *Principj di architettura civile* in 1781:

Ciascuna manifattoria esige un genere di fabbrica di differente esposizione, situazione, e disposizione. Ma in generale questi edificj debbono contenere degli alloggi per gli operaj, per i direttori, e per l'ispettori incaricati d'invigilare al buon ordine, all'economia, e al miglioramento di ciascun oggetto relativo al loro stabilimento, senza però restringer mai la libertà de' manifattori. Secondo la specie di questi oggetti, gli edificj debbono essere muniti di sale grandi, di lavoratorj, di magazzini, di cortili, e di dispense provviste di tutte le comodità particolari, e ripartite in maggiore o in minor numero, secondo l'estensione, e l'importanza delle manifattorie.

Nelle capitali, e nelle città cospicue è già provato, non doversi stabilire che le manifattorie delicate e di gran lusso dipendenti dalle arti del disegno, come quelle per gli arazzi, per i mosaici, per le pietre dure, per le porcellane, per le stoffe, per broccati ec.; e siccome questi edificj occupano gran terreno, debbono perciò collocarsi o verso le mura, o anche fuori di città. Le altre manifatture più grossolane, e di un uso più comune di panni, di tele, di pelli, di vetri, di ferri ec. vanno stabilite lungi dalle città grandi, ne' paesi di maggior abbondanza, e di facile comunicazione. Si deve procurare a questi edificj gran copia d'acqua o pel soccorso di macchine idrauliche, o per la corrente di ruscelli, o di fiumi, più propria di quella delle sorgive per tutti i generi di lavori.

L'ordinanza della loro Architettura deve esser semplice, e annunciare la solidità della loro costruzione, senza però presentare un carattere fiero, e marziale, che nell'Architettura civile può convenire benissimo nelle fucine, nelle vetriere ec.²⁵

The scholar's words help connect the two Bourbon experiences and clarify the degree to which some of the basic principles of architecture—such as the need for workers' lodgings, the distribution of space or the location of the factories inside or outside the city walls—were already highly codified at the time. However, the identification of the factory as a «workplace» had already been ratified in the 1621 edition of the *Vocabolario degli Accademici della Crusca*, and better defined in the 1735 *Compendio*, which shows a greater awareness and knowledge of the new structural models for manufacturing activities.²⁶

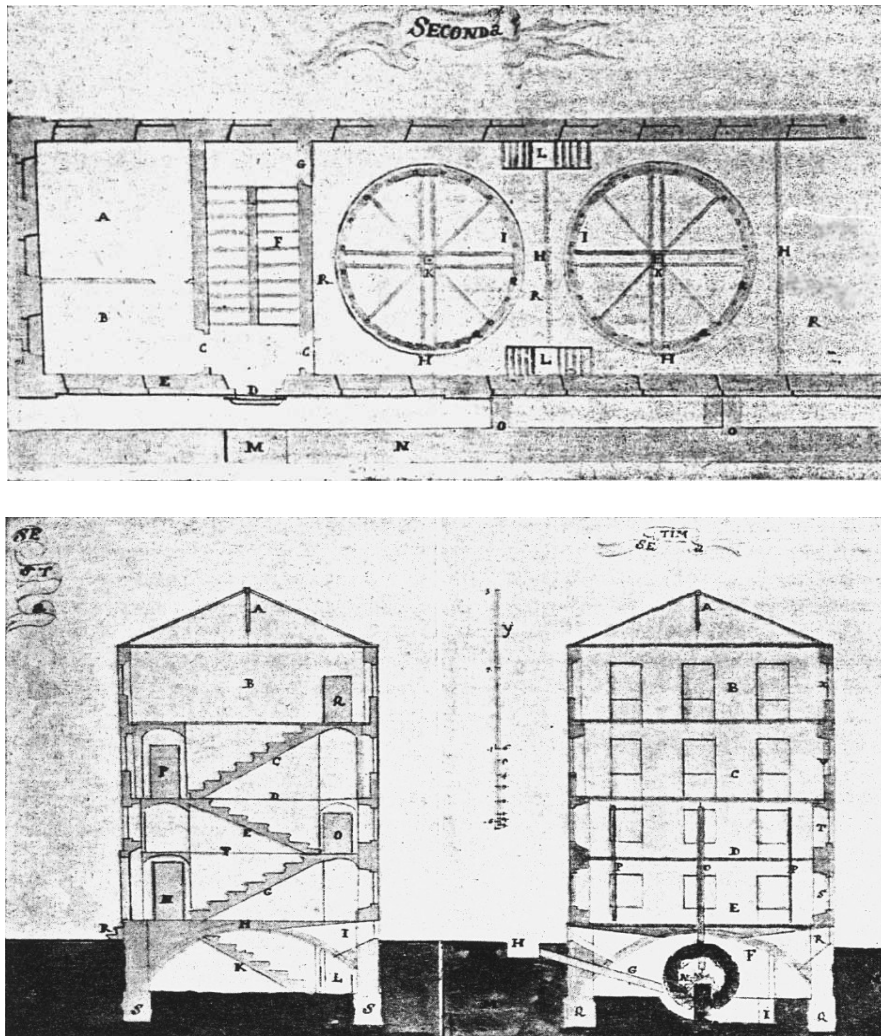
²⁴ Cf. Roberto Parisi, "L'architettura industriale," in *Napoli e l'industria dai Borboni alla dismissione* (Soveria Mannelli (Catanzaro): Rubettino, 2008), 341-366.

²⁵ Francesco Milizia, *Principj di architettura civile*, vol. 2 (Bassano: Remondini di Venezia, 1785), 281-282.

²⁶ Cf., *Vocabolario degli Accademici della Crusca*, [...], Jacopo Sardi (Venice, 1623), 318; *Compendio del vocabolario degli Accademici della Crusca*, [...], (Florence: Domenico Maria Manni, 1735), 235; I am using the quotation taken from Roberto Parisi, *Fabbriche d'Italia. L'architettura industriale dall'Unità alla fine del Secolo breve* (Milan: Franco Angeli, 2011), 11, who includes the quotation in a wider context, in which he discusses the

The San Leucio factory

The renewal of Neapolitan silk manufacture was among the plans of Charles of Bourbon. This was shown in the 1740 opening of the *Manufacture Royale de Joseph et François Boucharlat Fleuriot dit Parisien*, set up by two entrepreneurs from Lyon who arrived in Naples with a large following of skilled workers including designers, weavers of cloth and velvet, frame makers, silk weavers, and whoever else was needed for the success of the company.



Figs. 10-11. Model of the *valichi* – plan and elevation, of the Piedmont-style water spinning mill (from *L'arte della seta a Napoli e la colonia di S. Leucio*, S.I.E.M., Naples 1932, pp. 214, 216).

