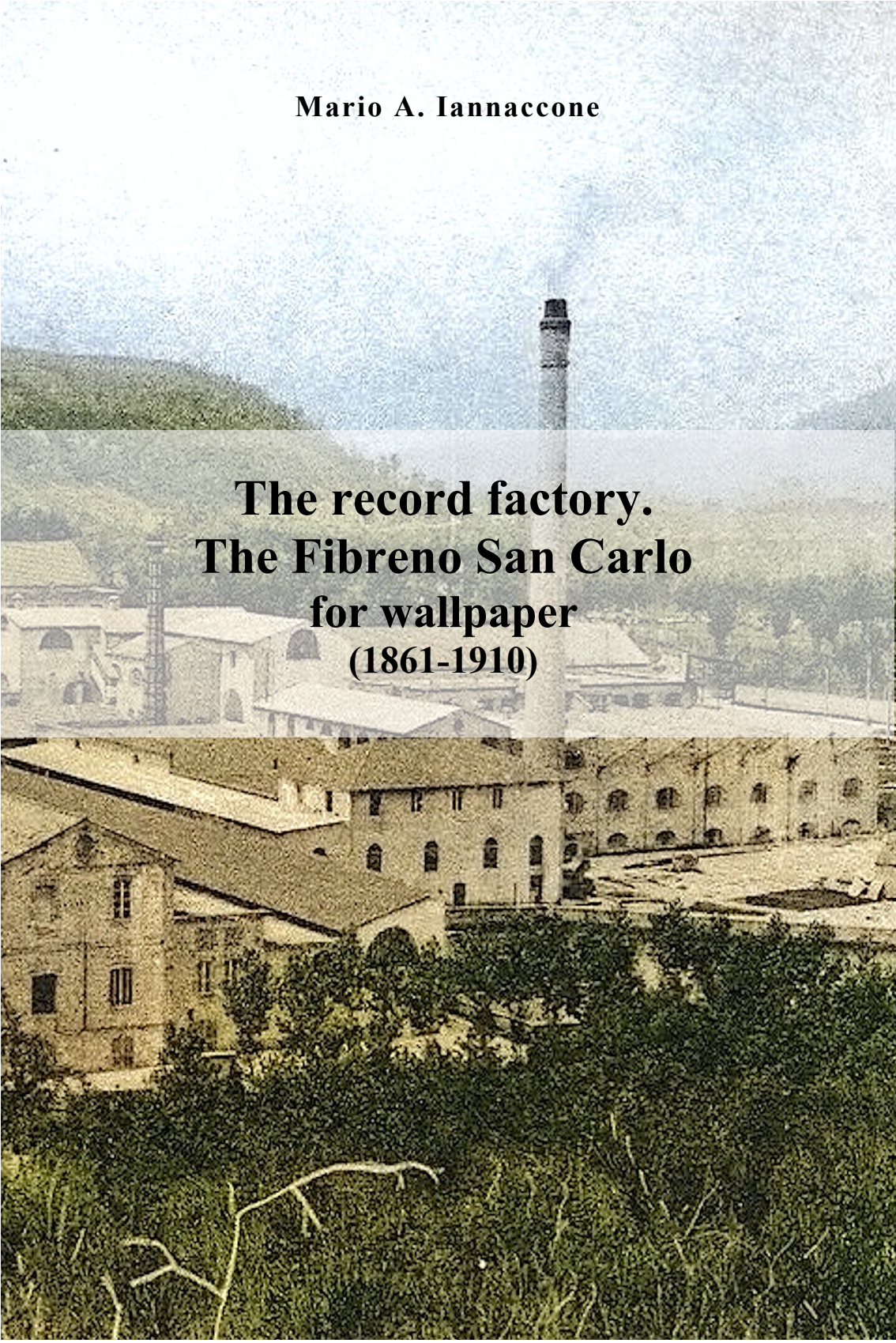
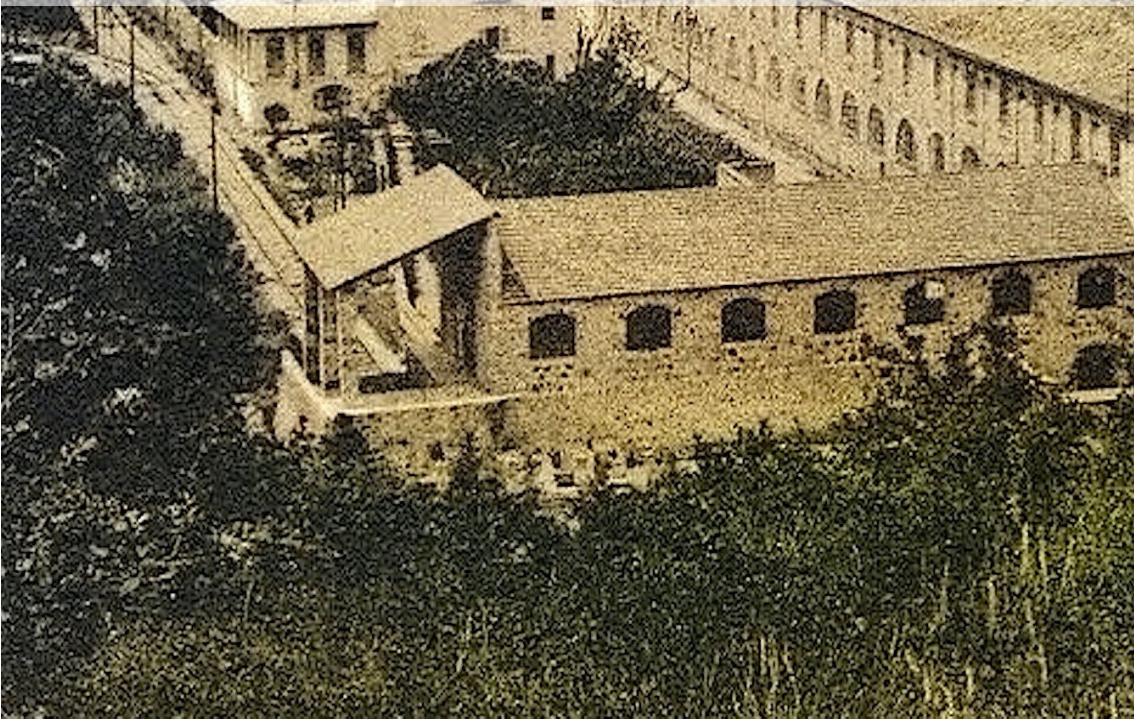
Mario A. Iannaccone



The record factory. The Fibreno San Carlo for wallpaper (1861-1910)

The Fibreno San Carlo factory, owned by the Lefèbvre family, which was established near the Manifatture del Fibreno in the mid-19th century, quickly became the most advanced and sophisticated wallpaper factory in Italy. The quality of its productions, printed in 24 colours, which reproduced large scenes capable of covering the walls of rooms and halls of considerable size, were equal to the famous French papers of Joseph Dufour, then considered the best in the world for design and workmanship. For the first time, this book tells its story from the beginning to its premature closure due to the Avezzano earthquake of 1915.



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Introduction

This book tells the story of one of the most modern and efficient wallpaper factories in Italy from the middle of the 19th century until 1896, when production ceased. The Fabbrica San Carlo, whose concession dates back to 1861, was a specialised production unit of the Manifatture del Fibreno, which at some point became a legal entity in its own right. It was a factory that employed over 300 workers and a few dozen technicians, craftsmen, engravers and ancillary workers in Isola del Liri.

Although its creation may have been discussed within the family – the owners – even before the death of the patriarch, Charles Lefèbvre (1775-1858), its foundation, the decision to commission an architect and the concession of the factory itself are the work of the latter's son, Ernesto Lefèbvre (1817-1891), an industrialist of remarkable openness and modernity who nevertheless found himself operating in difficult times. Construction began in 1861 and, despite several interruptions due to the wars of the Risorgimento and the change of regime that followed the end of the Bourbon dynasty in Naples, the first signs of activity date back to 1863.

It was an internationally renowned factory and from the late 1860s it began to take part in various national exhibitions. It may have taken part in the Great Philadelphia Centennial Exhibition of 1876 and the Great International Exhibition of Turin of 1884.[1] The Fabbrica San Carlo was well known and

[1] I write in doubtful form about the participation in the Centennial Exposition because, although I found the fact mentioned in various

mentioned in the texts of the time, and had the honour of receiving a visit from the King of Italy Umberto I, which was immortalised by the *Illustrazione Italiana*.[2] Above all, it was equipped with the most modern equipment of the time and had a production that decreased the import of wallpaper into Italy by as much as ¾. From this it can be deduced that for about 75 per cent and for a period of several decades, Italian wallpaper was almost all produced in the Isola del Liri (later Isola di Sora) factories of the Lefèbvre entrepreneurs.

When it ended some 30 years later, the discontinuation was not due to inherent commercial weaknesses or production failures. At that time wallpaper consumption was at an all-time high, although the Italian market was not as buoyant as the British one. But the real reason for the end of San Carlo was the more general crisis of the industrial group to which it belonged, Manifatture del Fibreno. This boasted three paper production units, a printer-typography in Naples and a chemical industry in Bagnoli. It also had warehouses and representative offices throughout Italy, but was nevertheless overwhelmed by a severe financial crisis. So if the story of this innovative factory came to an end, it was due to bad luck, economic contingencies and also the irresponsible conduct of one of its managers – Carlo Lefèbvre, who was briefly one in the 1870s – and not due to any lack of foresight on the part of those who founded it.

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texts, I could not find the presence of Manifatture del Fibreno in the official exhibition catalogues.

[2] *Illustrazione Italiana*, published in Milan by Treves from 1873 until 1838 and then by Garzanti from 1938 until 1963, was considered the most prestigious Italian magazine at the time, especially for the quality of its printing, illustrations and texts.

As mentioned above, the factory was remarkable for the quantity and quality of its production of printed and hand-made wallpapers, so much so that it led to a very noticeable nationwide variation in imports of French and English papers. From an industrial point of view, it is a testament to the far-sightedness of the Lefèbvre family of entrepreneurs, who succeeded in setting up an integrated production cycle centred on paper that had as its outlet on the one hand typewriter paper, tissue paper, and printing paper for sale to wholesalers, publishers and stationers; on the other a printing works with a typesetting workshop and printing-publishing house in Naples; then a wallpaper factory offering both high-end, medium and low-cost papers; and a chemical factory in Bagnoli whose products were absorbed by the paper factory, the printing-publishing house and the wallpaper factory.[3] The production cycle was complemented by a mechanical workshop, called Officina Palma, for the repair of machinery, located near the main factory at Isola del Liri, and a pulp factory, a plant for the conversion of wood into cellulose, which came into operation in the second half of the century, around the 1870s, when rags, the traditional raw material for paper production for centuries, were replaced by wood, which was cheaper and more abundant.

In fact, the Manifatture del Fibreno started from the raw material – first rags and then wood – to distribute finished products such as paper, wallpaper and books. Although its existence is known and often mentioned, the history of the

[3] Started as a French Printing House with a printing concession for the French newspapers of the French Decade, it was later taken over by Charles Lefèbvre and transformed into a generalist printer, printing house and publishing house during the 1820s. V. Mario A. Iannaccone, *La Stamperia del Fibreno (1808-1903)*, apud auctorem, 2020.

Fabbrica San Carlo and the details of its production have long been forgotten. With time, however, something has come to light. Examples of wallpaper production have been found in the Wallpaper Museum in Rixheim (Belgium), in buildings in Naples, in an old palace in Atina and in the same villa built and furnished by the founder of the factory, Ernesto Lefèbvre, in Isola del Liri. There is no doubt that other examples will be discovered in the future. The history of the Manifatture del Fibreno has recently brought to light important aspects of this wallpaper factory, which for a long time was unique in Italy.

With regard to the context in which San Carlo's production took place, namely the paper industrialisation that had followed the phase of wool proto-industrialisation, often using the same sites and structures – often, but not always – an industrialisation fuelled by a conspicuous influx of foreign capital that had poured into the entire Liri Valley area, As particularly interesting and complete, also because it is seldom quoted, I would like to mention Alain Dewerpe's text, rich in demographic, social and industrial history, published in 1981, which complements other texts often quoted here, such as that by Anna Dell'Orefice.[4]

[4] Alain Dewerpe, *Croissance et stagnation protoindustrielle en Italie méridionale: la vallée du Liri au XIXe siècle*, «Mélanges de l'école française de Rome», tome 93, pp. 277-345, n. 1, Rome 1981.

Chapter 1

Wallpaper. 16th-18th century

In order to better understand the history, quality, characteristics and importance of the San Carlo wallpaper factory, a specialised production unit of the Manifatture del Fibreno, it is worth taking a brief look at the history of wallpaper, its uses and the techniques used to make it. This important furnishing accessory – today mostly out of fashion or used in luxury contexts, but for centuries beloved by the upper classes and for at least a century (around 1860-1960) by all social classes – can only be traced back to very ancient times if we include in its sphere types of covering similar to tapestry.[5] If we refer to Europe, the first examples of real papers, and thus not of fabric or painted leather (as was fashionable in the German lands) but of real papers glued to the walls of walls, date from the second half of the 16th century onwards.

The earliest examples consisted of press-printed sheets of paper with simple black and white floral motifs. In this regard, there are religious souvenirs called Helgen, the oldest examples of which date back to 1418 and which were also hung to form a kind of tapestry.[6] Only in the early part of the

[5] On furniture trends in Italy for the period under review, see Elisabetta Barbolini Ferrari, *Arredi dell'Ottocento: Il mobile borghese in Italia*, Artioli, Modena 2002; Daniel Alcouffe (ed.), *Le arti decorative alle grandi Esposizioni universali (1851-1900)*, Idea Libri, Milan 1988; Anna Maria Cito Filomarino, *L'Ottocento: i mobili del tempo dei nonni, dall'Impero al Liberty*, Görlich, Milan 1969.

[6] «Journal of the Royal Society of Arts», Volume 82, I, London 1933, p. 281.

17th century were they glued together to form long rolls for more complex graphic designs, perhaps by joining two separately printed motifs and gluing them close together. This system had been used sporadically in the 15th century, perhaps even earlier.

Later, the system of block painting was introduced: the design was engraved on the surface of a rectangular wooden block or tablet, then the block was inked with paint, placed face down on the paper and pressed (first with a hand press, then with a hydraulic press). The so-called scenographic papers were complex, extensive polychrome patterns and designs – capable of covering entire walls and effectively replacing the fresco – and required the use of many blocks, one for each colour, and a very elaborate technique. Over time, technical improvements were made to the block printing process, which remained the same and is still used today for the production of luxury handmade papers.

Before printed wallpaper, there was woven wallpaper with repeated textile patterns and designs, often floral (flock patterns). Similarity to textiles was sought: silk, damask and wool. Wool flock wallpaper was made from woven wool, and indeed wool flocks, reusing a waste product from the wool industry. The wool was reduced to a powder and shaken over a structure that bore designs made with a glue that trapped the wool and then formed chlorinated designs. At first the wool flakes were applied to cotton or linen cloth, but in 1634 Jerome Lanier, a Huguenot who had taken refuge in London, patented a method of applying coloured wool to painted paper. In 1675, the Frenchman Jean Papillon (1661-1723) printed continuous blocks that could be placed side by side to form a single weave: this was the invention of wallpaper proper and can therefore

be considered a French invention.[7] In those days it was called *papier peint*. The oldest example of wallpaper made from wool powder dates from 1680 in Worcester, England. So, there was a lot of trade between France and England. From 1739, wallpaper also became popular in America, especially in Canada and later in the states that would become the United States.

Jean-Baptiste Réveillon (1725-1811) began importing wallpaper from England in 1753, anticipating a major expansion. Around 1760, he began large-scale production using his wife's designs and the pigment discoveries of Jean-Baptiste Pillement (1728-1808). He hired illustrators and engravers and set up production in the large villa where he lived, with the apartments upstairs and the factory downstairs. Here he produced some of the finest and most luxurious wallpapers ever devised. In 1783 he was granted permission to use the title Manufacture Royale.