The updating process continued after Joseph Fleuriot's and François Boucharlat's enterprise. In 1755, designs for the "silk mills" needed for yarn production were requested by the ambassador of Naples to Turin, Domenico Caracciolo—whom Alfieri described as "uomo di alto, sagace e faceto ingegno"²⁷ (Figs. 10-11). This was evidence of a strong will to undertake boundaries and research experiences of «industrial archaeology».

²⁷ *Vita di Vittorio Alfieri da Asti scritta da esso*, (Florence: Leonardo Ciardetti, 1822), chapter 9, 151

innovations, as would be shown by the achievements of Naples and its Kingdom in those and the following years.²⁸ Along with fundamental innovation was the replacement of the traditional Calabria-style *mangano* with the Piedmont *mangano*, which was smaller and easier to use, and could be partly mechanized.²⁹

The first probable result of the activism for silk production innovation was the establishment of an Education Corporation, which provided training in various arts and crafts. It mainly focused, however, on the training of new workers in the suppressed Jesuit monasteries of San Giuseppe a Chiaia and Carminiello al Mercato. Innovation in silk production first started in the latter; it built the first mills, introduced the Piedmont *mangano*, and brought people to Naples from Messina and Piedmont with experience in reeling and spinning on the '*organzino*'.³⁰ The Educational Corporations not only started experimenting with new machines for silk manufacturing, but over time provided skilled labor for the St. Leucio factory.

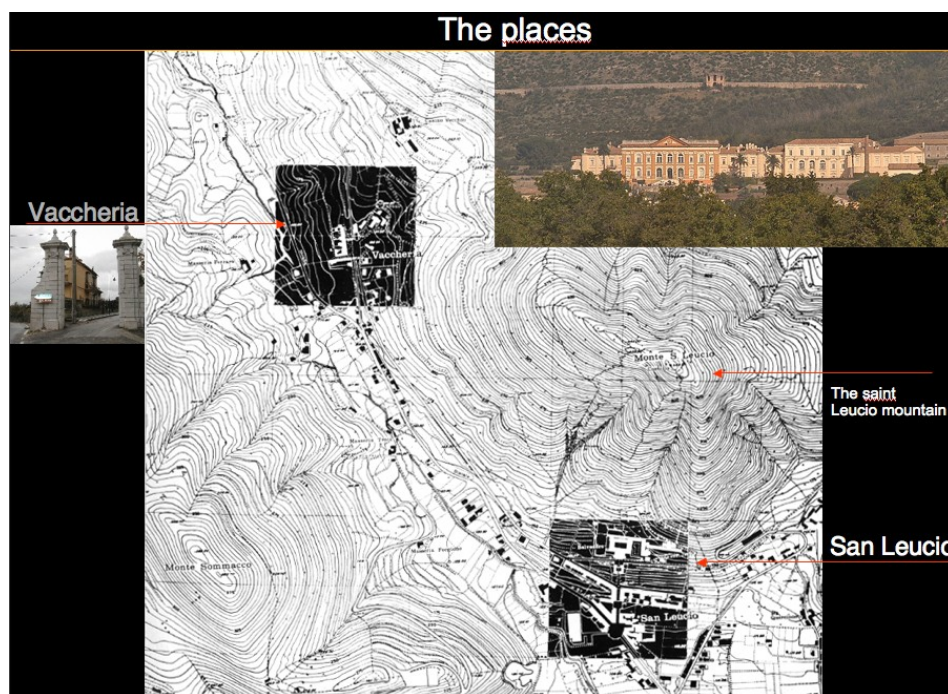


Fig. 12. The places.

The Colonia San Leucio is a factory complex centered on the Belvedere containing a silk factory as well as the administrative core of all collateral activities. The factory was designed

²⁸ The designs, contained in seven tables, were in part published by Giovanni Tescione in the first edition of his *L'arte della seta a Napoli e la colonia di S. Leucio* (Naples: S.I.E.M., 1932), 214, 246; preserved at Naples State Archives, they were lost after World War I and never found again. Tescione also stresses the importance of the memoirs Caracciolo sent from London in 1765, cf. Ernesto Pontieri, "Lettere del marchese Caracciolo, vicere di Sicilia, al ministro Acton: (1782-1786)," *Archivio storico per le province napoletane*, year 15, vols. I-IV (1929-1932): 217.

²⁹ See the comprehensive work by Giovanni Tescione, *L'arte della seta a Napoli ... cit.*, 207-224.

³⁰ "Si fila il cotone e si trae la seta all'organzino, e con un filatoio mosso dall'acqua, in un tempo istesso la macchina fila, torce e incanna la seta. Questa macchina è degna di essere osservata, anche perché lavora con agilità, essendo mossa da un piccolo getto d'acqua." From Giovanni Tescione, *L'arte della seta a Napoli ... cit.*, 81-82, quoted in Luigi D'Afflitto, *Guida per i curiosi e per i viaggiatori che vengono alla città di Napoli*, vol. 2, 1st edition, (Naples: Chianese, 1834), 186. In 1834 D'Afflitto reported on the quality of the Carminiello's productions. Although the institute had mainly educational and charitable purposes, the factories never lost their productive value.

according to a model where all work activities of workers, such as reeling, twisting, dyeing, weaving, and the equipment itself were centrally located within the factory complex and distributed according to the organization of the work, which was strictly hierarchical and divided into individual work areas. There were apprenticeships for young people, who were already literate, and there were also specific professional figures with clearly defined roles, such as the machine operators, fabric designers, etc. The system, open to the new factory experiments in the north of Italy, could benefit from improved industrial organization derived from the latest industrial and economic theories. If one adds this division and organization of work to the constant search for the technological innovation of mangles for silk reeling, silk mills, looms and propulsive energy (initially using water in 1789 and then steam after 1843), as well as the items produced, the Bourbon experiment takes on the characteristics of a modern industry capable of producing immediate results which could be sustained over time. From the 1780s, the Belvedere also manufactured stockings at the Vaccheria complex, which was later converted into a cotton factory. The Aldifreda cotton factory was set up and then converted into a carpet factory. Many agricultural activities catering to the needs of the inhabitants of the colony were added over time. The relationship between the various factories was close and based on exchange. Experiments with knitwear for stockings led to the production of a lace cloth called *leuceide*, and with it the combination of cotton in the weft and silk in the warp for decorative fabrics was first used. In the end, manufacturing organization was regulated by a detailed statute, the *Laws of Good Governance of the San Leucio Community*, written in 1799, which dictated the rules for the workers. It remained in force until the unification of Italy and was applied by the management of the private companies to which the whole company, or individual sections, were contracted out during the nineteenth century. After 1860, the colony was broken up and the Belvedere became the property of the Caserta City Council. The new organization was based on the formation of smaller businesses, run by the craftsmen themselves, empowered to run their own affairs, counting on the wealth of experience they had acquired.

The Royal Factory: distribution, technology, and machinery

Briefly, the story of the Belvedere building project can be summarized in four main steps which marked the subsequent expansion of the factory and at the same time demonstrate the growth of the firm:

- 1775, the sixteenth-century Acquaviva Lodge was converted into the Belvedere Lodge inhabited by the warden and other officials of the Royal Site with a first floor apartment for the King.
- 1783-86, the Belvedere Lodge was converted into the “Silk Building.”
- 1799, the Spinning Mill was built on the mountain now known as Montagna dei Cipressi, operating until 1822-23.
- c. 1800, the north-east wing of the “Silk Building” was enlarged.

The first project, by Francis Collecini, entailed developing the old core of the Acquaviva Lodge by adding a rectangular structure on two floors with a large central courtyard. The silk production areas were divided into two floors, focusing on the northwest wing. Reeling,

spinning, and twisting took place in the northern part of the building, while dyeing took place in the west wing. Spooling, doubling, and storage were in the same wing on the top floor. The rooms looking onto the courtyard housed the weaving department, extending vertically to the upper floor. An oblong extension to the rear, below the mountain, provided more space for the reeling department. Also on the ground floor were the rooms used to house the chaplain, the administrator of the royal company, the managers of the various manufacturing departments, and the craftswomen. Lastly, two large ground-floor rooms were given over to schooling. The second floor was essentially divided into two parts: the first for silk production and the second for the royal apartments.³¹ The architectural adjustment drew inspiration from a “factory system” that had been well-established in Italy since the sixteenth century, following the introduction of silk mills in several areas of Piedmont. This model, which started out as a “high-rise factory,” was already in place in Piedmont, in Caraglio (1676) and Turin's Venaria Reale. The model, which was to be codified by George Sorocold in the mill built by John and Thomas Lombe in Derby between 1717 and 1719, gradually transformed into a horizontal system developing over no more than three levels.³² The models sent by Caracciolo were already being tested at the Carminiello, where they had been applied to a horizontal architecture.³³ After just ten years it became necessary to extend the premises due to the increase in the amounts of machinery and manpower. The planning of the St. Charles and St. Ferdinand quarters, rapid population growth, and the subsequent diversification of silk work to include the manufacture of stockings at Vaccheria led to the refurbishment and expansion of the Belvedere according to a plan that dates back to 1800. The new extension, built in the early-nineteenth century, involved the construction of a wing to the east of the L-shaped main body. The increase in surface area allowed for a new distribution of work. The activities of the new factory were able to expand and especially to interfere less with the areas reserved for the Royal Residence. The apartment was equipped with better facilities shown by the sumptuous bathroom, comparable to a modern swimming pool, able to hold “seventy-two barrels of water” and had plumbing for hot and cold water.³⁴ The new energy invested in the factory and the experience of the many mechanical engineers involved in the realization of the plants was also used to make the private life of the royal family more enjoyable.

³¹ On these topics, alongside Tescione's works, cf. *San Leucio. Archeologia, Storia e progetto ...* cit.; Musella Guida, “Nuove considerazioni,”

³² The study of proto-industrial architecture focusing on silk production started in Carlo Poni's numerous pioneering studies in the 1970s. His many essays are collected in the volume *La seta in Italia. Una grande industria prima della rivoluzione industriale*, (Bologna: Il Mulino, 2009). Cf. also Alessandro Mellano and Aurelio Toselli, “Palazzo e «fabbrica»: il setificio di Caraglio,” in *La seta in Italia dal Medioevo al Seicento. Dal baco al drappo*, edited by Luca Molà, Reinhold C. Mueller, and Claudio Zanier (Venice: Marsilio editore, 2000), 123-150; *Le fabbriche magnifiche. La seta in provincia di Cuneo tra Seicento e Ottocento*, Exhibition Catalogue edited by Patrizia Chierici and Laura Palmucci Quaglino (Cuneo: L'Arciere, 1993). Pierre Mantoux considered Derby's factory as the first of England's workshops, cf. Pierre Mantoux, *La rivoluzione industriale* (Rome: Editori Riuniti, 1971).

³³ Cf. Roberto Parisi, “La seta nell'Italia del Sud. Architettura e tecniche per la produzione serica tra Sette e Ottocento,” *Meridiana. Rivista di storia e scienze sociali*, nn. 47-48 (2003): 245-274.

³⁴ Cf., Antonio Sancio, *Platea dei fondi, beni e rendite che costituiscono l'amministrazione del Real sito di San Leucio*, 1828 ca. (Manuscript preserved at the Archives of the Royal Palace of Caserta, vol. 3558), 83. G. C. Macchiarella and M. I. Proietti, “Pitture ad encausto di Hackert nel Belvedere di San Leucio,” *Napoli Nobilissima* (Naples, 1974): 97-106.

Thanks to the various inventories kept at the State Archives of Naples and at the Archives of the Royal Palace of Caserta, we know about the increases in equipment illustrating these changes. They are briefly summarized in the table in **Fig. 15**.

	1789	1805	1812	1829	1843	1852	1857	1862
Filanda								
Caldaie	34	-	52	75	56	56	114	114
Filatoi	2	4	6	8	8	9	9	10
Incannatoi	2	2	2	8	21	20	24	20
Orditoi	1	7	6	-	7	13	14	8
Calandratura	-	2	2	-	-	-	-	-
Apparecchio	-	-	-	1	1	1	-	2
Ondatura	-	-	-	-	1	2	5	5
Fabbrica imprimerie								
Telai	-	-	-	-	13	4	-	4
Cilindri di legno	-	-	-	-	27	-	-	5
Fabbrica tappeti								
Telai per riccioni	-	-	-	-	4	4	4	-
Telai per sfioccati	-	-	-	-	2	2	2	-
Telai per doppia faccia	-	-	-	-	5	5	5	5
Telai in fabbrica								
Uomini	-	26	25	-	-	-	-	-
Donne	-	11	-	-	-	-	-	-
<i>Totale</i>	-	37	25	45	136	136	169	120
Telai nelle abitazioni								
Uomini	-	66	52	-	-	-	-	-
Donne	-	40	44	-	-	-	-	-
<i>Totale</i>	-	106	96	-	-	-	-	-
Telai per calze								
In fabbrica								
Uomini	-	20	-	-	-	-	-	-
Donne	-	-	-	-	-	-	-	-
<i>Totale</i>	-	20	-	-	-	-	-	-
Nelle abitazioni								
Uomini	-	29	60	-	-	-	-	-
Donne	-	8	2	-	-	-	-	-
<i>Totale</i>	-	37	62	-	-	-	-	-
Totale generale telai	-	200	183	-	136	176	135	122
Tintoria								
Caldaie	-	-	-	-	13	11	8	7
Lissage	-	-	-	1	1	2	1	2
Macchine Jacquard	-	-	-	6	4	20	27	-

La compilazione della tabella è fondata sui dati riportati dalle seguenti fonti: 1789, *Legenda Pianta dell'Edificio della seta* pubblicata in *San Leucio. Archeologia, storia, progetto*, Catalogo della Mostra, Milano 1977, p. 45; 1805, ASC, Archivio Notarile, Notaio Salvatore Pezzella; 1812, ASC, IRA, f. 1765, inc. 19; 1829, i dati sono ricavati da G. TESCIONE, *San Leucio e Parte della seta nel Mezzogiorno d'Italia*, Napoli 1961, p. 272; 1843, ASN, CRA, Amministrazione Siti Reali, San Leucio, f. 906; 1852, ASN, CRA, III Inventario, San Leucio, f. 908; 1857, ASN, CRA, III Inventario, San Leucio, f. 908 II; 1862, ASN, CRA, III Inventario, Serie Inventari, f. 29/2.