By the mid-18th century, the use of multiple blocks, each with a different part of the design and dyed with different colours, made it possible to produce wallpaper in many different colours and styles. Each colour was printed separately along the length of the roll, which was then allowed to dry before the next colour was applied, allowing new details of the design to be printed, or new shades of an already printed detail. The process, as we know, was laborious, slow and required precision and specialist craftsmanship. It required an experienced, trained and precise workforce, careful to ensure that successive layers of paint were matched and overlapped

[7] Nietta Aprà, *Dizionario enciclopedico dell'antiquariato*, Mursia, Milan 1969, p. 343.

precisely each time, especially in the case of scenic maps that comprised landscapes several metres long and even a metre or two wide.

The wallpaper industry flourished first in England and then in France. In England, the Excise Office, which was responsible for setting taxes, saw wallpaper as a whole new source of revenue and levied a tax of 1d (0.75p) per yard in 1712, rising to 1.5d (1p) in 1714 and 1.75d (1.25p) in 1777. Similar taxes were levied in other European countries where wallpaper was not produced in the same quantities as in England and France.

These taxes inevitably made the product more expensive, even more so given the costly process involved. For this reason, manufacturers concentrated on wallpapers aimed at an audience of nobles and wealthy merchants who could afford to spend a lot. Despite the cost, demand remained high and sophisticated patterns were also sold by famous interior decorators and furniture makers such as Thomas Chippendale (1718-1779), a great 18th-century English designer and manufacturer of furniture and accessories from whom the so-called "Chippendale Style" was derived. English, French, Italian and generally European buyers loved floral designs, but also landscapes and architectural compositions. A wallpaper on the walls of Doddington Hall shows intersecting figures and landscapes, all framed by flowers and, as was often the case in 18th-century interiors, printed in vibrant colours.

The idea of wallpapering with images was inspired by the fashion for rooms decorated with prints cut and pasted directly onto the walls, known as Print Rooms, much loved by Horace Walpole (1717-1797).

Example of Doddington Hall wallpaper
(1760, manufacturer unknown).
Albert & Victoria Museum, London.

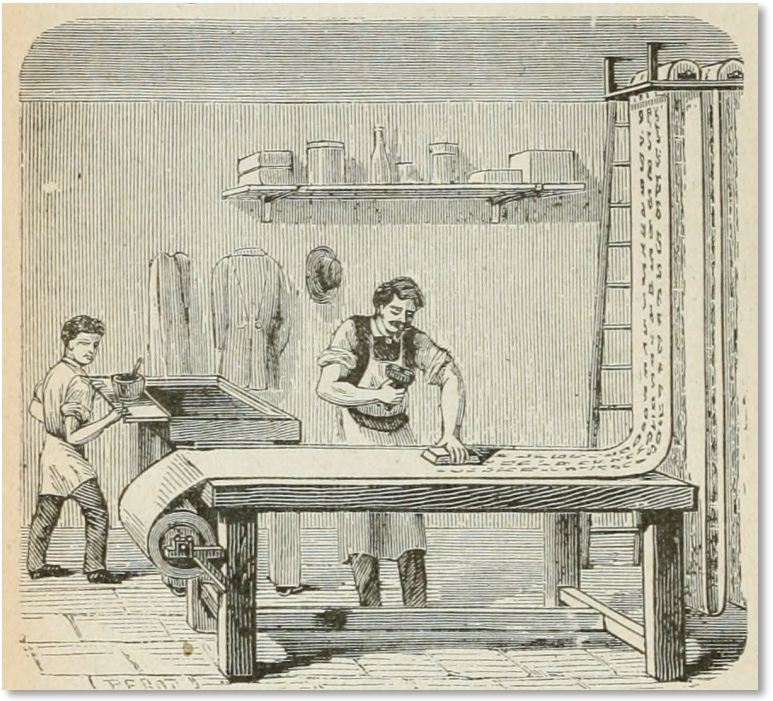


Image from G. Bruno, *Le tour de la France par deux enfants, par George Bruno, manuel scolaire*, (1877). Wallpaper produced by stamping inked tablets.

At the beginning of the 18th century, England and France were the most important wallpaper producers; Italy, despite its considerable paper production, did not follow this path and no significant production facilities are known. Paper was mostly imported from France, where production was more widespread. In the 18th century, wallpaper was used in Paris and in the main residences of France, as well as in the kingdoms and principalities of Italy. This gave rise to a French style, an English style and, only in the 19th century, an Italian

style. However, the strongest and most organised producers during this period were undoubtedly the English.

At the end of the 17th century, wool flock wallpaper became very popular: it closely imitated cloth and was more affordable.[8] A particularly fine example, with a crimson damask design on a pink background, was used in 1735 in the offices of the Privy Council, Whitehall, and in the Queen's Drawing Room at Hampton Court. It is thought that the real fashion for tapestry, as it became known in France and later in Italy (tapestry, tapesterie, peintre papier, wallpaper), was introduced by the British Ambassador, who decorated his drawing room with a blue patterned wallpaper in 1748.

The blue wallpaper that the British ambassador had pasted in the rooms of his house in Paris and that launched the fashion from 1748.

[8] Papers made from wool flakes also had the advantage of repelling moths and their larvae because of the adhesive used.

Left, print by Jean Pillement from 1755 used as a model for wallpaper (Victoria & Albert Museum No. 28639, London). Right, wallpaper produced by Pelletier. These are plateaus or modules to which at least a second one had to be combined. Glued together alternately they could cover an entire wall.

The embassy had been unoccupied for years due to the Seven Years' War, until it was occupied by Willem van Keppel, Earl of Albemarle (1702-1754), who had the house decorated with a printed paper that had been fashionable in London in recent years. The Parisians liked the idea and many aristocrats of the time wanted it in their residences.

Some of them even financed the production of this product, thus starting a great French tradition of *tapisserie* and *papier*

a peintre. In 1799, when Louis-Nicholas Robert (1761-1828) patented a machine for the production of paper in endless lengths, he revolutionised not only the production of writing and printing paper, but also that of wallpaper.

This machine, which was continuously improved – especially in England by the firm of Bryan Donkin (1768-1855) – marked the birth of modern paper production and also made it possible to develop machines for printing long, industrial strips of wallpaper, which at the same time reduced prices and allowed the production of so-called "panoramic" papers for more expensive creations.

It was then possible to form rolls many metres long, which could be cut to size as required and then printed with engraved wooden plates, with multiple applications of inks of different colours.

Wilhelm Rehlen (1820). View of the salon of princesses Sophie and Marie de Bavière in Nymphenburg (Monaco) – Scenographic map from the 1815 collection of the Zuber Manufactures: *La grande Helvétie*.

He gives a brief history of scenic wallpaper by Paul Claval, who is interested in the aspect of geographical escapism depicted on the maps (Brazil was very fashionable at the end of the 18th century), but also gives other details about the people who took over the primacy of luxury wallpaper in France from England:

Painted [scenic] paper is an English innovation: it finds buyers among those who have sufficient income to live more comfortably than in the past but cannot afford the panelling and tapestries of large residences. It owed its success to the rise of the middle classes.

Wallpaper manufacturers had been active in Paris since the 17th century: the Papillon dynasty, Jean, Jean II, Jean-Michel, were prominent in this sector for almost a century. At the end of the 17th century, Daumont offered Chinese motifs, which already heralded the landscapes to come.

On the eve of the Seven Years' War, the taste for high-quality printed wallpaper, for "velvety" paper (coated with wool powder), arrived in France. In 1753, M. de Mirepoix, the French ambassador to England, sent the first coated papers seen in Paris [...]. No one was able to arrange, glue and arrange these papers except Sieur Réveillon, who succeeded and was so successful that people at court and the rich wanted to have them.

The war of 1756 had deprived Mr. Réveillon of any possibility of obtaining them from England, so he decided to produce "velvety" papers himself and sell them at lower prices than English papers of a similar type, so much so that "it was impossible to make them compete with those of France after the war" (ibid.). Réveillon was not the only one to take advantage of the war with England to enter the luxury wallpaper market. Jean Aubert had been making them in the rue Saint-Jacques since 1759. An English watchmaker who had set up in France became a papermaker, Jean Arthur did the same in the 1760s. François Robert made them in Paris from the 1770s. Painted wallpaper appeared in Lyon at the same time: Antoine

Richoud made his debut in 1779. Around 1780, Jean-Antoine Ferrouillat set up an illustrated wallpaper workshop in his family's soya fabric factory [...]. In Mulhouse, Jean-Jacques and Nicolas Dollfiis opened a printed wallpaper factory in 1790. Their company passed to Hartmann Risler in 1795 and was taken over by Jean Zuber in 1800. It still exists in Rixheim today.[9]

Today we know that the first scenic wallpapers were produced by Zuber in 1804: the first was a panoramic *Vue de Suisse. It* is thought to be the first polychrome panoramic paper to reach the market. Up to 1867, the Zuber factory in Rixheim produced another 30 scenic views including *Hindoustan* (1807), *Les Vues de Brésil* (1830), *Les Vues d'Amerique du Nord* (1834). From 1842 onwards, Zuber also produced views that contained only panoramas without human figures, such as *Isola Bella* (1842) and *Eldorado* (1848). The names of the first artists who painted panoramas are known, the Parisian Pierre-Antoine Mongin (1761-1827) and the prolific Jean-Julien Deltil (1791-1863). They were later succeeded by Alsatian artists, Émile Zipelius (1840-1865) and Eugène Ehrman (1804-1896).[10]

The figure of Deltil is of particular interest to us because his style, which can be seen in many of the scenographic papers produced by Zuber, corresponds more closely than that of the other artists mentioned to the style of the scenographic paper

[9] Paul Claval, *Le papier peint panoramique français, ou l'exotisme à domicile.* In: «Le Globe. Revue genevoise de géographie», tome 148 *L'exotisme*, Geneva 2008 p. 71. Paul Claval's reconstruction has some inaccuracies but it is important to note that the characters involved are still Willem van Keppel and Monsieur Mirepoix.

[10] S.v. Jean Zuber, *Encyclopedia of Interior Design*, Banham Joanna ed., Routledge, London and New York 2015 (first 1997), pp. 1407-1409.

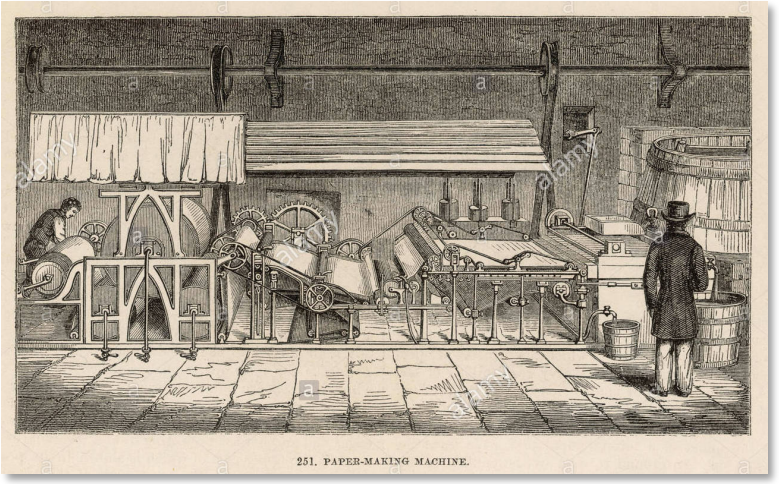
of Villa Nota on Isola del Liri: he could therefore have been the artist commissioned by Ernesto Lefèbvre to produce the first subjects for panoramic papers, also because the know-how for producing this type of paper did not exist in that area, and probably not even in Italy around 1860. Kate Sanborn's book, *Old Time Wall Papers*, is an exceptional testimony to the wealth of images and documentation on this subject.[11] The book shows how widespread, and elaborate, scenic wallpapers were in the homes of the rich and wealthy in England, France, Italy and the United States, to say nothing of other countries (the documentation refers mainly to Anglo-Saxon and American examples).

There is much evidence to suggest that the period from around 1840 to the end of the Second World War and part of the following decade (around 1850) was the golden age of wallpaper. In that century it was cheaper than painting or boiserie and was used in all kinds of homes. At the time (it is now generally more expensive than painting) there was something for every budget. There was a certain taste for wallpaper in the fifteen years from 1960 to 1975, which gradually declined in the following years, although it did not disappear until the 1980s, when it was completely replaced by other wall coverings and paintings. However, the limited market for panoramic wallpaper remained.

By the first quarter of the 18th century, it was difficult to find an English or French (or Italian or German) country house or palace that did not have at least one room decorated in this

[11] Kate Sanborn, *Old Time Wall Papers. An Account of the Pictorial Papers on Our Forefathers' Walls with a Study of the Historical Development of Wall Paper Making and Decoration,* Clifford & Lawton, New York 1905.

way. Until the 1840s, all wallpaper was produced by hand using the block printing process. Not surprisingly, manufacturers looked for ways to speed up and simplify production.



The paper machine in a version from around 1850. It was the technical precondition for the industrial production of wallpaper rolls.

To conclude this chapter, we can mention a curiosity that illustrates how, in France (as in Italy), papermaking families had been working together for centuries and often met. Jean-Baptiste Réveillon painted the paper that decorated the first balloon to fly with human passengers (21 November 1783, Versailles) by Étienne Montgolfier (1745-1799) and his brother Michel (1740-1810).

Later, members of the Montgolfier family worked at the Fabbrica San Carlo on Isola del Liri. Lefèbvre invited a Montgolfier as well as wallpaper makers who were also students of Réveillon's methods. The families involved in

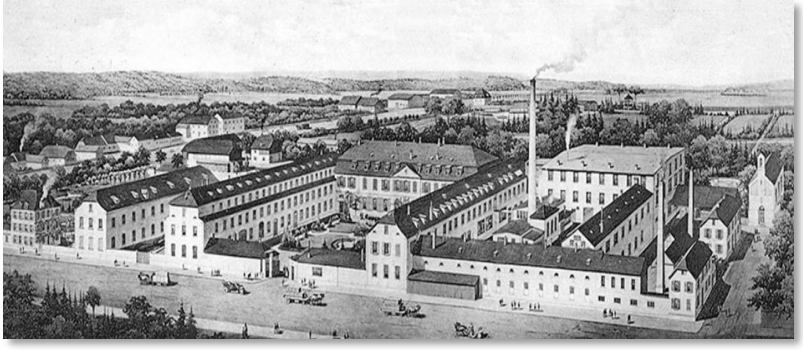
these fields formed alliances, with courses and recurrences that spanned not decades but centuries. During these years, part of the Lefèbvre family lived in Versailles, whether at court or in the houses built just outside the palace, we do not know. The memory of this event and these names, Réveillon, Montgolfier, had to be passed on in the family memory.

Model of the balloon that was first flown at Annonay and then at Versailles in 1783, decorated by the wallpaper master Réveillon with paper produced by the Montgolfier.

Chapter 2

Machine-made paper

In Alsace, Zuber started business in 1797 producing spectacular hand-printed scenic wallpapers as well as self-printing papers from machines initially designed to print light calico fabrics. The idea was progressively improved by various manufacturers.



The Zuber in Rixheim, wallpaper factory since 1797.

In particular, a number of mechanics invented the first machines that ran a series of cylinders in relief around a drum, on the surface of which designs were inked in different colours. The first designs or variants of these machines had no real authors: they were improvements on existing machines. In these models, the ink released on the drum was then transferred to the paper. Improvements continued, but the first to create a truly effective machine was Louis Isidore Leroy

(1816-1899), who patented his machine to print not only wallpaper but also textiles (e.g. curtains), with a few technical variations.

Traditional tablet printing was replaced. In 1839, a machine was invented that perfected the continuous-sheet principle of Louis-Nicholas Robert's machine. This machine, very cumbersome but very efficient, was patented by Charles Potter (1802-1872) who, with his brothers Harold (1806) and Edwin (1810), ran a wallpaper factory in Darwen (Lancanshire). Charles Potter and technician William Ross founded the Potter & Ross factory and patented the first automatic machine in 1839, using the methods and mechanisms of the plain-weave textile printing presses.[12]

With this automatic system, the paper had to pass under a large cylindrical drum, which was inked one section at a time until the general colour scheme was composed by the work of a series of rollers (up to 24) connected around its base. These were simultaneously inked with inks held in troughs or trays beneath each roller. The first wallpapers printed with this machine appeared drab and simple in comparison to the complex and refined effects of papers made with the block printing system. Many papers had floral or geometric patterns with small elements. As time went on, the machine improved and was able to print more complex patterns and distribute the ink more accurately. In any case, productivity multiplied immediately. In England alone, it went from around 1 million rolls in 1834 to around 9 million in 1860, and prices fell. In

[12] Gordon Campbell *The Grove Encyclopaedia of Decorative Arts*, Oxford University Press, Oxford 2006, p. 232. Calico is a lightweight fabric of Indian origin and takes its name from the city of Calcutta (kalikut, from which the name calicò in French and calico in Italian is derived).

less than a generation, wallpaper had become affordable to the bourgeoisie. Only the poorest remained excluded.

In 1877, Isidore Leroy invented a 26-colour machine based on the same principles as Potter & Ross. For Isidore Leroy & Fils in Paris, this was the start of a great economic boom that would lead to more than 400 employees by 1900.[13]

Isidore Leroy's 26-colour machine was based on the Potter & Ross model.

The first machines purchased by Charles Lefèbvre for his factory, calico printing machines adapted for printing on paper, could print in 4 or 6 colours. In 1852, the Lefèbvre father and son visited the Great Exhibition in London's

[13] Lewis Pyenson, *The Shock of Recognition: Motifs of Modern Art and Science*, Brill, Leiden 2020, p. 286; Virginie Lacour, *La manufacture de papiers peints Isidore Leroy de Saint-Fargeau-Ponthierry*, Somogy Editions d'Art, Paris 2010.

Christal Palace, where these machines and their products were exhibited. This certainly gave rise to the idea, fully developed less than a decade later, of founding a factory exclusively dedicated to wallpaper – whose great commercial expansion was obvious to all. To accommodate machines similar to those of Potter & Ross, built by other companies in France and England, it was necessary to construct a new building because the Manifattura del Fibreno, the Fabbrica del Carnello and the Soffondo, the three production units of Lefèbvre paper production, were already occupied by the machines and the production of various types of paper.

There were some craftsmen in Italy who produced wallpapers by the system of block printing in small quantities, using powdered wool: what was needed, besides a design and a wood engraver, were pigments, a printing press and good paper. All processed by a skilled craftsman, perhaps the most delicate point of production.

However, for a long time, Italian production did not rival that of France, England, America and Canada, and the largest production remained at Fibreno.

In the Naples area, the forerunner was the Frenchman Francesco Charavel (his date of birth and death is unknown) who in 1834 obtained a licence from the King to manufacture wallpaper with a non-automatic machine. In 1836, he won a Gold Medal of encouragement at the Public Exhibition of Arts and Manufactures on 30 May of that year in Naples for «coloured papers for decorating rooms». He worked with the Compagnia Sebezia, a joint stock company that sought to stimulate, by financing and associating with them, the most diverse productions, as did the Compagnia Partenopea. A later note in the *Annali Civili del Regno delle Due Sicilie* (Civil Annals of the Kingdom of the Two Sicilies) confirms this: with

Felice Bontour (?), Charavel appeared to be remunerated by the state for producing wallpaper on behalf of the Compagnia Sebezia. Here we are given a summary assessment of Charavel's work, which is important in our book because he is the direct forerunner, on the Neapolitan market, of Bérenger and Lefèbvre, who in all likelihood bought Charavel's engraved tablets. Thus we read:

> Painted wallpaper.
>
> We discussed this new industry at length when Mr. Charavel first exhibited it. It is therefore superfluous to remind you that this Frenchman, in close partnership with the Sebezia company, has set up here, four years ago, a production of painted papers for decorating the walls of rooms. These papers, inconspicuous at first, have become more and more beautiful and varied, so that today they are suitable for the humblest as well as the noblest homes, in every design and quality. Chemistry, painting and the mechanical arts are involved in their production, and urban politics helps them. They are not really equal to the most luxurious in France, but they are generally sufficient for common use, and are always cheaper than those of foreigners. Each of these rolls, 32 palms long and two wide, costs from 22 grana to 22 carlins, according to the amount of work involved. Those for friezes are worth 17 carlins each.[14]

This passage from the *Annali* gives us some interesting information. First of all, the use of wallpaper, which seems to have been quite widespread in Naples in the 1840s and which was suitable for "the most noble houses, of every design and quality". Since Naples is mentioned, this statement is interesting, even though there is very little literary or material evidence or remains of walls decorated with wallpaper in those years. Due to their perishable nature, there are no known

[14] *Annali Civili del Regno delle Due Sicilie,* cit., p. 79.

examples of rooms with wallpapered walls from the 1840s and 1850s, or at least they have not been surveyed and reported.

However, wallpapers were becoming increasingly popular. At the time they were still quite expensive, but Charavel apparently managed to sell them at a price that was not high (and indeed the price is given). We also learn that they were machine-printed papers, with the first 2 or 4-colour machines, adapted from the textile industry: “chemistry, painting and mechanical arts are given a hand in their production”, we read. It is then admitted that they are not of the same standard as French and English papers: “they are not really equal to the most luxurious French papers but are generally sufficient for ordinary use and are always cheaper than foreign papers”. In other words, less beautiful but cheaper. It was, however, the beginning of an industry, a proto-industry perhaps, which could guarantee limited quantities.

Antoine Bérenger (c. 1760-1823), the first founder of the Fibreno factory and the sole owner and concessionaire of the Forme factory complex and the Carnello factory for some time - before the arrival of Charles Lefèbvre and the formation of the Manifatture del Fibreno - had also attempted to organise a “French-style” wallpaper production. He had obtained a patent in 1834, allowing him to produce and market wallpaper exclusively in the kingdom. The venture was successful, but not overwhelming. To produce wallpaper in small quantities, all that was needed were boards of pear wood, which could be bought on the market at a not inconsiderable price (depending on the design), paper in sheets measuring at least 50 x 30 centimetres, and a few skilled craftsmen. It was even better if you had a 2 or 4 colour printing press. You could then produce minimal quantities that might not be worth the effort, especially if the quality was poor.

What was more expensive at the time was the availability of good moulds. Attilio Betocchi certainly refers to Charavel when he writes about a factory that had been founded in 1832 in Palazzo Barbaja in Mergellina, where a modest factory of 12 or 13 workers still survived 40 years later. It produced decorative and wallpaper in small quantities of a quality described as "inferior".[15]

Charavel's production was due to end when the patent expired in 1839 but the Frenchman managed to obtain an extension by making his geometric designs available to the King and his craftsmen.[16] Charavel's enterprise, which of course utilised the expertise of French craftsmen, lasted until around 1844, after which he left the scene.[17] The production of wallpaper was taken over, not by privatisation, but by Charles Lefèbvre with his productive power and organisation.

Lefèbvre used part of the paper factory at Forme (Isola di Sora) for the production of hand-made wallpaper at the time when Charavel abandoned the business. Such a production patent was valid throughout the Kingdom and others would not have been able to take it up: this means that until then there was no wallpaper factory in the Kingdom of Naples, and certainly not in the Neapolitan area.

The Manifattura del Fibreno was beginning to make a name for itself and marketing must have been satisfactory, even if

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[15] Alessandro Betocchi, *Forze produttive della Provincia di Napoli*, Stabilimento Tipografico De Angelis, Portamedina alla Pignasecca 1874, p. 205.

[16] Maurizio Lupo, *Il calzare di piombo. Materiali di ricerca sul mutamento tecnologico nel Regno delle Due Sicilie*, Franco Angeli, Milan 2017, p. 40.

[17] However, he seems to have been the father or more probably the grandfather of Paul Charavel (1877-1961), a painter of some renown in Marseille.

limited to the Neapolitan area. As already mentioned, at the end of the fifties (and the project was certainly delayed by the wars of independence) it was decided to build a complete factory dedicated to the manual and mechanical printing of various types of wallpaper.

The first written, and not just material, accounts of the history of wallpaper are from those very years. One was written by John Gregory Crace (1809-1889) who read *The History of Paperhangings* on 14 February 1839, a dissertation, in front of the members of the Royal Institute of British Architects confirming the growing importance of that production for decorators and architects.[18] Crace himself was an interior decorator and architect who began to make extensive use of wallpaper.

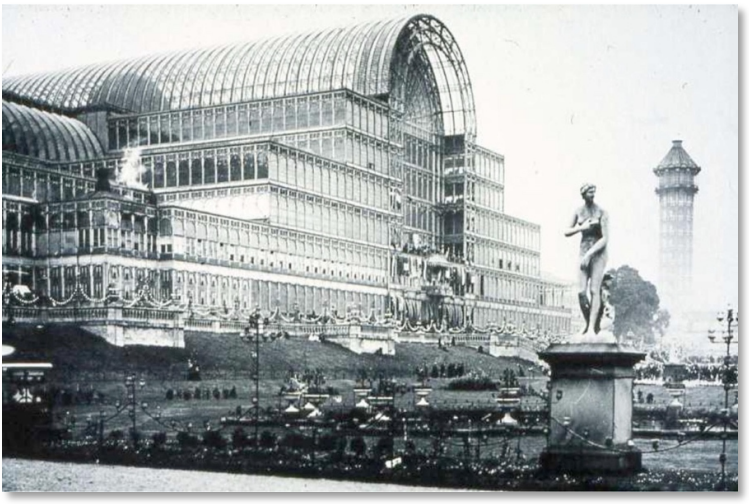
[18] Crace, "John Gregory, The Crace Papers". Two lectures on the history of paperhangings delivered by J. G. Crace to the Royal Institution of British Architects on 4th and 18th February, 1839. With foreword and comments by A. V. Sugden and E. A. Entwisle. [With illustrations, including a portrait].

Chapter 3

The paper industry after the Great Exhibition of 1851

The Great Exhibition of 1851 in London was, in its entirety, the Great Exhibition of the Industrial Works of All Nations and was therefore really an exhibition of industrial products from all over the world. Actually, not from everywhere, although it is true that a large part of Italy was not represented, since the Kingdom of the Two Sicilies, then in a trade crisis with England, was conspicuously absent, as were the Kingdom of Sardinia and the Grand Duchy of Tuscany.

Historically, it is the world's most important international exhibition of manufacturing products. Among the thousands of exhibitors were a few dozen wallpaper manufacturers. More than 50 companies specialised in this field took part, including both European and American companies. Charles and Ernesto Lefèbvre visited the exhibition as spectators and saw one of the first examples of the Potter & Ross wallpaper printing machine.



The Christal Palace at the Great Exhibition of 1851 in London, which revived the art of wallpaper.

The wallpapers on display aroused much curiosity, however, critics and specialist journalists criticised the papers of the period, judging the creativity of English papers in particular to be in full decay (French papers were less affected by the criticism). Richard Redgrave (1804-1888), at the time British Inspector General for the Arts, and designer of wallpapers, wrote an official report on the wallpaper shown at the Exhibition, in which he criticised the fact that quality was based on the number of colours used rather than on other aesthetic considerations such as harmony, design, and subject matter.[19] In other words, many papers were a display of technical possibilities and little attention was paid to the meaning and purpose of the printed images. On this occasion,

[19] Richard Redgrave was editor of the Journal of Designers and Manufactures published in London from 1849 to 1852.

the leading manufacturer of the time, the Alsatian Jean Zuber-Kahn read a *Dossier* on Wallpaper in Mulhouse.[20]

The Great Exhibition of 1851 was itself commemorated by a wallpaper that contained the very flaws identified by the critics: an aesthetically ugly subject, a perspective reproduction of Christal Palace itself. This wallpaper was in fact chosen for the exhibition *False Principles in Design*, held at the Museum of Ornamental Art (Marlborough House) in 1852. The exhibition included a rich selection of objects designed to illustrate what could be considered wrong and aesthetically ugly in design in England, such as the *Perspective Representation of Christal Palace* (Heywood, Higginbottom & Smith, 1853-1855).

[20] At the Societé Industrielle de Mulhouse, 27 August 1851, published in the Journal in the issue of 26 November 1851.

An example of bad taste for the 1853 exhibition that followed that of 1852.

Mechanised industry was seen by many critics as the basis for the decline of beauty and care in handcrafted design. The very perfection of design, uniformity, was seen as a symptom of bad taste. Cylinder printing made it possible to achieve fine details and nuances that were difficult to achieve in hand-made block printing. On the other hand, mechanised printing did not – at least initially – allow for the large, scenic compositions of many glued blocks that had been the glory of French wallpaper in the 18th century.

This ability was increasingly stifled by the need to conform to illusionist designs. The design reformers, on the other hand, felt that flat shapes, blocks of single colours and simple, repeated figures were more appropriate for wall decoration. Another reason for the lower standard of paper design in England than in France was the desire of English manufacturers to keep production costs down in order to increase profits. Here, the difference to the French, who spent on more expensive materials and more accurate manufacturing processes and also paid their craftsmen much more was directly emphasised.

Thanks to the mechanisation of the production process, producers were able to diversify their products and stimulate demand. By 1850-1860, the market had grown enormously and there were many proposals. In England, the market was dominated by revival styles and historical pastiches. The same could be said of France. Decorative elements were combined with floral motifs to create dense patterns printed in bold colours, especially mauve and various shades of magenta. Gothic and Renaissance revival styles, perhaps inspired by Raffaello's ornaments, were very much in demand and printed in very rich, saturated colours. These "energetic" and strong wallpapers, imitating the effects of leather and heavy fabrics,

were used in rooms where men were present – the dining room, library and billiard room. At the same time, however, paintings by Degas and other artists show us the exquisite wallpapers – printed by hand or machine – of Italian interiors in Rome, Milan, Florence, Venice and Naples.

Around the 1850s, wallpapers commemorating sporting events (golf, foxhunting, meadow rides, marinas with sails) or historical events (oaths, foundations, buildings, even battles) became very popular in England (less so in France and Italy). These types of wallpaper, although despised by critics, were widely used in the homes of the common people because they were cheap and because they were educational. Other themes were designed for all kinds of rooms, from those where people drank to those where erotic themes could be used with a certain modesty. In the mid-19th century, wallpaper production was influenced by a style reform movement that started in England. At that time there were many varieties and styles, including paper imitations of marble, wood, stucco and textiles. The realism of these patterns is appreciated today, but at the time architects such as Augustus W. Pugin (1812-1852) saw them as a concentration of everything that was wrong with Victorian design. Natural patterns like these, Pugin argued, were not only aesthetically objectionable but also unsuitable for decorating the interior walls of a house. Their three-dimensionality did not work on the flat surface and, according to these designers, created a bad, disturbing impression of depth that misled the eye. Pugin argued that ornaments should be preferred to realistic motifs, and this idea was very much in line with Italian taste, for example, which had already expressed itself in papers with abstract rather than realistic ornamental motifs.

The reformers argued that the decoration of a flat surface should remain flat rather than attempting to create the illusion of three-dimensionality. An important figure in the design reform movement, which would also influence Italy, was Augustus Pugin, who was also a critic of the use of perspective, illusion of depth and trompe l'oeil; he advocated the use of flat *patterns* composed of simple shapes that should confirm the wall as a wall rather than deceive, contradict or conceal it. Pugin designed wallpapers with formal geometric patterns such as cornflowers, shamrocks, heraldic motifs, flowers and leaves, often adapted from medieval patterns. Such papers were used throughout the New Palace at Westminster (1837), for which Pugin had won a competition to design both the interior and exterior, although his name did not appear as he was a Catholic. Pugin's demand for authenticity, and his belief that only flat designs could cover flat surfaces, became the basic principles of wallpaper design reform in parts of Europe, and certainly in England.