Fig. 15. Increase in the number of processing plants from 1789 to 1862.

We can also document the various skills of the workers, the increase in the work force, and the division of labour (**Fig. 16**).

	1801	1803	1820	1838	1847
Addetti al cilindro	-	-	2	2	1
Apprendisti	7	6+1	54	28	42
Assortitori di seta	2	2	1	1	-
Biancheggiatrici	-	-	1	-	-
Direttore calze	-	-	1	1	1
Direttore fettucce	1	1	-	-	-
Direttore filanda	1	1	2+2	-	-
Direttore stoffe	2+1	2+1	-	1	-
Disegnatori	-	1	2	-	1+1a
Ferrari	2	4	1	1	-
Filatorai	3+1	3	6+2	12+1	2
Incannatrici	4	3	51	63	63
Incannatrici cotone	-	-	-	1	10
Leggitrici disegni	-	-	-	4	1
Macchinisti	-	1	3	1	-
Maestra tessitrici	-	-	-	1	2
Maestre incannatoio e orditoio	1	1	-	1	1
Magazzinieri	-	-	2	3	-
Negoziante tessuti	-	-	-	-	-
Orditrici	-	-	1	6	14
Ricamatrici	4	6	24	5	5
Tessitori di calze	27+3	27+3	33+2	14	12
Tessitori di fettucce	1	1	-	-	-
Tessitori di stoffe	42+50	38+52	66+41	78+15	109+17
Tessitori di velluto	2	2	6	6	3
Tessitori tappeti	-	-	-	2	1
Tessitori tela	-	-	3	1+34	60
Tintori	8	8	4	3	3
Tira licci	-	-	1	1	-
Trattrici	17	17	138	30	36
<i>Totale</i>	179	171	443	316	386
<i>Totale popolazione</i>	612	695	848	-	-
<i>Totale famiglie</i>	-	-	-	193	195

La compilazione della tabella è fondata sui dati riportati dalle seguenti fonti: 1801, 1802, 1820, *Mappa Generale degli Individui della Real Colonia di San Leucio*; ASN, Archivio Borbone, ff. 305-308; 1838, 1847, *Quadro statistico della popolazione della Real Colonia*, ASN, CRA, III inventario, ff. 1486, 1488. Dove i valori sono espressi attraverso la somma, i primi numeri indicano i lavoratori maschi e i secondi le femmine.

Fig. 16. The workforce.

The organization of work according to the rules of procedure

The Leucian statute consists of three parts: laws, duties, and timetables, and the rules of procedure. The three interrelated parts define the organization and timing of work and the principles of behavior. To ensure that the rules were respected and to guarantee the proper welfare of the community, the Elders of the people were elected every five years on the day of Saint Leucius, chosen from among “the wisest . . . most just, and prudent” heads of the families. The commitment of the workers and members of the colony to the company was almost total, beginning in the morning with Divine Service and then work from 7:00 a.m. to 11:00 p.m., with less than half an hour for lunch. In March and October the morning began at 6:15 a.m., in April and September at 5:45 a.m., in May and August at 5:30 a.m., and finally, in June and July at 5:00 a.m. The days were generally the same for the youngsters. However, apprentices and children—mainly girls—involved in manufacturing veils, reeling, spooling, and spinning, always

worked all day but paused for an hour in the morning or evening to pursue school activities. When approximately 14-years-old, they would normally be hired as apprentices, but many children probably spent the morning hours carrying out jobs traditionally reserved for youngsters such as pulling heddles, doubling silk, attending to the spinning, and so on, jobs that had always been meant for smaller hands.

Once they had received their apprenticeship, the children were placed under the strict control of the director of the manufacturing department for which they had been trained. The apprenticeship lasted three years. In these formative years, however, the apprentice had to acquire an understanding of the entire process so as to fully understand how his specific job fit into the process. The transition from one role to another within the hierarchical chain was subject to the approval of deputy managers and the Director General.

In contrast with the centuries-old custom of craftsmen carrying out their trade as members of guilds, the innovative aspect of this employment was the introduction of a set wage. This privilege bound members of the colony to comply with the norms established by the Statute. These included behavioral laws which established, for example, precise rules on marriage. It was forbidden for women to marry young men from outside the village. If they did so, they were given a dowry in the event of marrying a “foreigner” but forfeited their right to be part of the colony. Conversely, “foreign” girls wishing to marry a male from the colony had to learn one of the silk arts in order to be accepted.

The rules of procedure listed 24 job types which corresponded to specific roles and specific duties. The management positions corresponded to the sub-directors, i.e., the managers of the mills, fabric, stocking, and ribbon departments, all of whom answered to the Superintendent (Fig. 17).

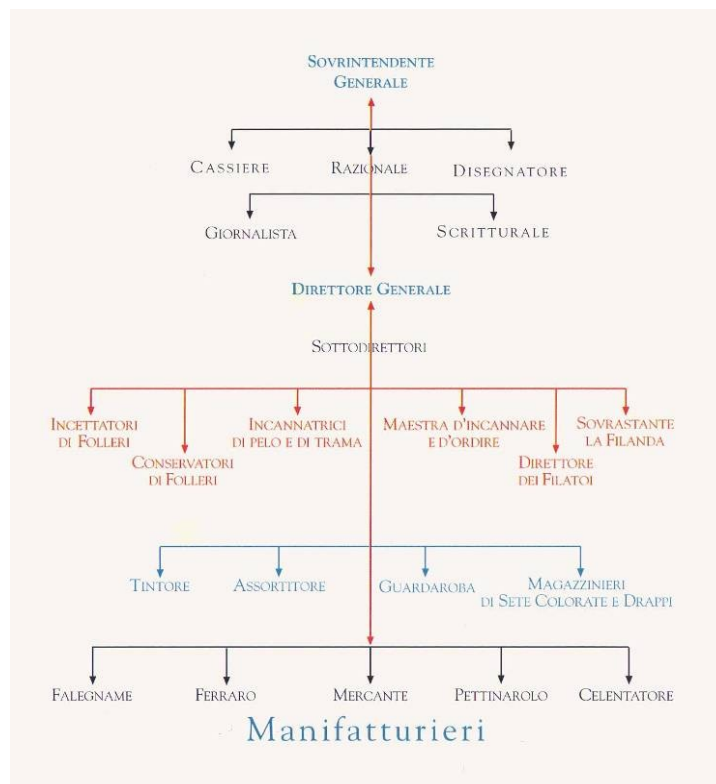


Fig. 17. Personnel organization.