In the 1850s, ideas of design reform were promoted in England by the Schools of Design in South Kensington and, of course, by the artists and craftsmen who worked there, such as Richard Redgrave, headmaster of the school, Sir Henry Cole (1808-1882), founder and director of the Victoria and Albert Museum, and then Owen Jones (1809-1874), designer and architect. Owen Jones admired what were then considered exotic motifs – Islamic, Egyptian, but also Greek – and used them in his wallpaper designs, which he began to create in the early 1850s. He published the important *The Grammar of Ornament* (1856), which was highly regarded throughout Europe. His geometric and abstract designs surpassed those of

Pugin and were produced in large numbers by machine printing.[21]

The printed wallpapers were also expected to have a moral value, an education in beauty and virtuous behaviour. Women were reminded through magazines and books that decorating the home contributed to the education of the family, stimulating both moral and intellectual development and a sensitivity to beauty. They were advised not to indulge in deceptive decorating, which could negatively influence and even impress their children. The home was conceived as a refuge, a place of honesty, authenticity, physical and moral security, where true and solid values could be maintained against the outside world.

Throughout Europe, with the rise of the bourgeois ethos, order, cleanliness and even the moral decency of furnishings remained central, as did the increasingly popular wallpaper. Decorative strategies that relied on illusion and deception, for example by imitating materials such as wood or marble, began to be criticised. Pugin's wallpapers featured heraldic and medieval ornaments, while Owen Jones's wallpapers stylised nature by reducing flowers and leaves to symmetrical forms. This, along with the scenic wallpapers that depicted rooms and landscapes but on whole walls, was the approach taken by the French and later Italian designers working at San Carlo.

[21] Ilde Marino, *Esotismo: Architettura e arti decorative nelle Esposizioni Universali 1851-1900*, Altralinea, Florence 2016, pp. 66-74.

Chapter 4

A state-of-the-art factory

It was not until 1845 that the Manifatture del Fibreno obtained a concession to produce wallpaper. It was a general concession (and therefore not a private right) that allowed the activity to be carried out in a section of the factory in via Tavernanuova (Isola del Liri Superiore) and then, with an exclusive concession, in a purpose-built factory designed according to the most modern architectural and industrial engineering methods. The Second War of the Risorgimento, which put an end to the Kingdom of the Two Sicilies, blocked the projects for years and the owners, the Lefèbvre family, stayed away from Italy for a total of more than three years, from 1860 to 1865, but the construction of the factory began in 1861 and was completed in a short time, after which paper production began.

This was not a new field. As already mentioned, the Manifatture del Fibreno had been producing wallpaper in block printing since the 1840s. They printed two- or four-colour or monochrome patterns on rolls of paper. This method, which we have already described, produced very high quality wallpaper, but it was also very expensive because it was a slow and laborious process.

Instead, the new factory would use the latest developments in industrial machinery and mechanisation to combine hand-made and printed wallpaper, increasing the quantity produced a hundredfold.

A document from 1861 gives the company's industrial data for wallpaper up to 1859, before the factory was built. Around 1,130,000 metres of paper were produced each year in a wide variety of grades. In order to meet the high demand, Manifatture del Fibreno had until then relied on a single specialised unit, which was unable to supply the market with sufficient quantities. The new major investment has proved its worth for over 25 years.

The former Fabbrica di Carta del Liri, later Cartiere Meridionali, in the foreground and background: on the left the San Carlo and on the right the Forme complex.

The new factory, a few hundred metres away from the main one, called Fabbrica San Carlo, no longer exists today: it was entirely demolished and its bricks and stones reused by the people of Isola.

It stood about 400 metres north-east of the Fabbrica delle

Forme complex. The name of Fondo San Carlo is still recalled by a street of the same name that draws a quadrilateral closed to the north by Via Carnello.[22] In its place are now houses, car parks and lawns, but most of all a council house built in the 1970s. The photograph reproduced here shows the factory in the background. Between this long building, taken in 1901 in the photo above, and the row of council houses, are the Fondo Strada dei Gelsi and the Fondo San Carlo.[23] Probably, the white mass visible on the left was the small villa known as Trianon, which collapsed almost entirely in the Avezzano earthquake of January 1915.

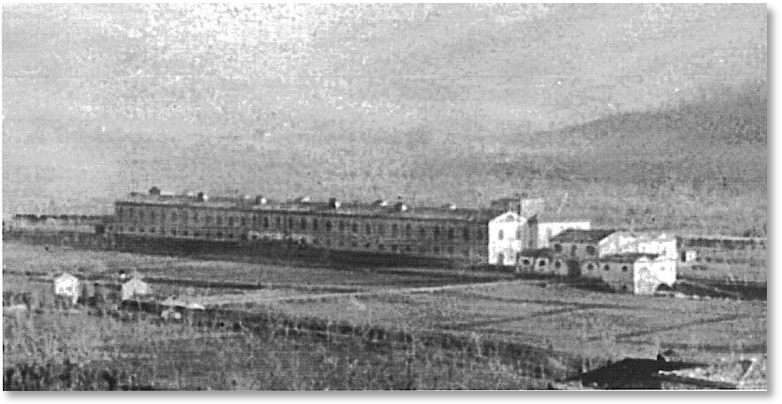
Another photograph shows us the factory, with the buildings on the left, and the boundary wall that ran parallel to the road to Arpino and that at the end already intersected with the railway yard, which divided the property from the outside. The photograph is probably taken at the end of the 19th century.[24] It is the long building in the centre of the photograph, continuing the row of trees on the right-hand side; it is the building furthest away, to the left of the dark mass of trees in Parco Lefèbvre, rather leaning against the knoll now crossed by Via Quaglieri towards Arpino. The building ran parallel to the Canale delle Forme from which it was separated

[22] Massimo Petrocchi, *Le industrie del Regno di Napoli dal 1850 al 1860*, R. Pironti e Figli, Naples 1955, p. 33.

[23] The dating of the photograph is derived from a comparison of historical photographs of Isola. The photograph shows a space between the fourth house from the left and the fifth, built at the end of the 19th century (ca. 1898-1899), where a narrow dwelling was inserted in 1902. As that house is not yet present, the photograph dates from 1900-1901.

[24] The photo wasassessed by the expert Bruno Ceroli, who recognised the absence, in the row of houses at the bottom, of the house built in 1902. Communication from Bruno Ceroli to the author: May 2018 and July 2020.

by a two-metre walkway and which, in turn, separated it from the Fondo Strada dei Gelsi.[25]



San Carlo factory probably around 1895.

[25] According to the local historian Bruno Ceroli, who has been researching the matter for a long time and is a great expert on the history of Isola del Liri, the factory was located on the eastern side of the canal that carried the water from the Fibreno river and moved the factory's machinery; according to Amleto Iafrate, author of several monographs on the industrial history of Isola del Liri and keeper of extensive documentation, it was located on the right, western side of the same canal.

Around the factory one can see some arable land and a small service house that gives access to the farmhouse on the left. The factory had a horseshoe plan, as is shown in various maps and descriptions, a plan that cannot be seen here because it is hidden by the north side. This had a length of 156.80 metres and consisted, as can be seen, of two high floors plus an attic. The south side, which cannot be seen in the photo, had the same length but was less than half the height of the first, 5.60 metres, and was arranged in three sheds as long as the first. On the right side one can see the main front behind a building that was probably the San Carlo farmhouse. The north side is set against an embankment that housed (and still houses) the Forme artificial canal. From the Forme canal the factory was separated by a walkway just over two metres wide.[26] Running parallel to the factory on the opposite, southern side was the natural Magnene stream, which had a good flow of water and was used for the discharge of processing waste (and dyes) for both the San Carlo and the Forme, and which, through underground pipes, was brought under Palazzo Lefèbvre, whose waste outlet it was.

It is also interesting to learn that the San Carlo building, inside which gigantic machines moved, was braked and strengthened (probably to protect it from stresses and oscillations dangerous to the structure) by three orders of iron chains, i.e. 30 chains attached to the building by circular cast-iron plates on the outside.[27] The Fabbrica San Carlo was gigantic and photographs unfortunately taken from a distance do not do justice to the two dimensions. It stood almost

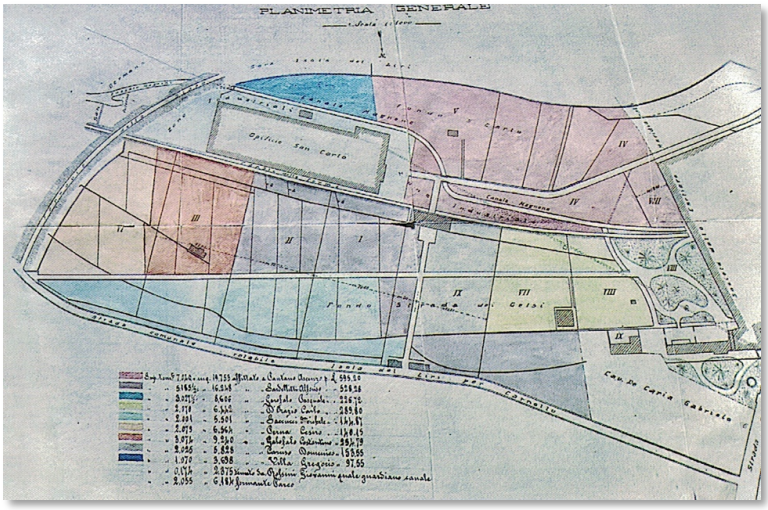
[26] Perizia de Rogatis, *Divisione eredità conte Ernesto Lefèbvre (1915-1916)*, p. 46. Iafrate brothers collection Isola del Liri.
[27] *Ibid*.

extraneous in a rural landscape still clear of buildings but harmonious.

Access was from the side of the Arpino road, on the left of the photo above, but a second access was provided, as can also be seen from the same photo, from the boundary wall and the farmhouse through the San Carlo fund. Shortly after its construction, although it is not possible to determine the exact date, the Forme factory was connected, with a private track, to the railway network, the track of which began in a large square that opened up on the rear side of the factory. This connection also benefited San Carlo, which was connected to the Forme with a private carriage road, most probably equipped with tracks, and thus to the railway connection.

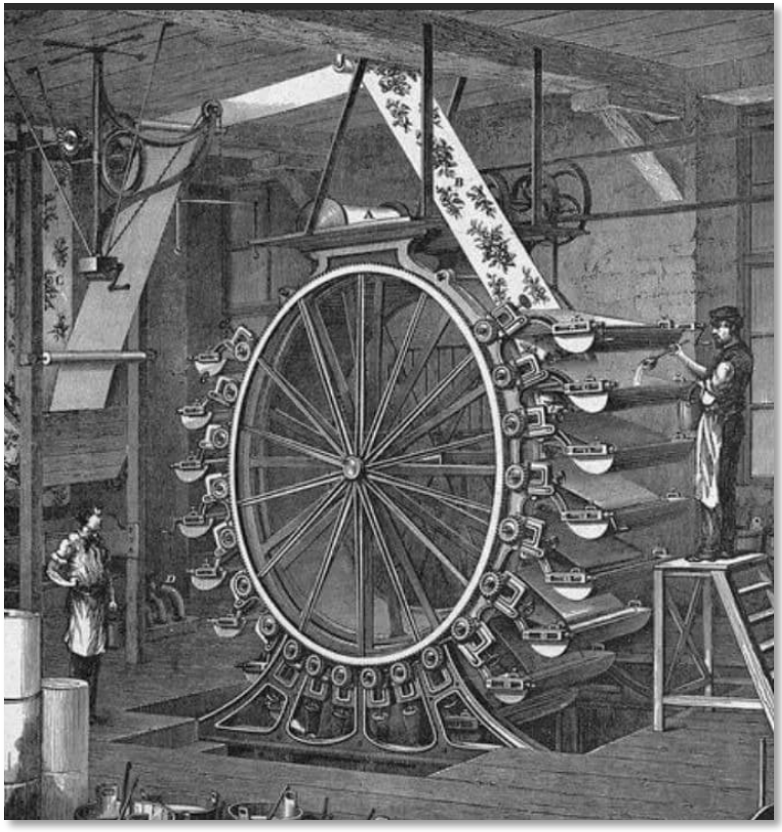
The Fabbrica San Carlo, whose name was not a tribute to Charles Lefèbvre, as we read in many local chronicles, but was due to the San Carlo estate on which it stood (together with the Montemontano estate), was served by the course of the "Verga d'oro" that flowed eastwards, a few hundred metres from Palazzo Lefèbvre. The section of buildings on the right, in the foreground, which undoubtedly contained the machinery that set up the larger machines, such as Gontani & Marten, judging by engineer De Rogatis' description, must have stood on the north side, the one shown in the photo, probably closest to the entrance.

The demand for multi-coloured wallpaper had increased due to the redecoration of bourgeois houses from the middle of the century. Furnishing fabrics, popular until the first decades of the 19th century and replaced, at various times, by very expensive coloured paintings, painted papers, had finally been supplanted by wallpapers, in increasingly elaborate colours and patterns, which began to be produced in a monochrome variety and in a two-colour variety called "mixed ground".



The San Carlo factory probably around 1890. Two almost identical copies are preserved at the State Archives in Frosinone and at the Iafrate Brothers Collection (Isola del Liri).

The factory, under Lefèbvre's management, would function producing profits for about 25 years, perhaps not enough to depreciate its value: the event that produced the decrease in its profitability was the Unification of Italy and the abolition of duties in the peninsula.



The machine produced by Potter & Ross from 1839 onwards. A similar 24-colour machine produced by Gontani-Marten in Paris would be installed at the San Carlo.

It is significant that the construction of the Fabbrica San Carlo coincided with that of the Industrie Chimiche Lefèbvre in Bagnoli at the end of his stay in Paris. This shows that, despite everything, Ernesto had great faith in the future even after the Unification, and that the promises of the new Savoy regime regarding the investments he intended to make in Naples and southern Italy seemed sincere.
Engineer De Rogatis estimated that the factory extension covered 7,740 square metres out of a total surface area of around 15,400 square metres. He described the building as "grandiose". It was 156.80 metres long and 25 metres wide. The lower part consisted of three large rooms, the central one being the largest. The two larger rooms at either end were served by large windows, while the narrower central part was probably used as a passageway for materials and men.

Along its length, the factory was lit by 28 large windows on one side and 30 on the other (the photo above shows the side with the 30 large windows). The internal layout consisted of a caretaker's room on the ground floor, a large waiting room where customers were kept waiting, and a sort of shop for small quantities with a cash register and wrapping counter.

Fabbrica San Carlo in 1884. North side. One glimpses before the building the embankment of the Forme canal, which also served as motive power for the Forme factory, about 400 metres further east.

Also, on the ground floor of the two-storey high building (pictured above) were two rooms, each 69 metres long and 19.20 metres wide, which were equal in width and length and interconnected. The first housed the Embossing Machine Hall and the second the Paper Depot. Since the picture is devoid of viewpoints, it is difficult to understand what the proportions of the building, which was very large, were. In this picture you can see fruit trees not visible in the one on page 44 (about 10 years later), when the extensive apple and pear orchards of the Lefèbvre properties began to be felled on the north side.

Embossing was a special type of calendering that made it possible to obtain a simple design on wallpaper by imprinting it with pressure. A system of drainage channels allowed waste

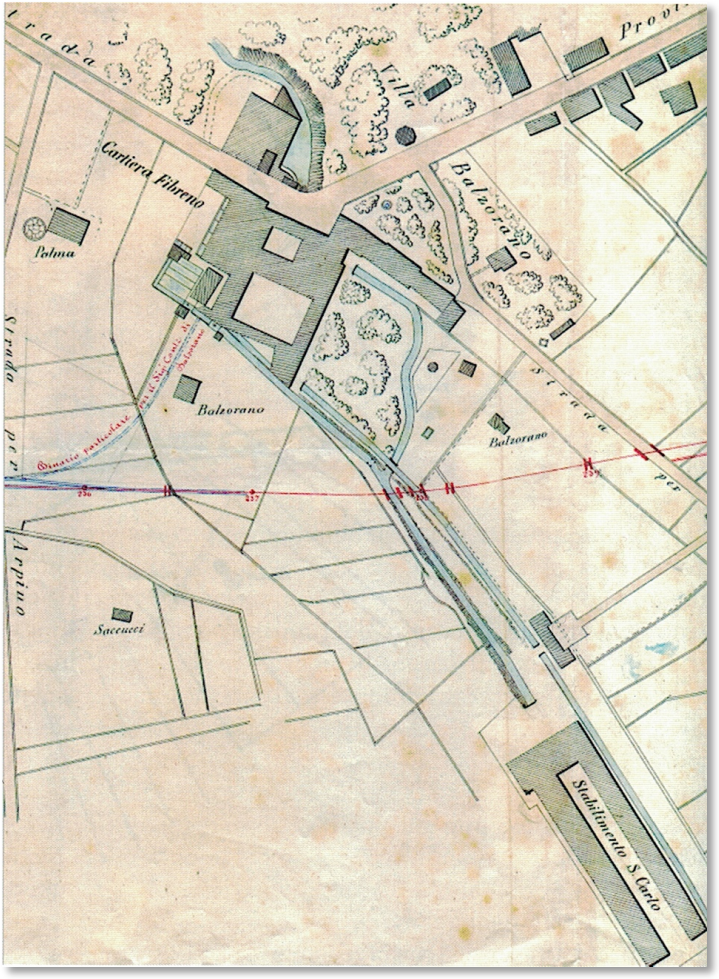
or sewage water to flow into the Magnene, which ran beneath the factory. Communicating with this system of large halls was a hand-printing room, dedicated to hand-finished wallpaper, the most expensive, intended for a demanding and limited clientele. In one of the pictures published in issue 11 of the magazine dedicated to the *Esibizione di Torino del 1884*, one can see how this machine dedicated to the complex production of hand-made paper had at least 12 stations.