The apprentices, both men and women, were answerable to the managers of their sector, to the mistresses of the spooler and to the mistresses of the loom, and so on in hierarchical order. The statute favoured equality but attempted to tie young people to factory work, in order to ensure the continuity of the workforce. Therefore, upon marriage they received a home and a job, but the dowry was no longer needed for women unless the king himself made a personal gift; benefits were valid until the fourth generation.

Despite the presumed privileges, most workers tended to move away from factory work, with the permission of elders, to pursue their own activities. Changes in the management of the Royal Factory led to a different relationship between worker and master over the years. In all likelihood, the image of the colony member-worker became less and less prestigious and certainly economically unattractive because there was a reduction in—or a partial loss of—the privileges formerly granted at its foundation by the king, i.e., a dowry upon marriage, free looms, etc. With the possible transformation of the industrial production of the surrounding territory, which tended to favour small manufacturers, some families moved away from the factory.

The transformation of the colony members into an independent workforce

The average Leucian family members had all the skills needed for silk production. The first generation of settlers normally came from one of two sources; in silk manufacture, they came from other places in the district, the Kingdom, or even from other countries, while the others came from rural backgrounds or already belonged, for various reasons, to palace service, though all of them in time developed their skills within the colony.

The Pane family, the favourite example of Giovanni Tescione, is just one of many. Giuseppe, a hunter with nets, was the progenitor of a large family. Four of his sons, Felice, Pietro, Nicola, and Aniello, were employed at the Royal Factory and in turn fathered a new generation of workers in different fields, interrupted only by the closure of the Belvedere. Some of them were initiated into veil weaving, and the families of Giuseppe and Vincenzo Pane, which were experts in hunting with nets, remained royal employees for a long time. In 1801, Felice was working as a rifleman, Piero was a former fabric director at the Belvedere, Nicola was a weaver, and Aniello, having returned from his apprenticeship in England, was a designer. In the same years, Saverio, the son of Vincenzo, worked alongside his cousin Pietro as a weaving manager. Felice, though involved in activities unrelated to the main interest of the factory, oriented the whole family towards silk work, except Emanuele. Born in 1794 and originally a rifleman, he then became a stocking manufacturer, while the youngest, Vincenzo and Ferdinando, were sent to work as gardeners.

Pietro had ten children. The eldest son Ferdinand worked first in the army, then in a warehouse in Naples, but later left the colony. The second son, Francesco, born in 1796, was a weaver until 1820; then he became director of fabrics. His brother Antonio, who was born in 1804, became a surgeon after studying in Naples.

Of Vincenzo's children, Leucio, Saverio's brother who was born in 1782, was a weaver and then prefect of the Royal Factory. Ferdinand, born in 1783, left the colony; in 1838 he was selling silk in Naples and was cancelled from the register of Leucians.

The government of the colony, in the face of the latent metamorphoses caused by various managerial vicissitudes, was unable to stand up to such prolific family structures, and specialization and differentiation of roles fostered independence. This is the case, in fact, of another of the fourth-generation Panes, Antonio, great-grandson of Giuseppe, born in 1820 and married in 1843 to Chiara Musella. Together with his large family, Antonio left the factory in 1847 and set up as a small silk manufacturer in Briano (fig. 18).

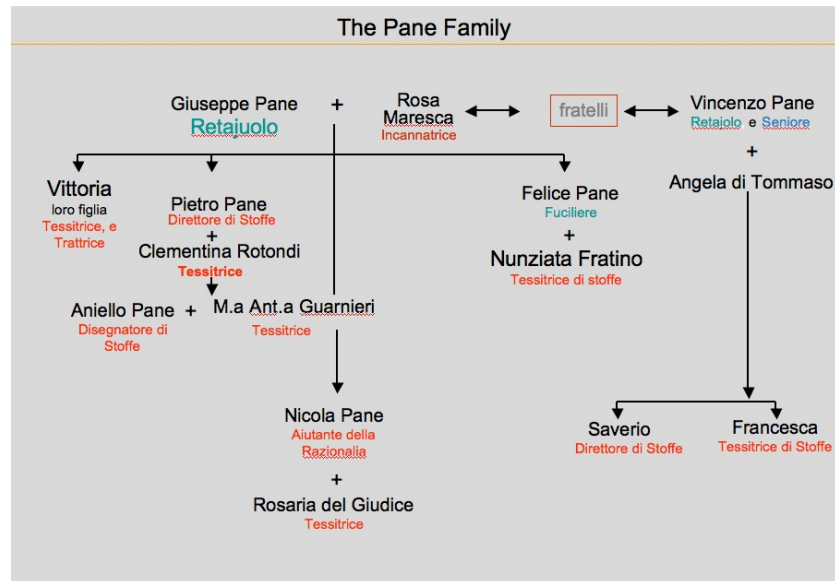


Fig. 18. Genealogy of the Pane families.

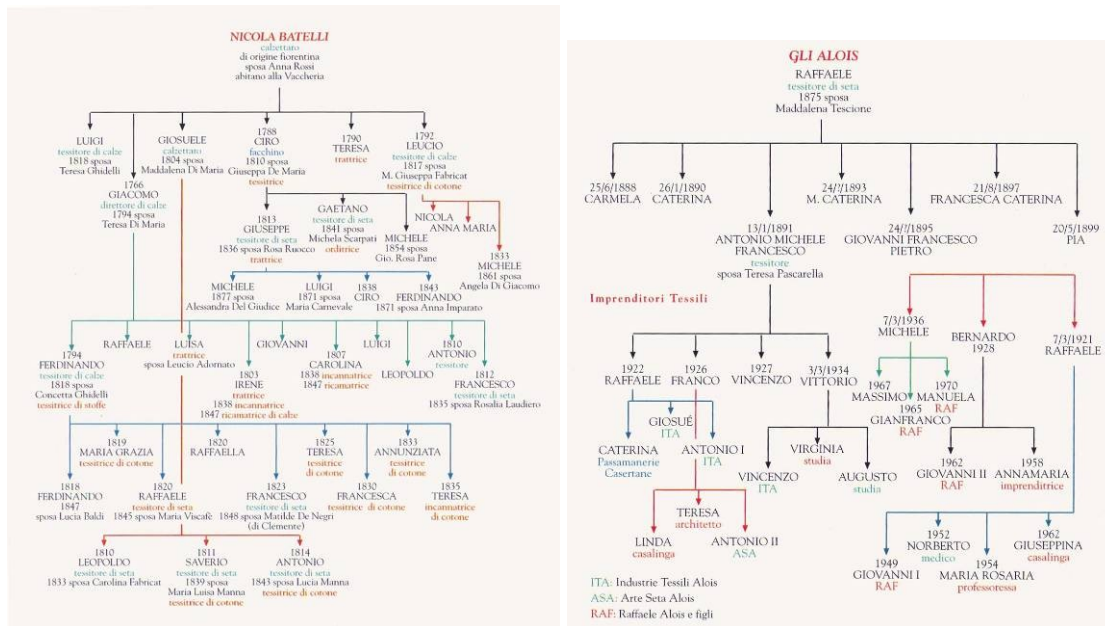
Another example is the Batelli family. As natives of Florence, experts in stocking manufacturing, and connected with the royal factory for three generations, they gained expertise in silk processing over the years thanks to the marriage of their children and their apprenticeship as weavers, velvet makers, spoolers, and spinners. In this way, they were able to develop sufficient autonomy to allow them to set up their own business by the end of the nineteenth century (fig. 19).