To the right of the previous two divisions was a third longitudinal division with other large halls, and machines that were decidedly enormous for the time: the Wallpaper Cutting Machine Room (located in a room about 20 metres long), the Paper Drying Room, where the paper was hung out to dry after processing, and the Printing Room (with a remarkable length of 113.50 metres). This was followed by a 14.50 metre long room: the Room for winding and cutting the paper itself. These halls and rooms were completely avant-garde, similar in size to those of the large wallpaper factories in the Anglo-Saxon world, but typologically similar to those in France. Next to these rooms was a large warehouse where the wrapped and finished paper was stored awaiting shipment. In the middle of these large spaces were "compartments", smaller sections where intermediate processing steps were inserted.

The type of construction is very similar to that of the factory immortalised in 1833 by the painter Jean-Baptiste Camille Corot (1796-1875), *La casa e la fabbrica di Monsieur Henry*, which was located in Soissons. The factory at Isola del Liri is much larger, more modern, perhaps three times as big, but the long body, the elongated shape, the two storeys and the façade are very reminiscent of it.

Monsieur Henry's wallpaper and printing factory in Soissons (1833). Painting by Camille Corot. Philadelphia Museum of Art. This is a much smaller factory than similar French ones, such as Zuber or Manifatture del Fibreno.

In Monsieur Henry's factory there were no automatic printing presses yet: processing was done by hand. Therefore, the dimensions were smaller. But one can already notice the factory typology, which tends to have a wide front, an elongated body and other buildings juxtaposed around a courtyard. The villa on the left is very reminiscent of Villa Lefèbvre (today Villa Nota) built in the same period as San Carlo.



Fibreno complex: at the top the Forme, the system of canals and roads. The San Carlo plant is shown with two equal wings, but the south wing was much lower.

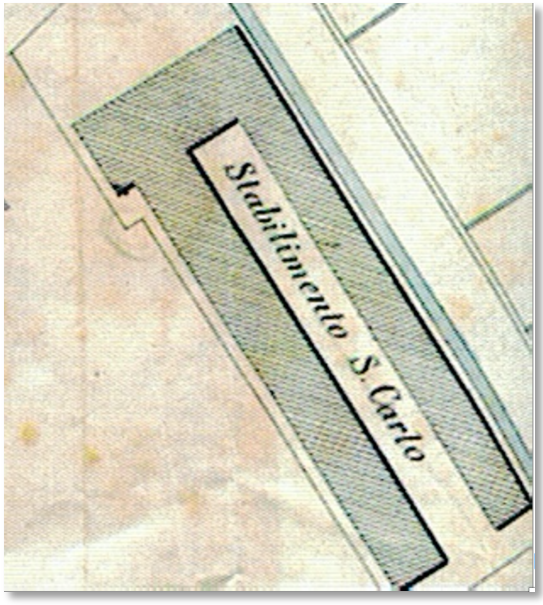
Fabbrica San Carlo in 1884. Facade and entrance from the west

The exact layout of these halls can be reconstructed from the description in the Perizia de Rogatis, reproduced in the appendix to this text. In the picture above, in addition to the main building, about 160 metres long, which housed all the main processes, we can clearly see four other long, lower halls for secondary processes, which were connected to the main building by a building that must have contained a large entrance hall and offices.

From the Press Room there was access through a compartment to the “Compreso per il lavaggio dei feltri”, where the felts used in the daily work were washed. In this room, which required a great deal of water, clean water from the Fibreno River was brought in through large pipes with an intake from the nearby Forme Canal and then discharged through a system of shafts into the Magnene, which, as we

have said, ran underneath the factory. Fundamental was then the structure that housed the dynamo and turbine for the production of energy that was transmitted through a complex system of axes and gears to the factory machines.

The building was completed on the ground floor by a large hall (19.50x5.50 metres), known as the carpentry and dispatch hall, where the rolls of wallpaper were packed and transported on trolleys to the wagons and then to the railway carriages. The factory also had a complete mechanical workshop, which made it completely self-sufficient in terms of breakdowns and the replacement of parts for normal maintenance and more.



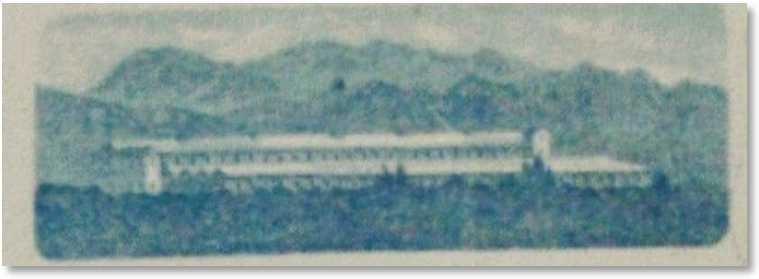
Detail of the San Carlo-Fibreno Factory showing the horse-shaped plan and the presence of the Forme canal on the north side, and the large loading and unloading yard on the east front. The Magnene, on the south side, is not depicted here. It may be that at this date it had been forced underground to the front of the factory where it came into view again.

The Lefèbvre family always made sure that they had the best technicians in their factories, who could quickly carry out repairs that would otherwise be impossible, and even make the necessary parts that would otherwise have to be ordered abroad, with very long waiting times and exorbitant prices, because they were not in series production and had to be specially made. In this way they avoided the very costly production stoppages that were common in factories at the time. For this reason, a forge was set up, complete with all the equipment needed to make the moulds, cast iron, steel and cast iron and mould the necessary parts. The workshop was equipped with the most modern equipment of the time, such as extraction hoods to prevent the harmful accumulation of fumes and acids, fans, bellows and probably refractory materials such as special ceramics. This policy of self-sufficiency was a characteristic of Charles and was followed by his son Ernest. There is a picture, reproduced here, of a postcard showing the factory. It is understood that at some point the factory acquired an autonomous legal personality as the Società Anonima per la Fabbricazione delle Carte da Parati.[28]

[28] This circumstance still requires further investigation, which has not yet been found.

Postcard showing the appearance of the Fabbrica San Carlo-Fibreno from the south. A close examination reveals the tall factory building on the north side and the three low sheds of the same length, on the south side.

The picture is very damaged but gives us some very important information about the structure of the factory that can only be appreciated by enlarging the details. As can be seen, the factory was very large: the north section, facing the hills, two storeys high plus attic was flanked by four lower sheds and a very high entrance that contained the offices.



Unfortunately, the postcard is badly preserved, but the outline of the factory and its size are evident.

Other rooms were the home of the caretaker, who lived permanently in the factory with his family, and the very important Grinding Room, where iron or lead printing cylinders were regenerated. Also on the ground floor was a very large mixed wallpaper printing room, a good 79 by 5.50 metres long (it occupied half of the south side of the building), which housed a special machine that handled several colours and several passes of colour to achieve particular effects: the large Gontani & Marten machine was housed here.

There were also various storage rooms for new paper and moulds. The upper floor of the façade (east side) was occupied entirely by offices where draughtsmen worked. Regarding these, a draughtsman from Udine is mentioned, named Simonetti, who appears in the documents without any other – at least for the moment – details.[29] There were technical, commercial, sales and management offices, where payments were made, customers were invited, telegrams were sent, letters and invoices were written. There was also a large loft used for storing objects and material of minor use. Around 1880 (the testimony is from 1884 in *L'Illustrazione Italiana*) the Fabbrica San Carlo was joined to the Stabilimento delle Forme by a telephone line.

As you can easily estimate from this description, the Fabbrica San Carlo was very modern and had been built using the most advanced architectural solutions designed for industry at the time. Its elongated, rational shape made it, from an industrial point of view, absolutely efficient. The large, high windows, more than 20 on each side, made it bright.

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[29] Amleto Iafrate, *Collezione dell'Avvocato Amleto Iafrate. Pamphlet illustrativo. Isola del Liri e le sue industrie. Profili storici e note critiche*, Isola del Liri 2018, no page but still in the section commenting on panel 22.

In this it was very similar to the slightly smaller Fabbrica Chimica Lefèbvre, so much so that, if the architect was not the same, the criteria adopted were. Although a few paper factories had already developed in the Liri Valley, nothing of the kind had yet been seen and it was only later that the large paper factories that would survive the Lefèbvre would arrive. Not even the Fabbrica di Carta del Liri, which later took the name Cartiere Meridionali, had the Cartesian modernity of Ernesto Lefèbvre's San Carlo.

Of course, we do not know who produced the wallpaper that inspired Adriano Cecioni (1836-1886) for his *Interno con figura* (*Interior with Figure*) dated 1867, but it was precisely the type of wallpaper that at least 75 per cent of Italy's wallpaper was produced by the San Carlo factory: a geometric pattern in bright colours that was very popular in France and Italy at the time, while other motifs and colours were preferred in England.

Chapter 5

Technical Progress

After combining manual and mechanical production, Fibreno began to improve its technical equipment. Around 1880 it bought a machine very similar to the model developed by Potter & Ross and later Leroy but built by the Gontani & Marten workshop in Paris. It was a 24-colour machine, very expensive and unique in Italy. It was also one of the largest in Europe, surpassed only by a single 24-colour machine from the Leroy factories. This is the description of the machine, which contains a lot of interesting information:

This machine, the latest model, is of astonishing perfection; it consists, among other things, of a 10-metre circumference impression drum around which the rolls of raw paper ready for printing are wound. Depending on the design to be produced and the number of colours required, from 1 to 24 engraved cylinders, with diameters ranging from 14 to 23 centimetres, are systematically arranged around the drum. As the design evolves, these engraved cylinders are mounted on mobile shafts supported by bronze bearings, at the end of which is a gear that acts on the large cast-iron regulating wheel, which is used to precisely move the cylinders once they are in place. The large machine is surrounded by metal trays containing the inks, through which passes an endless felt, or sleeve as it is called, which rotates on small rollers and adheres to the impression cylinder, which feeds it with the ink it has absorbed. The trays are mounted on mobile chambers attached to the machine and equipped with a differential screw that serves to move the trays in

all directions, according to the resistance of the design to be printed.[30]

After printing, the paper, which is still damp from the ink it has absorbed, is moved automatically over a mechanical drying rack, where it travels 100 metres on an endless chain system with gripping bars that form a monorail, at the end of which it stops completely dry. It then passes through a device that cuts it to the required length and rolls it up into many rolls, which are then transported to the warehouse to be packaged and shipped.

This colossal machine, the only one of its kind in Italy, produces 1200 rolls a day, each eight metres long. It requires only twelve operators and has the advantage of being able to print the whole design in one go, which, due to the variety of colours, would have to be reprinted five or six times, depending on the number of colours, if it were done by any other machine or by stamping, thus increasing five or six times the labour costs and the time needed to produce the corresponding number of rolls.[31]

As you can see, the cylinders for machine-impressed tapestry papers played an important role. They required a process that was no less delicate than that of the hand-made moulding tables. Made of strong, homogeneous wood, sometimes brass, they were all crossed by an internal board that protruded from the base like a pivot so that they could be

[30] On the machine model and manufacturer, see Raffaele Erculei, *Le carte decorative artistiche del Fibreno*, in «L'Illustrazione Italiana», Treves, Milan 1884, p. 135. The machine still present, rusted but no longer working, is mentioned in the *de Perizia de Rogatis* of 1915 but without mentioning the model.

[31] *Memoria degli Amministratori dello Stabilimento del Fibreno al Ministero dell'Agricoltura Industria e Commercio*, cited by Amleto and Edmondo Iafrate, *op. cit.*, pp. 111-112. The document would appear to be a memoir submitted to compete for a prize of encouragement, present in the Iafrate Collection. The description continues but the other information is less interesting.

supported and aligned with the machine.

They were first machined on a lathe to achieve perfect cylindricity, and then the engraver embossed the design, or part of it, to be printed on their surface. With a length of 48 to 50 centimetres, their diameter usually varied from 10 to 40 centimetres, depending on the development required to ensure the continuity or repetition of the design without gaps or interruptions.

Cylinders made of wood were the most commonly used because they were easier to use and offered a greater variety of designs; they were also made in the same way as mould tables and, like the latter, could contain metal, brass or copper parts to reduce the engraver's fatigue or outline felts for coloured solids; brass cylinders were initially used only for striped tapestries (parallel lines, large and small stripes, punctuation), engraved on a lathe with a punch, and later for less basic designs using the nitric acid engraving technique. The cylinders, like the plates, required a great deal of care in their cleaning and storage in a dry and semi-dark room, the former resting on their pivots and shelves, the latter on shelves. The former were enumerated according to the quality required to impress a complete design.

In the following image, a painting by Adriano Cecioni (1836-1886), behind the open door in the vestibule, another wallpaper with flowers on a pink background can be seen. The house depicted is a bourgeois home of dignity and a certain wealth, but certainly not a luxurious one, as can be seen from the state of the door, which Cecioni realistically depicts (it looks old and dilapidated), and the type of chair. The painting shows that these furnishings were accessible to the less affluent middle classes.

Apart from Cecioni, another artist who frequently depicted bourgeois and upper-class interiors in Umbria was Silvestro Lega (1826-1895).

Interior with figure of Adriano Cecioni, 1867.
Gallery of Modern Art, Rome.

Silvestro Lega, *Due bambine fanno le signore* (c. 1873). Private collection, Matteucci Institute-Viareggio. The wallpaper adorning the background was typically used in Italy and France and is now considered "Italian style".

The wallpaper that adorns the background is of the "arabesque" genre typically used in Italy and France since the 18th century; this in particular is now called "Italian style".

These were elegant motifs often treated in ochre colours that imitated gold. Sometimes they were also treated with wool powder. The design can best be observed in the following detail. The modern paper reproduced from originals found in grand palaces, represent exactly the type of wallpaper that the experts at Fibreno reproduced, taking them from the best examples in palaces in Naples, Rome, Florence and other places in Italy.

Detail of the painting by Silvestro Lega, the paper with damask design typical of the Italian taste in the second half of the 19th century can be seen better.

An example of an Italian-style paper produced today in imitation of the ancient paper of the 19th century. The pattern could be reproduced with block printing or with wool powder.

The draughtsmen

But who were the draughtsmen, engravers, technicians and craftsmen that the Lefèbvre employed in their factory? Charavel's privatisation prevented the development of a large-scale factory, but when, from 1840 onwards, Fibreno began the actual production of wallpapers, the technical and artistic manpower necessary for the development of that industry was

almost completely lacking, so Charles Lefèbvre was forced to bring in artisans from France, even if there is evidence of the presence of Italian draughtsmen such as a certain Simonetti, of whom nothing else is known. Unfortunately, at the moment, we do not know the names of these true artists of drawing and craftsmen skilled in carving wooden tablets (it may be, indeed it is almost certain, that a certain number were purchased from France).

We know from later testimonies (*L'Illustrazione Italiana* No. 35 of 1884) that some of them were sent to the great aristocratic palaces of Rome (but presumably also Florence and Rome) to reproduce the designs of the wallpaper fabrics that adorned those places. They certainly received good pay in Isola del Liri. However, as far as documentation is currently available, we do not know their names. They certainly had a department or drawing room for their work at the front of the factory, presumably in large, well-lit rooms.

Example of a drawing by William Morris.

The writer and designer William Morris is much remembered today for his wallpapers. He designed 50 different variants used in England and elsewhere and his influence was lasting. It is believed that his work represents a kind of compromise between the styles of the 1850s and later. Morris avoided the three-dimensional effects that were so fashionable in the mid-century, but neither did he apply the geometric severity of design reformers like Pugin. Where Pugin and others rendered nature abstract by following a series

of rules and formulas derived from historical examples, Morris's abstraction, on the other hand, stemmed from his direct observation of organic forms: flowers, animals, trees. He was inspired by their harmonic curves and repeated patterns. Instead of exotic flowers, which were very popular with manufacturers, Morris preferred to use designs of common flowers that could be found in the countryside. One of Morris' most popular designs was Trellis (1864), which imitated a trellis supporting roses. Motifs of this kind were considered less than elegant in Italy, and the examples we have in Italy point out that the sister nation in terms of taste and motifs was France.

Trellis by William Morris (1864). Imitation of a rose trellis popular in England, less so in France and Italy.

Around 1870, wallpapers began to be produced that changed the pattern at a certain height to make the wall less monotonous and to avoid having a single pattern for every wall. Around 1880 this solution was adopted in many parts of Europe and also in Italy. We have no examples from San Carlo at the moment.

Detail from a black and white illustration by Ximenes. Example of a San Carlo-Fibreno pattern (taken from No. 35 *L'Illustrazione Italiana*, 1884).

Wallpaper for children's rooms

As the wallpaper market expanded, the idea was to specialise production by creating motifs suitable for living rooms, reading rooms, children's rooms and dining rooms. In England, motifs designed by Walter Crane (1845-1915), among others, are

remembered. One is often reminded of his *Bella addormentata* (*Sleeping Beauty*, 1879), which had qualities of beauty and didacticism. It became a classic not only in England but also in Italy, where wallpapers for children's rooms became popular. The refined and delicate design was accompanied by a theme suitable for children's rooms: *Sleeping Beauty* encouraged sleep. Wallpapers were also extremely practical because the oil pigments they were made with could be washed, or at least rubbed with a damp sponge, without damaging them. They also did not contain arsenic, a substance that had been widely used in the manufacture of paints for reproduction on printed fabrics and to fix the colours of wallpaper. The use of the insidious arsenic lasted from the early 19th century until around 1870, when its danger was finally recognised.

It took many deaths and poisonings, especially of children, to realise that these types of pigments were very dangerous. Growing public concern about the dangers of these wallpapers led manufacturers to develop products free of toxic substances. *Sleeping Beauty* was included in the wallpapers produced by Jeffrey & Co. around 1885 under the brand name Patent Hygienic Wallpapers.

As far as Italy and Naples are concerned, examples of late 19th-century wallpaper in a Neapolitan interior are some paintings by Gioacchino Toma (1836-1891), such as *La lettura* (*Reading*), which shows a woman reading in front of a wall covered with a geometric pattern typical of bourgeois homes. This type of drawing was particularly fashionable in the last quarter of the century. A long series of studies in recent decades has shown how, in Europe, the wallpaper chosen by women was associated with particular domestic virtues related to childcare, the role of mother and wife and "angel of the hearth". Some of the production, with its colours and motifs, followed and promoted precisely these roles.[32]

[32] Barbara Welter, *The Cult of True Womanhood: 1820-1860*,

Gioacchino Toma, *La lettura* (c. 1873).
This painting shows a Neapolitan interior.
Lucca, Lorenzo Pacini Collection.

«American Quarterly» No. 18 (1966), pp. 151-174; Welter's article is considered pioneering in a way and has inspired many studies on the domestic ideals associated with wallpaper in France, England, the United States and also in Italy. The literature on women's domestic life in Western Europe is very extensive to cite. The following studies can be cited for other countries, but with conclusions that can largely be applied to Italy as well: Bonnie G. Smith, *Ladies of the Leisure Class: The Bourgeoises of Northern France in the Nineteenth Century,* Princeton University Press, New Jersey, 1981; Erna Olafson Hellerstein - Leslie Parker Hume - Karen M. Offen, editors, *Victorian Women: A Documentary Account of Women's Lives in Nineteenth-Century England, France, and the United States*, Stanford University Press, Stanford-Los Angeles 1981; Patricia Branca, *Silent Sisterhood: Middle-Class Women in the Victorian Home*, Pittsburgh 1975. Whitney Walton, "To Triumph before Feminine Taste": Bourgeois Women's Consumption and Hand Methods of Production in Mid-Nineteenth-Century Paris, «Business History Review», Volume 60, Issue 4, Winter 1986, pp. 541-563.

Chapter 6

The Milan Exhibition of 1881

After the excellent auspices of the Naples Exhibition of 1873, the first real national limelight was won by the Fabbrica San Carlo-Fibreno at the National Exhibition of 1881, the first national exhibition to all intents and purposes after other exhibitions which, although sometimes filled with proposals and exhibitors, lacked the national or international scope and breadth. The 1881 Milan National Exhibition (May-November 1881), also known as the Esposizione Industriale Italiana (Italian Industrial Exhibition), followed the much smaller one that had been held in Florence in 1861, the year of the birth of the new unified Kingdom of Italy.[33]

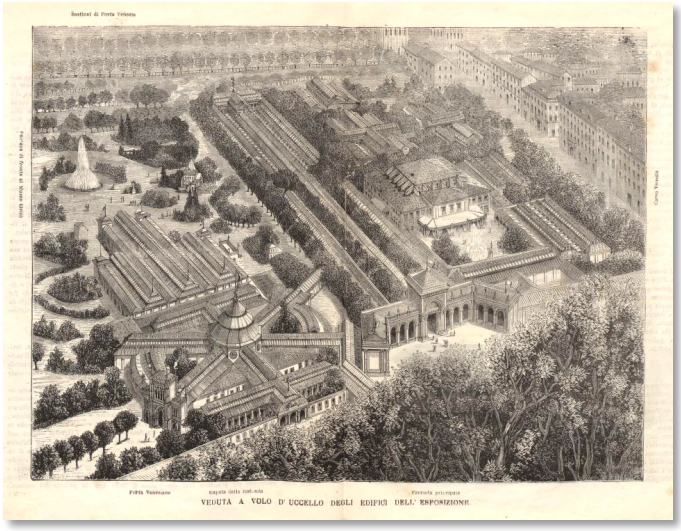
The Fibreno first appeared on the domestic market, immediately showing the ambition of its owner, Ernesto Lefèbvre. What the company's shop window looked like is told to us by two journalists sent on site who walked through the Galleria della Carta. So wrote the chroniclers Silvestri and Marcatili:

[...] all that remains for us is to enter the Rotunda and immediately pass into the room that opens in front of us, containing

[33] For a comprehensive overview of the organisation and layouts see Francesca Zanella, *L'esposizione nazionale di Milano 1881. Gli strumenti della rappresentazione: architettura, ordinamento, allestimento*, in Arte Lombarda, Nuova serie, n. 160, 3, (2010), Università Cattolica del Sacro Cuore, pp. 73-93.

paper and upholstery products. What seduces us in this room is the display of paper and tapestry imitating satin and silk. There are, in this genre, pieces of paper magnificent for their various colours, for their truly artistic designs, and above all for the complete illusion one feels when seeing them. On the right, the vast and elegant showcase of the Fibreno factory owned by the Count of Bassorano [sic] in Isola del Liri, stands out. There is wallpaper there worthy of covering the walls of aristocratic parlours. On the same side, a Milanese firm, Carlo Oggiono, occupies a vast space on the wall with its manufacture of paper upholstery of all kinds [...]. The paper industry in Italy is becoming increasingly important. We have 3,900 factories; forty-eight million pieces of paper are produced each year. Eighty thousand quintals of paper are exported every year.[34]

[34] *Alla mostra industriale. Galleria della carta, Milano e l'esposizione italiana,* No. 12-13, August 1881, Treves, Milan, p. 90. On paper production in Italy, the chroniclers exaggerated the number of factories: most of them were small, the largest being the Fibreno, the Binda, the Maffioletti, the Jacob, the Rossi di Alserio, the Cartiera di Vaprio d'Adda and a few others. See my *Storia dell'industria della carta in Italia*, forthcoming.



Top view of the Milan 1881 Exhibition.

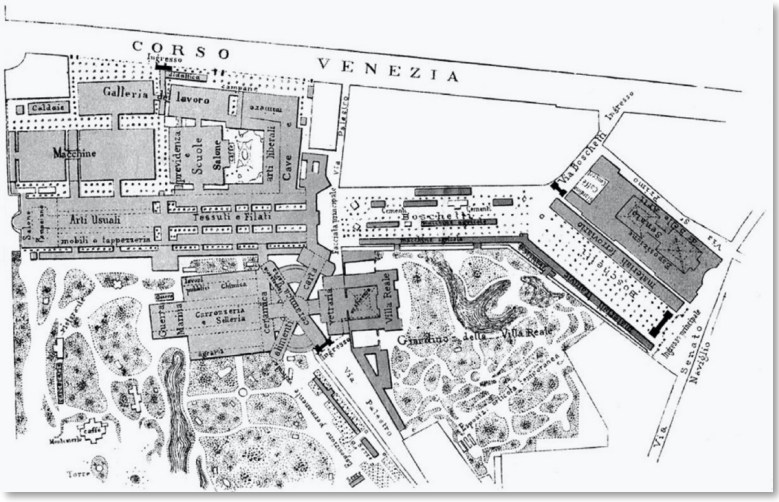
It does not appear that the Oggiono tapestries had a long history as they did not appear again in later years. In the rest of the room, there were exhibits by well-known paper manufacturers such as Binda and Maffioletti. On this occasion, Lefèbvre was also present as a paper manufacturer, but it seems that most of his effort was in promoting wallpaper as his paper production – of which samples were certainly also on display in that room – was already well known nationwide. In any case, a writer who visited the exhibition, Angelo de Gubernatis (1840-1913), the author of many books, in a letter sent to the Corriere della Sera expressed his thoughts on the beauty of the paper of the Fibreno factories and the poor quality of the paper of the books published in Naples, deducing that this paper was mostly exported, a thought that was true.

The paper that the Stabilimento del Fibreno on the Liri Island makes is very beautiful. How is it that books and newspapers in the

Neapolitan area are then printed on paper that is generally so ugly that it looks like waste? This means that the Stabilimento del Fibreno does not sell its best products in the Neapolitan area; and this is a pity; because, in taste as in all other good things, since there may be a correspondence between the material and the moral fact, the meanness, the carelessness that is put into printing the book is also, more often than not, kept in making it: so that there is no possibility of comparison between Italian literary production and that of the rest of Italy.[35]

Aside from recognising the industrial power of the Stabilimenti del Fibreno, De Gubernatis highlighted a true and dramatic fact: the collapse of book production and the crisis of Neapolitan publishers that was forcing paper manufacturers to change their traditional sales base. The Fibreno paper factories had been exporting for many years, even abroad, but during the 1870s they had accentuated this tendency to internationalise their market. At the Milan Exposition of 1881, however, Ernesto Lefèbvre of Balsorano was awarded the Gold Medal for *Sezione XIII carta cartoleria e arti grafiche.*

[35] *Milano e l'Esposizione italiana* No. 14-15, Treves, Milan 1881, p. 118, (the name change from Isola di Sora was in 1863)



Plan of the Milan Exhibition 1881.

It was generally agreed that he was the best exhibitor in the south. In italics, signed by Raffaele de Cesare, a well-known writer who could not be accused of parochialism, he described the situation in dramatic terms. The article, which appeared in issues 33-34 of *Milano e l'Esposizione*, lamented the absence of significant southern exhibitors at the Milan exhibition. There were 700 in all, but only about twenty could be considered important, and among these were the Stabilimenti or Manifatture del Fibreno, the most important of all. The Manifattura del Fibreno was exhibited in two locations, with a large display case (probably the same or very similar to the one of 1884) in Gallery XIII, the right wing of the Rotonda.

The chronicler and commentator notes that some of the exhibitors stood out: «an example of these great achievements can be seen in the splendid exhibition of the Fibreno factory, whose paper wallpapers are a real revelation and a commercial success». In short, people were astonished that wallpaper

could be produced in Italy at the level of French wallpaper. The commercial success, the effects of which we can only measure indirectly – over the next three years Fibreno grew and invested again – was also due to the fact that paper of this quality cost much less than imported French paper of the same level. These were the reasons given by Ernesto Lefèbvre, who had always wanted to be present at the Milan, Naples and then Turin Expositions, when he was awarded the gold medal of the Exposition in his category.

Meanwhile, in the large building in Naples and in the villa built in the 1860s in front of the Manifatture del Fibreno on Isola del Liri, illustrious and less illustrious guests were able to admire an extensive collection of wallpapers produced by the factory, of which a small but notable collection remains in the latter building, Villa Lefèbvre, now known as Villa Nota.

The villa where most of the surviving wallpapers produced by San Carlo-Fibreno remain today.

Chapter 7

The San Carlo in 1884

The importance of the Manifatture del Fibreno in the latter part of the century is evidenced by its success at the Grande Esposizione di Torino in 1884, which crowned the one in Milan three years earlier. There is an article on this subject in issue 11 of *L'Esibizione di Torino del 1884,* which should be quoted in full:

"Among the industries flourishing in Italy and of which the present exhibition shows us the degree of refinement and prosperity they have reached, that of tapestry paper is certainly among the first. The Fibreno exhibition is there to testify to the great step taken on the road to progress by this important branch of the decorative arts. The imitation fabrics, leather, brocade and velvet are of an unmistakable elegance and beauty. The wallpapers on bronzed backgrounds are admirable for the intonation of the colours superimposed with delicacy of ornamentation and artistic taste - in addition to the luxurious papers, we have observed more usual articles offered at a remarkable good price. The upholstery paper factory, the first to be founded in Italy, was set up, together with the paper factory, in 1806 by Mr. Carlo Lefèbvre, Count of Balsorano, in Isola del Liri, a pleasant town in the province of Caserta.

As machine processing was not yet known, the papers were all made by hand with printing, a system that is still used today only for luxury papers.

Production was very limited at that time, and it was not until a number of years later that the ever-increasing development of that industry reached the important proportions of today's processing.