The household work already underway—though on behalf of the royal firm—was not taken on by private management and added yet another reason to form different centres of activity. In 1838 at least eleven households were self-employed. Seven more were in 1847, but the records for that year offer no more information about the previous ones, evidently considered extraneous to the population census in Leuciana on that occasion.

Between 1838 and 1847 the business organization of the royal factory was creating new models. Members of families left the factory system and worked for themselves with a number of other family members. Some weavers worked on their own factories while others worked for others. Lastly, in apparently rare cases, yet others such as Michele Fiorillo, director and for a few years contractor to the royal spinning mills, were able to establish small, independent businesses, such as the spinning mill Fiorillo opened in Briano, which was still active in 1865 with 23 workers.

In San Leucio and the extensive surrounding district, Vaccheria, Sala, Briano, Puccianiello, etc., it was hard to make a living, with heavy labor often barely satisfying the needs

of the households. However, they reached a level of professional excellence in a profession which is still considered an art.



Figs. 19-20. Genealogy of the Batelli and Alois families.

Conclusions

The aim of this paper was to briefly describe the development of the San Leucio silk factory and provide evidence of its connections with the earliest Bourbon experiences. More importantly, by stressing the organization of work, technical developments and later extensions of the building, we wished to detach ourselves from what has already been written on the early stages of the experience in San Leucio. Viewed as a “social and economic experiment (the order of the two terms is intentional),” to say it with Eugenio Battisti’s still valuable words, the early years of its establishment together with *Origine della popolazione di S. Leucio e suoi progressi fino al giorno d’oggi colle leggi corrispondenti al buon governo*, a text published in 1789 that accompanied the factory’s opening and has raised great interest ever since, deserve most of our attention.³⁵ Although Giovanni Tescione did provide a comprehensive, fascinating account based on the 1,022 documents preserved at the State Archives of Naples. In addition, between 1933 and 1961—the years of the two editions of his fundamental text on silk production in Naples—he also observed and documented the development of silk factories in the area of Caserta, with the historical and economic ups and downs which characterized the first half of last century. Tescione is therefore able to provide us with materials useful to continue our analysis of the San Leucio experience.

Although all the “facts” are included in his texts, little work has been carried out on the developments and changes that occurred in the management of the Royal Factory which, as early as the late-eighteenth century, seemed to be oriented towards independence from direct State

³⁵ Cf. the original text:; *San Leucio. Archeologia, ... cit.*, 15-26.

management in favour of private subjects. In an attempt to increase the factory's productivity, individual processing sectors were outsourced beginning in 1798: the spinning wheels were rented out to Paolo Zuliani, the dyeworks to Giuseppe Scarpati and Girolamo Fiorillo, and the weaving area to Paolo Dinat and Giuseppe Maria Verney, thus relieving the company from the costly maintenance of the machinery. Reeling alone remained under the management of the Royal Factory.³⁶ Soon after the 1799 revolution, a contract was signed with Piedmont-born Luigi Vallin and Pietro Maranda for the management of weaving, which remained in force throughout the French rule.

The Bourbon restoration was, on the one hand, a cause of difficulties. On the other hand, it introduced several technical improvements, such as the Jacquard machine.³⁷ In 1826 its management was outsourced to De Welz and Baracco's company. Finally, in 1843, the factory was entirely given to the wool entrepreneur Raffaele Sava, who had a factory in S. Caterina a Formiello in Naples and who was very well-known for being the only supplier of fabrics for the military uniforms of the Bourbon army³⁸. The unification of Italy had a major impact on the evolution of Belvedere di San Leucio, which had become state property. Despite the crises due to pebrine (a disease of silkworms which hit all of Europe), and the new contracts (which hardly fit the ancient privileges granted to San Leucio), the Silk Factory continued production until it became quite stable under the management of the De Negri brothers, who achieved long-lasting results (fig. 21).³⁹

³⁶ Cf., Giovanni Tescione, *San Leucio e l'Arte della seta ... cit.*, 179, 181-182.

³⁷ Cf. *Ibid.*, 193-194 and ASN, CRA, *III inventario. Reale Fabbrica*, f. 59.

³⁸ “Una delle fabbriche più utili e meglio dirette che surse in Napoli verso il 1825 è al certo quella di panni stabilita da Raffaele Sava nel locale di S. Caterina a Formelle. I mezzi praticati dall'intraprendente imprenditore di tal fabbrica verso ogni possibile miglioramento sono stati sempre rapidissimi. Ferdinando ascendo al trono, à largito con ispecial cura lo sue reali munificenze verso questo grande stabilimento, onde animare Sava a vantaggiare ognor più una sì lodevole impresa. E da far menzione che Sava avendo ottenuto dal Governo il permesso di tenere nel suo opificio come lavoranti de'servi di pena, a ottenuto il merito filantropico verso la società del paese, di migliorare la sorte di questi disgraziati colpevoli, col far apprendere loro un'arte e di avvezzarli al lavoro, premunendoli così di ritornare un giorno sul sentiero del delitto; e molti di questi spirato il tempo della pena loro inflitta, si son rimasti ivi con piacerò a lavorare, o divenuti ottimi artieri, sono stati ricevuti in altri consimili opifici del reame.” Mauro Musci, *Storia civile e militare del regno delle Due Sicilie sotto il governo di Ferdinando II, dal 1830 al 1849*, vol. 1 (Naples: Stabilimento Tipografico di Pasquale Androsio, 1855), 388. Cf. also John Anthony Davis, *Società e imprenditori nel regno borbonico, 1815-1860* (Bari: Laterza, 1979), 37, 231 and passim.; Luigi De Matteo, *Governo, credito e industria laniera nel mezzogiorno. Da Murat alla crisi post-unitaria* (Naples: Istituto Italiano per gli Studi Filosofici, 1984), 103-166.