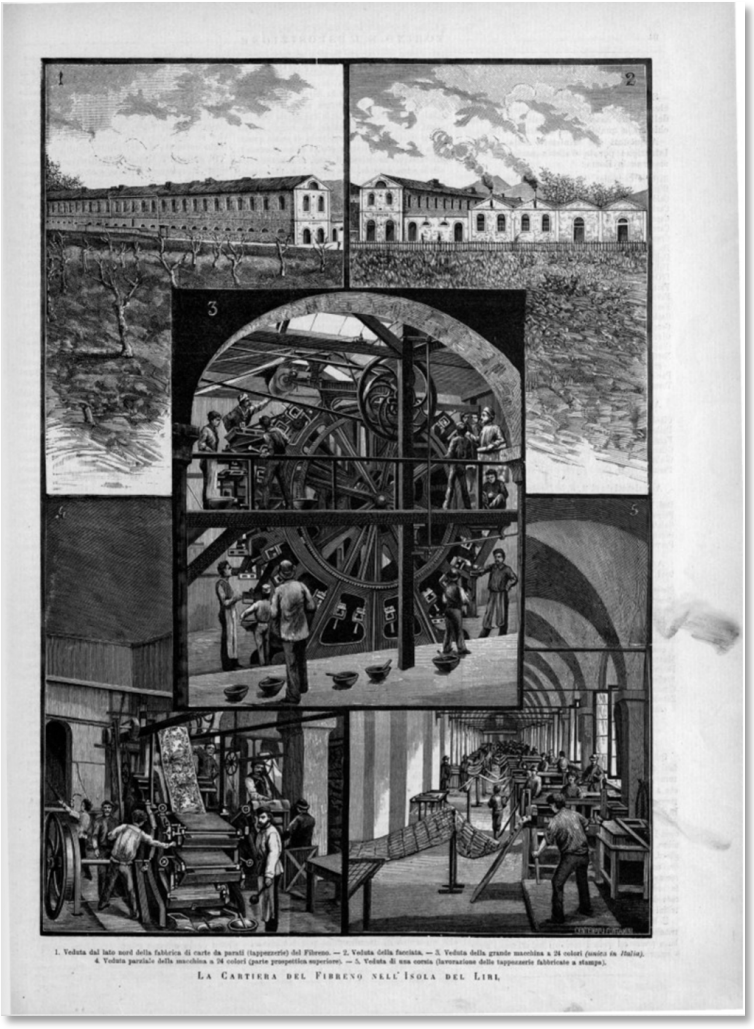
At that time, 3,000 rolls of paper were produced per month; now 150,000 rolls, representing 60,000 kilograms of madder paper, are printed and sold each month in Italy and abroad. Importing, which used to take place on a large scale, is now reduced by three quarters. The present factory operates on an area of 250 (25,000) square metres, and the number of workers especially employed in wallpapering is about 300, to which must be added that of engravers, blacksmiths, turners, mechanics, masons, etc., not counting the workers employed in the construction of new factories, required by the daily workload. – Eight roll-printing machines are in full operation, in addition to the ancillary machines for stamping, satin-finishing, imprinting, rolling, etc. Among the machines, the one that imprints 24 different colours is remarkable, the largest that has been built so far, and the only one existing in Italy – A paper factory with 5 paper machines, owned by the same industrialist, supplies the wallpaper factory with raw paper, constantly employing two machines day and night for this purpose. Over 600 workers are employed at the paper factory. A telephone service operates between the two factories. An elegant building, equipped with the most powerful mechanical defibrators and recently built, supplies the paper factory with wood pulp for the manufacture of paper, and a chemical factory, owned by the same owner in Bagnoli near Naples, supplies it with soda salts, alumina sulphate, alum, Prussian bleu paste, iron sulphate, sulphuric acid, and other ingredients necessary for the manufacture of paper. So it is the case that the owner of these factories is both producer and consumer of his products; one factory produces the raw materials needed by the other, thus securing a part of the trade. This explains the good market prices, and it is not surprising that the Fibreno factories have already received several honours at previous exhibitions, especially the ones obtained abroad at international exhibitions (Paris and Philadelphia), and the gold medal obtained in Milan in 1881, where Fibreno was, as always, the leader in the manufacture of decorative papers.

In order to serve customers in every region of Italy, these factories set up vast warehouses for the sale of their products in

Milan, Rome and Naples, as well as representative offices throughout Italy, and special houses in Palermo and Messina.

Our engravings on page 93 reproduce some views taken from the photographs displayed in the splendid exhibition that House Fibreno formed in the Paper Gallery (at the Chemical and Extractive Industries Section) at the Turin Exhibition, and from which the reader will be able to deduce the importance of the House we have entertained, and which has so many titles to the credit of Italian industry.[36]

[36] *Le carte da tappezzeria. Gli stabilimenti del Fibreno in Isola del Liri (Caserta). Torino e l'esposizione italiana del 1884*, p. 101.



L'Esposizione di Torino del 1884, periodical, No. 11, p. 110.
Interior of the Fabbrica San Carlo.

The anonymous article that appeared in the official journal of the *Esposizione di Torino del 1884* contains a lot of interesting information. First of all, the size of the workforce,

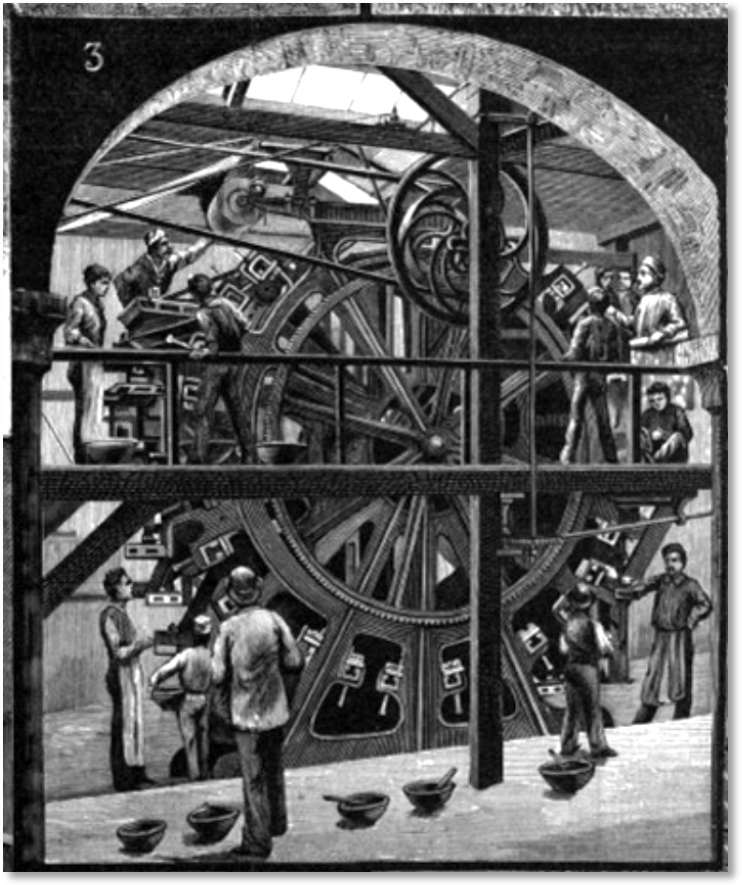
which appears to be very high: 300 workers plus the number of specialists, which certainly amounted to a few dozen. According to Alessandro Betocchi, the factory employed 400 workers in 1874 and created wallpaper worth half a million lire a year. Not only that, the factory was «in the opinion of competent men among the first, not to say of Italy but of Europe».[37]

From a social point of view, San Carlo was a production unit of the Manifatture del Fibreno, which, with the Carnello and Forme units employing about 300 and 400 workers respectively, must have had more than 1,000 workers. If we take into account the induced industries, we can estimate that about half of the population of Isola del Liri Inferiore and Superiore depended on the Lefèbvre factories at that time. The rest was divided between the rather large Liri factory, founded in 1844, and the other paper or textile factories, such as Mancini or Ciccodicola.

At the Lefèbvre factory, wallpaper was produced using two systems: the 18th-century system of printing with plates or boards (block printing), which is evidenced by the article (manual production), and the machine system. This can be seen in the engravings of the *Esposizione di Torino del 1884*. The following image shows the large drum machine for 24-colour wallpaper printing, invented in 1859. By 1884, the machine installed at the Fabbrica San Carlo was the only one of its kind in Italy. It produced large quantities of wallpaper with very complex designs. As you can see, its operation alone required the work of about ten workers. The machine was

[37] Alessandro Betocchi, *Forze produttive della Provincia di Napoli*, Stabilimento Tipografico De Angelis, Portamedina alla Pignasecca 1874, p. 205.

about 10 metres high, moved by hydraulic power and operated on two floors of the factory.



Fabbrica San Carlo in 1884. The large drum machine for printing 24-colour wallpaper, invented in 1859.

The following engraving shows the “upper perspective part”, i.e. the upper part of the machine, manoeuvred by a group of workers placed on a platform at a height of about 3 metres. They had to pick up the printed roll and detach it, probably every 10 metres or so. The image allows us to appreciate the size of the paper, about 60 centimetres, which was wound in rolls, and to distinguish a floral design.

The “upper perspective part” or top part of the 24-colour machine.

As can be guessed – even knowing the working principle of the machine – the paper roll ran and was imprinted with a different colour on each of the plates shown, which were approached on the paper from top to bottom. The workers had to be constantly careful to keep the plates on which the engravings were placed wet with ink in the different colours. Generally – this was an indication that came from the machine

factory itself – they tended to use fewer colours than possible. Probably the average production of Lefèbvre papers used a dozen colours in this type of production, occasionally more.

Apart from the aforementioned Prussian blue, the Chimica Lefèbvre in Bagnoli certainly produced red and brown, with iron sulphate, and probably black. We do not know if it also produced yellows and greens, but it is possible, even if it was not known primarily as a pigment factory, it was able to produce enough – as the article suggests – for San Carlo and probably some other textile industry in the area. It was probably not able to produce all the colours that the machines, especially the new machines, were capable of imprinting in paper, and so it certainly resorted to imports. On these aspects, however, apart from the colours mentioned, there is no certainty; many documents are missing from that important factory that gave rise in the mid-19th century to the chemical settlement of Bagnoli, whose archives were unfortunately largely destroyed in a fire in 2013.[38]

[38] Mario A. Iannaccone, *L'industria Chimica Lefèbvre di Bagnoli. La fabbrica dimenticata (1853-1887)*, apud auctorem, 2019. What remained was taken to the State Archives in Naples where, as of 2020, it was not possible to consult them because they had not yet been catalogued.

Chapter 8

San Carlo's production

The machine illustrated in the previous chapter produced a multi-coloured paper in rolls that were then combined to form more complex designs for panoramic maps. San Carlo produced many types of designs but no samples have survived. As the remaining examples show, the factory produced two-colour varieties (called "mixed ground"), multi-colour varieties, which required three different passes of the paper on rolls, and also handmade panorama papers. In Palazzo Visocchi in Atina, examples of wallpaper traditionally attributed to Fibreno can be seen in at least 6 or 7 colours.

An example of red monochrome wallpaper featuring wild boar hunting scenes can be admired at Villa Nota. The scene, as is always the case with this type of decoration, is unique; it was drawn, printed on a cylinder several times and printed in long strips then glued next to each other so as to give the feeling of continuity.

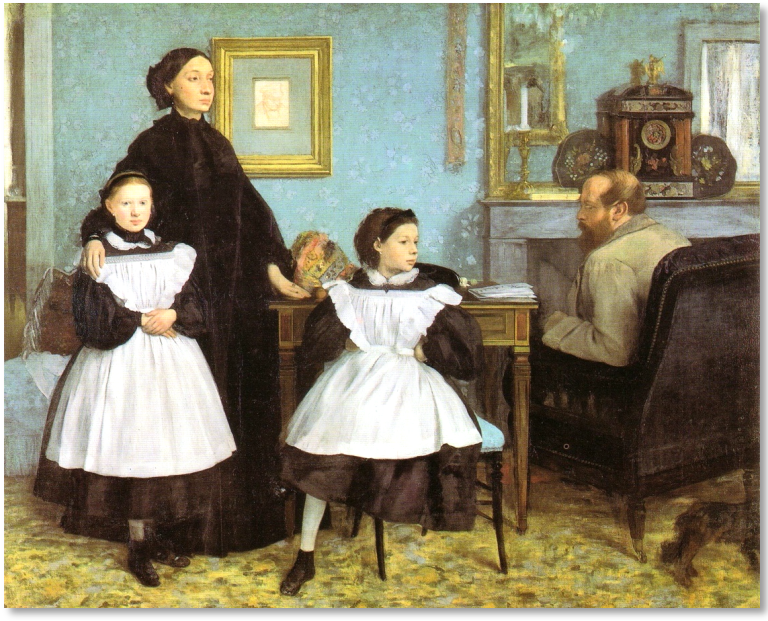
Monochrome wallpaper, produced at the Fibreno-Fabbrica San Carlo.
Image courtesy of the Nota family.

As for non-figurative wallpapers with geometric decorations (squares, stripes, diamonds), an example can be found in the Villa Nota. The examples on the next page (bordered vertical stripes), although appearing simpler, required a more advanced technology because the light grey paper (the background) was passed over with two colours, a darker grey and a pale yellow.

Trichrome wallpaper (light grey, dark grey, golden yellow), of the type produced by the Fabbrica San Carlo. Image courtesy of the Nota family.

Monochrome wallpaper, produced by the Fibreno-Fabbrica San Carlo. Image courtesy of the Nota family (Isola del Liri).

This type of paper could be produced by machine or by hand. Due to its uniformity, this appears to have been produced by machine using the large wheel machine system. In any case, note the extreme refinement of the combinations. To complete the picture, the ceilings of these rooms are frescoed with a sky covered in light clouds, which fits well with the clouds of the complex compositions we will see in the next chapters. There is at least one other example of wallpaper identical in design and colour found in the city of Naples, as can be seen in a later image.



The Bellelli family by Edgar Degas.

A famous painting by Edgar Degas (1834-1917) shows us an Italian interior of a Neapolitan, Gennaro Bellelli (1812-1864), who was at the time of the painting still in Florence, having fled there after 1848 because of his participation in the uprisings of that year. Laure Degas, depicted in the painting, Bellelli's wife, and Edgar Degas were related to the Neapolitan Degas family where Edgar stayed for several years. The wallpaper painted in this painting may not have been produced by the San Carlo factory (the painting was finished in 1864 and the factory's production had started in 1861), but it does represent an example of the taste of an interior of that time: a light green wallpaper, printed with floral motifs.

Neapolitan 19th century. Palace of Portici.
Wallpaper of probable San Carlo-Fibreno production.

The previous image depicts the interior of a Neapolitan palace in Portici, today used for tourist accommodation. As can be seen, the wallpaper, probably original, is identical to the three-colour wallpaper in Villa Nota produced in the San Carlo paper factory.

It must be emphasised that wallpaper production was almost exclusively in the hands of the industrialist Ernesto Lefèbvre, as the Fabbrica San Carlo had a size and production capacity that alone satisfied between 50 and 60 per cent of the Italian market for paper produced in Italy, while it rose to even higher percentages when considering the South alone. There was a second, smaller factory, which was founded by Francesco Roessinger and associates. A character, this one, who we also find in the field of paper production in Isola del Liri, having been one of the founders of the Fabbrica di Carta del Liri in 1844, which later became the Società delle Cartiere Meridionali. However, seeing the success of Lefèbvre's production, around 1845 he had established a wallpaper factory in the municipality of Barra, in a building owned by Roessinger and employed (probably depending on the period) between 12 and 150 workers. Betocchi reiterates that he would have liked to talk about San Carlo because its size and quality made it very interesting in his eyes, but since his book was limited to a description of the Neapolitan in the strict sense, he had given himself limits that he did not want to exceed. In any case, he gives us interesting information by pointing out that the San Carlo of Lefèbvre and Roessinger were the only factories that existed in the south of Italy, and there were also some craftsmen who produced very limited quantities, perhaps on commission, for the decoration of individual palaces or villas.

Our main factory [excluding Lefèbvre's San Carlo, which is one of the first in Europe], and it would be better to say the only one, because those modest foundries, where two or three workers produce the very ordinary papers that are used for the houses of the people, do not deserve the name – is that of Francesco Roessinger e C.. This factory is located in the municipality of Barra, where various other industries have moved in [...]. The building is owned by Roessinger and 120 to 150 workers are employed there. Wallpapers of every workmanship and every quality are produced here, so that they can compete with the papers of France in terms of quality and strength. They work there by hand and by machine, and in addition to the manufacture of novelties, they are not averse to doing what the French call restocking, i.e. to meet the demands of good customers who ask for a very small quantity of a wallpaper that is out of stock.

You want because the technical director of the factory is French. Either because France is the master of all nations in this industry – and is unlikely to ever cease to be so – everything in this factory is ordered in the French manner.[39]

And this was a condition also found in Ernesto Lefèbvre's largest factory, whose craftsmen engravers and designers with a few exceptions (a certain, Simonetti from Udine) were all French, just as the machines were of English and French construction. As a matter of fact, the wallpaper industry in Italy – certainly in the south – was in the hands of French entrepreneurs, such as Roessinger, or at most first-generation, such as Count Lefèbvre.

As far as we know, the situation that Betocchi explains regarding the Roessinger factory, the organisation of work and wages, was also common to the Lefèbvre factory: the main workers Betocchi speaks of were highly specialised craftsmen,

[39] Alessandro Betocchi, *op. cit.*, p. 205.

who had initially arrived from France, and who had then trained local craftsmen. All of them had considerable bargaining power.