³⁹ I have reconstructed De Negris' history in *San Leucio. Continuità nella tradizione dalla fondazione ad oggi*, (Naples: De Nicola editore, 2001) from which I quote the genealogy reproduced here. Many of the elements related to production in the factories around Caserta are lost because of the role the factories took on as contract manufacturers. An interesting company report appears in the study of Venice-based Tessitura Bevilacqua, which shows that in 1920 the textile factory became a branch of *Società Anonima Opifici Serici Riuniti*, a company based in Naples and owned by the De Negris (cf. Antonella Rossi, “La Tessitura Bevilacqua dal 1875 al 1939,” in *Il genio della tradizione. Otto secoli di velluti a Venezia: la Tessitura Bevilacqua*, edited by Doretta Davanzo Poli (Venice: Cicero, 2004), 30. I am currently carrying out a study on the contract manufacturing role of the factories in San Leucio after the Unification and on the imitation of imported fabrics in Bourbon times, which is forthcoming.

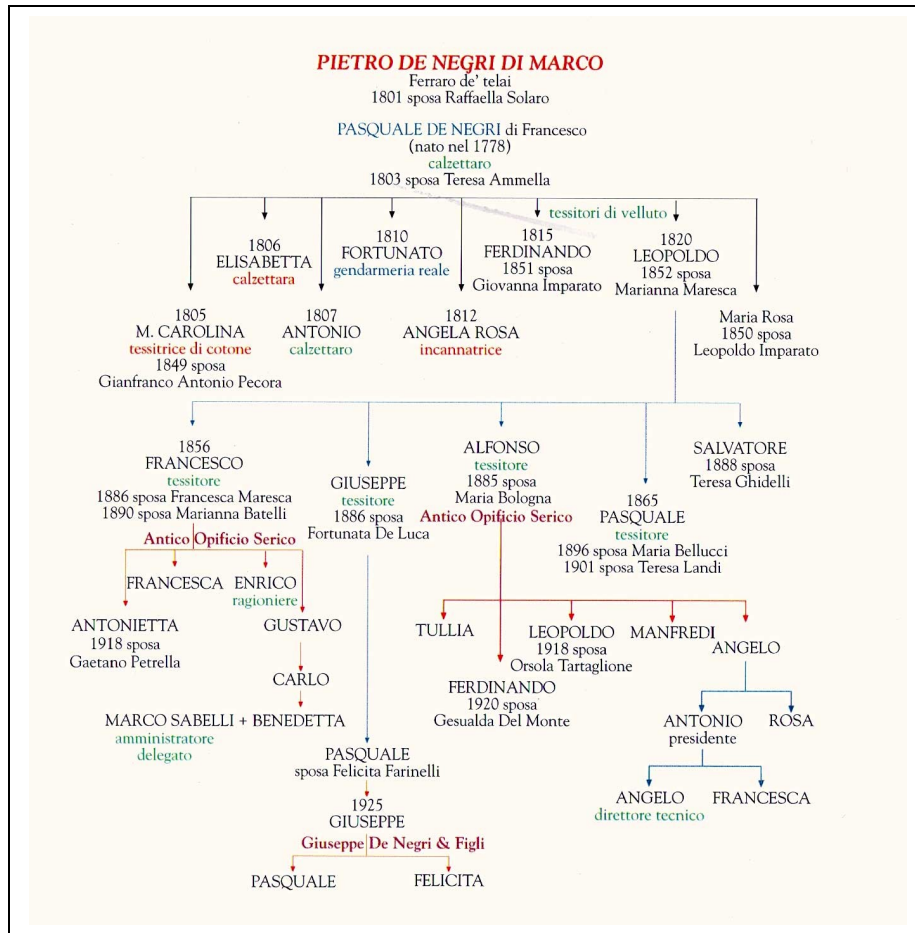


Fig. 21. Family Tree of the De Negri families.

A summary is possible, however. While in its early years Charles's policy was aimed at innovating "luxury" manufacturing plants, trying to produce an impact on the territory—which did happen in the silk and cotton industries—the San Leucio Factory, with its "lights and shadows," was definitely a successful and long-lasting experiment, as is shown by the number of companies which keep producing silk and exporting it all over the world despite the current, deep crisis.⁴⁰

Going back to its origins, Eugenio Battisti already described the experiment of San Leucio as a utopia, that is to say, an alternative way to organize a community, discussing the religious movements which set up communities based on the collectivization of property and gathered around charismatic leaders. He also focused on the initiatives promoted by nation

⁴⁰ For cotton factories, cf. Silvio de Majo, *L'industria protetta. Lanifici e cotonifici in Campania nell'Ottocento* (Naples: Edizioni Athena, 1999), 197 and ff. In the 1961 edition, Tescione published a list of fabric manufacturers including 16 factories and 42 handicrafts (cf. Giovanni Tescione, *San Leucio e l'arte della seta ... cit.*, 363-364). The factories which are still operating are Antico Opificio Serico di San Leucio S.r.l. (<http://www.aosdisanleucio.it/>); I am afraid that Giuseppe De Negri & Figli, formerly based in via Mulino Militare 23, Caserta, has been liquidated; Tessitura Serica in Vitulazio (<http://www.alois.it>) and an innovative business established by Antonio Alois operating in fabric design (<http://www.compagniacreativa.com>) are what is left of the numerous factories belonging to the Alois. Tesseci of the Cicalas (<http://www.tesseci.it>) is still operating in Limatola. In 1924, the engineer Franco Scalamandrè moved to New York; in 1928 he established Scalamandrè silks Inc. in Paterson, New Jersey, and in 1936 the *Scalamandrè Museum of Textiles*. The company is still operating (<http://www.scalamandre.com>); cf. Giovanni Tescione, *San Leucio e l'arte della seta ... cit.*, 340-343.

states, for example, trade through major public interventions aiming at educating the masses in useful crafts.

In the silk industry, one of Italy's thriving activities in the seventeenth and eighteenth centuries, the concentration of hundreds of workers in the new, difficult conditions of the "factory system" raised the problem of order and justice as early as the seventeenth century, although the first company regulation dates back to 1726 (as documented by Carlo Poni).⁴¹ The 17 articles making up the rules of procedure of *Cesareo filatogio di Farra*, near Gorizia, paved the way for factory discipline and seem to act as a cultural model used in other state institutions, such as prisons and hospices for the poor—places designed for the education and job training of the poor with the two-fold aim of reducing poverty and crime rates and catering to state interests in cheap labour.⁴²

In Italy, the rules of procedure are based on the discipline of work, the obligation of religious education (a church is in the middle of the San Leucio factory, and a small Chapel was built right opposite the main entrance of the Capodimonte factory), respect for common property, and a tendency towards self-sufficiency—all principles deriving from the enlightened culture of the century, which were a much-discussed topic in several cultural circles, as is shown by Antonio Genovesi's education and acquaintances in Naples.⁴³ The rules of procedure and statutes most often tend to devise new social protection rules to replace the norms of the Guilds, institutions which were gradually yet inexorably losing power.⁴⁴

Maria Carolina of Austria, the second Bourbon queen, has recently been credited with an interest in the Enlightenment principles contained in the *Statute* of San Leucio. This approach tends to attribute to women's intelligence and insight an ideological content which ought to be considered mainly as the outcome of a long internal process closely related to a cultural evolution that had been started, before the Bourbon conquest, by the most enlightened figures of the time led by outstanding intellectuals including Celestino Galiani and stimulated by his initiatives like the well-known *Academy of Sciences*. This uninterrupted evolution led to the birth of Genovesi's school, which accompanied and promoted Montealegre's reformism, as Raffaele Ajello has shown in several comprehensive studies since the 1960s.⁴⁵

⁴¹ Cf. Carlo Poni, "La lavorazione della seta e la nascita del sistema di fabbrica," *Casabella*, n. 433 (February 1978): 58-60.

⁴² For the Real Albergo dei Poveri of Naples and Palermo, cf., Roberto Pane, *Ferdinando Fuga* (Naples, 1956), 209-210; Eduardo Nappi, C. Francobandiera, *L'albergo dei poveri: documenti inediti 18.-20. Secolo* (Naples: Arte tipografica, 2001); Giuseppe Moricola, *L'industria della carità. L'Albergo dei Poveri nell'economia e nella società tra '700 e '800* (Naples: Liguori, 1994); for the Albergo dei Poveri of Genoa, built in the second half of the seventeenth century, cf. Elena Parma, "Utopia morale e realtà sociale nell'assistenza genovese seicentesca. Polivalenze semantiche del primo Albergo dei Poveri italiano," in *Utopie per gli anni Ottanta* (Rome, 1986), among this scholar's many publications; Maurizio Vitella, *Il Real Albergo dei poveri di Palermo* (Naples: Edizioni Scientifiche Italiane, 1999). Cf. also Raffaella Salvemini, "Formazione e avviamento al lavoro nei reclusori e nei convitti del Regno di Napoli alla fine del Settecento," in *Il lavoro come fattore produttivo e come risorsa nella storia economica italiana*, edited by Sergio Zaninelli and Mario Taccolini (Milan: Vita e Pensiero editore, 2002), 187-197.

⁴³ Franco Venturi, *Illuministi italiani*, vol. 5, *Riformatori napoletani*, edited by F. Venturi, (Milan-Naples 1962), 3-330.

⁴⁴ In Naples, the reorganization of the guilds system was started by the Giunta del Commercio, which set up an Arts Committee in 1739, cf. Luigi Mascilli Migliorini, *Il sistema delle arti: corporazioni annonarie e di mestiere a Napoli nel Settecento*, (Naples: Guida editori, 1992), 97.

⁴⁵ Raffaele Ajello, "Cartesianesimo e cultura oltremontana al tempo dell' *Istoria civile*," in *Pietro Giannone e il suo tempo*, Proceedings of the Conference held on the 300th anniversary of Giannone's birth, Foggia-Ischitella, 1976, edited by R. Ajello (Naples: Jovene, 1980), 163-181; Id., *Il problema della riforma giudiziaria e legislativa nel*

As we have tried to state, the architectural model first used at San Leucio represents the final outcome of an experiment with “industrial” architecture that was carried out in Naples. Its precedent was the Weapons factory of Torre Annunziata, designed in 1753 and built, starting from 1758, on the design of Francesco Sabatini, a follower of Luigi Vanvitelli and Artillery officer. Upon Sabatini’s departure for Spain, he was replaced by Vanvitelli himself.⁴⁶ The general plan, preserved at Naples’ National Library, which may be attributed to the court architect, shows the architectural and urban-planning elements of a small industrial district, with artificial canals feeding the mills and plants and the small, though quite spectacular waterfalls introduced to make the working place pleasant and liveable.⁴⁷ The San Leucio building has close links with the older Carminiello complex, which Collecini described as being designed to meet the workers’ specific needs. “Riquadrato... per assecondare le precise esigenze dei manifatturieri.” These are the words he used in the graphics of the first plan of Caserta’s plant enclosed by D’Onofri’s *Elogio*, to describe every single detail of the plan concentrating all the rooms around the courtyard (fig. 13).⁴⁸

Concerning later developments, we should add that some of the works designed were actually built only in part. At the end of the long building process was the embryo of a new idea—that of a manufacturing city, the utopian town of *Ferdinandopolis*, which was certainly in line with several French *Manufactures Royales*, and with similar examples in the plants of Le Creusot, the Royal Foundry (1782-85) and the Royal Crystal Factory (1785)—all buildings which featured an elevated architectural style inspired by the classic models, much more than in Collecini’s designs.⁴⁹

Regno di Napoli durante la prima metà del sec. XVIII, (Naples: Novene, 1961). Nadia Verdile, *L’utopia di Carolina. Il Codice delle leggi leuciane* (Naples: Regione Campania, 2007); Nadia Verdile, *Utopia sociale, utopia economica. Le esperienze di San Leucio e New Lanark* (Rome, 2009); Nadia Verdile, “Maria Carolina e la Colonia di San Leucio,” in *All’ombra della corte. Donne e potere nella Napoli borbonica (1734-1860)*, edited by Mirella Mafrici, Fondazione Valerio per la Storia delle Donne (Naples: Fridericiana Editrice Universitaria, 2010). Verdile’s essays attach great importance to Maria Carolina’s influence in the writing of *Origine della popolazione di S. Leucio e suoi progressi fino al giorno d’oggi colle leggi corrispondenti al buon governo*. Several scholars agree that the queen, a progressive, cultivated woman, was influential on the kingdom’s policies and was probably oriented toward the author of the text, Antonio Planelli, a Freemason as several scholars agree. Planelli, however, was not only a Freemason: he was also a musicologist and musician, as well as a scholar of Physics; cf., Elvira Chiosi, *Lo spirito del secolo. Politica e religione a Napoli nell’età dell’illuminismo* (Naples: Giannini, 1992), 126-131. An extremely interesting document for the Freemason culture and the relations of the various lodges with seventeenth-century European science academies is the text edited by M. P. Crosland, *L’affermazione della scienza moderna in Europa* (Bologna: il Mulino, 1979).

⁴⁶ On the topic, in addition to the author’s contribution mentioned in note 6, cf. also Gregorio E. Rubino, *Le Fabbriche del Sud. Architettura & Archeologia del Lavoro*, 3rd ed. (Naples: Giannini Editore, 2011). For utopias in architectures in Southern Italy, cf. Id., *Filadelfia. Utopia e realtà* (Catanzaro: Sinefine, 1988).

⁴⁷ Cf. Id., *La Real Fabbrica d’armi di Torre Annunziata ... cit.*, 129-136, fig. 4.

⁴⁸ Pietro D’Onofri, *Elogio estemporaneo per la gloriosa memoria di Carlo III monarca delle Spagne e delle Indie*, s.l. s.a., (Naples, 1789).

⁴⁹ Cf. Bernard Clément and Dominique Sauvageot, *Le Creusot. Naissance et développement d’une ville industrielle, 1782-1914*, preface by Louis Bergeron, (Mâson: Champ Vallon, 1981).

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