The work is divided among the workers so that each performs only one task; wages are fixed in the same way as in France; that is, they are debated between the entrepreneur and the principal workers, according to the designs and the number of colours that make them up. And he is pleased to recall that, in a short number of years, in a country where no other art was familiar except that of textiles, it has been possible to create, without traditions, without schools and without examples, a class of craftsmen who know how to draw, put and engrave on wood, establish the backgrounds, pull the frets, print, velvet, gild, paint, satin-finish, smooth and varnish. And it knows how to do all this in such a way that the product created by it, to those who are unaware of its origin and are not at all intelligent in the art, may seem as if it came out of the best factories in Paris.[40]

After this interesting observation, according to which the quality of wallpaper in the former Kingdom of the Two Sicilies, and in particular of the only two factories worth mentioning, Fibreno, first and foremost, the largest in Italy, and Roessinger, the second largest in southern Italy, rivalled in quality French papers (after all, they used the same processes), Betocchi expands on economic considerations that, with this abundance of detail and commentary, we only find in this text in contemporary literature.

[40] Alessandro Betocchi, *op. cit.*, p. 205-206.

The forced course contributed to this state of affairs. Before 1866, our factories did indeed produce a lot of wallpaper, but of inferior quality. When the introduction of the forge was increased for the premium, the dealers began to examine the samples of the indigenous factories, which they had previously disdained, and from the examination it turned out that they were acceptable: indeed, they gradually recognised them as valuable. Since which time, in fact, there has been a decrease in the importation of tapestry papers, as can be seen from the table below.

Carte da tapezzeria.

ANNO	IMPORTAZIONE	ESPORTAZIONE
1864	Chil. 155,973	Chil. 257
1865	» 178,156	» 337
1866	» 124,642	» 475
1867	» 181,074	» 31,023
1868	» 102,337	» 902
1869	» 128.036	» 499
1870	» 104,018	» 945
1871	» 97,245	» 2,525
1872	» 108,185	» 4.788
1873	» 88,410	» 7,326

In the ten years from 1864 to 1873, imports steadily more than halved, and continued this trend in the following years; on the other hand, Italian papers, notably those of San Carlo-

Fibreno and Roessinger, began to be exported to various countries (although only one, Egypt, is mentioned).[41]

Betocchi notes that it is difficult to understand the annual production of wallpaper in Naples alone, but we do know the total quantity, which largely comprised the production of Fibreno (at least three quarters) divided into white or brown wallpaper (this was an inexpensive variety, generally dark brown) or painted paper (this is understood to be hand-printed or mechanically printed).

SPECIE	QUANTITA'		DAZIO	
	1872	1873	1872	1873
Carta da tapezzeria bianca o bruna. Q.	589.39	1,060.89	1,178.78	2,121.78
» dipinta . . . »	1,916.84	1,748.88	19,162.40	17,488.80

The table shows some fluctuation (with a slight decrease in production in 1873 compared to 1872) but also considerable quantities compared to a few years earlier. Note that of the total amount of wallpaper produced in 1873, for example, about 50 per cent was produced by Fibreno. Ten years later, according to other statistics quoted by Erculei, there were 1,200,000 rolls of wallpaper, i.e. about twice as many (although it is difficult to make an exact calculation). The percentage increases if only painted wallpaper, which was the predominant production of the Isola del Liri factory, is taken into account: at that point, we arrive at 75 per cent of the

[41] Alessandro Betocchi, *op. cit.*, p. 206.

production quoted in number 11 on wallpaper in 1884. 11 on wallpaper in the Turin Exhibition of 1884.[42]

Betocchi again:

This is about 5315 quintals per year, which are introduced beautiful or painted, or to be painted in the small factories mentioned above. But this calculation cannot be absolute; firstly, because this quantity includes the quantity coming from the Fibreno factory and imports from abroad; secondly, because since the above-mentioned tariff came into force, industrialists who had factories outside the municipality established export warehouses in S. Giovanni a Teduccio, Portici and Barra. Nevertheless, even taking into account the sketchy figures quoted above, and assuming that the largest production is of cheap wallpaper, and therefore of low weight, so that one kilogram contains about three rolls, one would arrive at an annual production of about 800,000 rolls. Even if this estimate were exaggerated under the current conditions of the industry, it will not correspond to the truth when these conditions are improved, and this, to a large extent, is in our hands. At present, the wallpaper industry is totally dependent on foreign countries. For glues, the first element of manufacture, there is a shortage of rabbits; and hare skins, which, however, abound and could be usefully employed, have a certain sanguine streak, which in firing obscures the tint of the glue. For brushes, for brushes, for colours, we are also

[42] Alessandro Betocchi, *op. cit.*, p. 206. In another point, Betocchi, drawing on data he does not cite, claims that the national production of painted paper in 1872 was 864 quintals, maintaining the same proportions between San Carlo-Fibreno (about ¾) and Roessinger. However, this reasoning is not supported by further tables and sources. *Ibid*, p. 208. The substance of the argument does not change.

tributary, and we are even tributary of white lead, which, either by natural defect of our raw material, or by inexperience of the manufacturers, cannot be obtained of so fine a quality as to prevent it from spoiling the other colours with which it is mixed. The planks of pear wood must come from France, engraved, if we wish to pay less and make them better; and it is almost superfluous to say that from France we must also copy all the designs: a vassalage in which, by the way, we have all the peoples of Europe as companions. The worst thing, then, for our factories is that not only do they have to bring all these things from outside, with the burden of transport and premium, but that, as there are no warehouses in the country, so as not to find themselves one fine day without, they have to have abundant stocks of everything, with the detriment of the unproductiveness of much capital.[43]

Betocchi concluded his speech by saying that he was sure that when the Italians' innate sense for art and beauty had been educated and corrected in art and design schools by training an adequate number of craftsmen and artists capable of producing original wallpapers when the colour industry had also developed in Italy, making production easier and cheaper. Finally, the author lamented the burden of burdens, taxes and regulations that did not even encourage the domestic industry and hoped that things would change over time. In fact, the wallpaper industry would develop considerably from the end of the 19th century with new materials and the development of an Italian design school that now owed little to the French, English or American schools (which had themselves developed considerably since the mid-19th century).

[43] Alessandro Betocchi, *op. cit.*, pp. 208-209.

The walls of this room show another example of simple and elegant wallpaper (Villa Nota ex Lefèbvre).

Chapter 9

The cycle of Isola del Liri

The Villa Nota ex Lefèbvre, one of San Carlo's finest works, has a highly articulated decorative scheme inspired by classical poetry and neoclassical imagery, printed on particularly resistant paper using the tablet or *block printing* technique. Some areas, especially the current vestibule and entrance hall – which did not exist at the time of Lefèbvre but was added later by Ostrogovich – are decorated with tempera panels or frescoes that match the colour and style of the wallpaper in the other rooms.

In one of the 69-metre long rooms, hand-made wallpaper was produced. The engraving in the *Esibizione del 1884* shows in great detail the long room in which the table printing machines were installed. As described by engineer De Rogatis, this department was probably located to the north of the main building. The large Potter & Ross machine was installed on the south side.

Section of the San Carlo factory where block printed paper was produced. From the magazine *L'esibizione di Torino of 1884* (Turin, Treves 1884).

The number of workstations illustrated in the engraving, i.e. the presses, appears to be more than 20. Of course, not all the workstations were used for the production of extra-luxury papers such as those found at Villa Nota, probably that very difficult and complex processing was reserved for a limited production and particularly skilled craftsmen.

However, block printing allowed for complex productions, an expensive type of wall decoration that Ernesto Lefèbvre chose for his villa. Here, especially in the rooms on the ground floor, one can see an exceptional quality of wallpaper with a remarkable quality of design and composition and brilliant colours. These productions required specialised artists and also good technicians working at the presses.

On closer inspection, the wallpaper shows some corrections made with a brush: perhaps restorations, perhaps corrections such as those still made by craftsmen today at the time of production to correct a smudge, to fill in a section where the colour has not saturated properly, and also to better define the joint between two sections. A section of the house also shows a third variety of strong paper painted directly by hand and then applied to the wall with glue, but these are later early 20th century interventions.

The type of support with which the scenic wallpapers were produced was particularly expensive and durable. Yet, although resistant, it was still susceptible to moisture and thus one of the largest installations in the Lefèbvre Palace in Isola del Liri was lost. According to the testimonies we have, in particular that of engineer De Rogatis who saw the rooms around the time of the First World War, in 1915, the main rooms of Palazzo Lefèbvre di Isola were to be entirely covered with this type of wallpaper, which was so refined and expensive that it resembled a fresco. Unfortunately, it was precisely at that time that, due to infiltrations from the roof, the wallpaper quickly fell into disrepair and became so mouldy that it was irrecoverable and was then completely destroyed. This was a great loss, and no descriptions, drawings or photographs of the wallpaper, which was completely detached and destroyed shortly after 1915, could be found.

Wallpaper made with a 24-colour machine, of the type produced in the adjacent Fabbrica San Carlo. Image taken courtesy of the Nota family. Note on the left the partial lifting of the paper due to moisture infiltration.

The examples on these pages show wallpapers covering many square metres. On the left of the image above, one can see how moisture has highlighted the hand-printed stripes (at least nine in this case, plus a dozen to the left at the turn of the wall) that, combined and placed side by side, came to compose the large classical scene with architectural designs, gardens, bucolic landscapes and many characters that were certainly inspired by classical poetry.

Villa Pisani-Nota (ex Lefèbvre).
Detail of the scene from the previous image.

The effect achieved by these large papers, even 5 by 3 metres, is pictorial. As mentioned, the interventions desired by Ostrogovich are well integrated into the more recent part of the Villa. Ostrogovich – a tenant of the San Carlo factory – lived in the Villa Lefèbvre with his wife for just under a decade.[44] His wife, however, was the daughter of the director of the Cartiere Meridionali. Ostrogovich could not adorn the new front wing of the villa with any more wallpaper because San Carlo no longer produced it and its craftsmen had dispersed after 1896-1897. The enlarged detail shows the quality of the

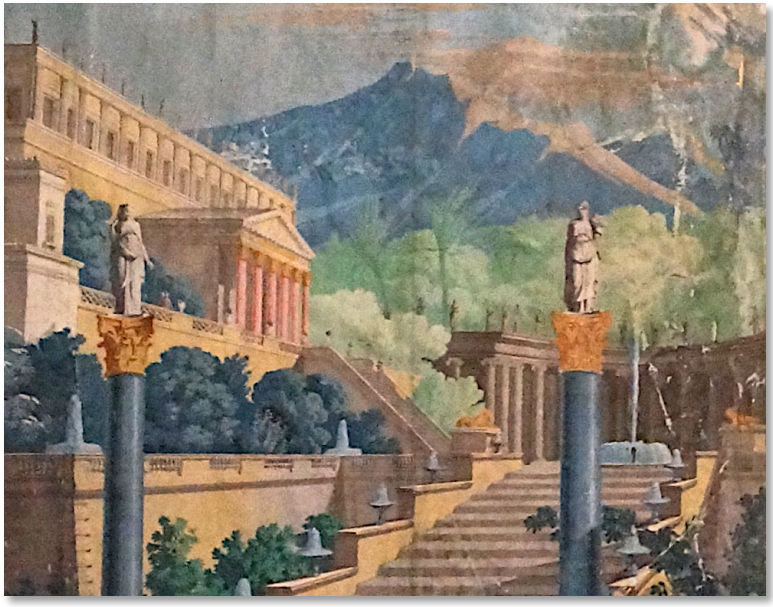
[44] I received this information ad personam from the current owners of Villa Nota in May 2018.

print. The landscape and the waterfalls are reminiscent of the Sora and Arpino area and the Fibreno river.

Villa Nota. One of the extra-luxury scenic wallpaper compositions. Note the richness of the details. This scene consists of 7 rolls about 50 centimetres wide by about 2.5 metres each placed side by side so that the design lines match perfectly.

Pictured above, another example of wallpaper in the Villa Nota, formerly Lefèbvre. Here too, humidity has made it possible to highlight the vertical bands marking the various rolls (at least 7). Note that the composition, printed with an advancement of squares approximately 50 centimetres by 50 centimetres, with many colour transitions (at least 15), also continues on the left wall and on the right wall beyond the door. This gives an idea of the complexity of this production and the cost that such papers must have incurred. The scene is classically inspired.

It is likely that the high mountain overlooking the ancient Greek city, beautifully rendered on the wallpaper, may have been the ancient Herculaneum or Pompeii before the eruption of 9 AD.



Villa Nota. Detail of the previous scene: classical landscape.

Villa Nota. Another composition placed between two windows.

Above, another example of a wallpaper at Villa Nota ex Lefèbvre. Here too, humidity has partially detached the paper and made it possible to highlight the vertical bands marking the various rolls or strips of paper. The mountain depicted in the centre of the composition corresponds to the profile of Mount Olympus.

In other cases, the Gulf of Naples or Capo Miseno seems recognisable in the representation of some classical scene. The next, in fact, is a navy probably depicting some episode from the *Aeneid*. The wallpaper in this case is cut to surround the fireplace in Rococo and late 18th century style. Great quality is shown by the lighting effects that draw the sea and the sky at sunset.

Classical scene, around the fireplace. Villa Nota. Detail.

Wallpapers like these were printed with raw material consisting of rags and textile fibres, which ensured greater resistance. It must be considered that Villa Nota was inhabited continuously first by the Lefèbvre (who were, however, only present at certain times of the year as they had their main residence in Naples), then by the De Caria, Ostrogovich, Pisani, various directors of the Cartiere Meridionali and finally by the Nota family. So it has been able to enjoy, despite some periods of semi-abandonment, constant care and heating that has preserved it from the dampness that, on the other hand – due to decades of neglect – has not spared the papers in the Palazzo Balsorano in front of it.

These, described by some guests as "marvellous" (unfortunately without any other details), were already detached and ruined by water infiltration in 1914 and even more so in the summer of 1915, when the surveyor De Rogatis

had to ascertain the damage caused by the disastrous water infiltration caused by the collapse of part of the roof following the Avezzano earthquake in January of that year. Within a few years, those papers were all completely lost.[45]

Zuber panoramic panel designed by Jean-Julien Deltil. Sold to private individuals in 2008.

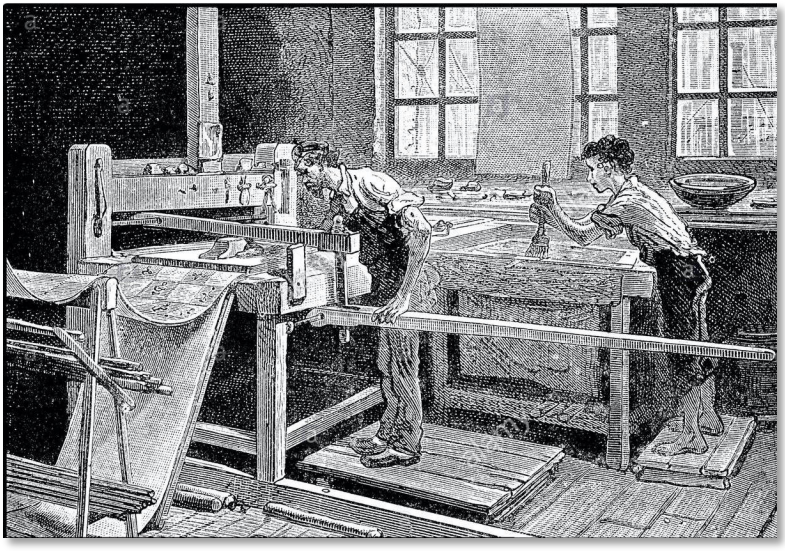
Above and in the following image a panel and then a scenic view created by Deltil for the Zuber factory, the artist whose style seems to be mirrored, right down to the use of colours and the stylistic devices used to create the sky and the trees (in

[45] Giuliana Bruno, *Atlante delle emozioni. In viaggio tra arte, architettura e cinema*, Bruno Mondadori, Milan 2006, pp. 149-151.

several shades of green), in those that can be seen in the former Villa Lefèbvre in Isola del Liri.

Hindoustan (Zuber) by Jean-Julien Deltil.

The following image shows a hand-printing station that could also easily be converted to textile printing uses. On the left, the assistant can be seen carefully and evenly inking the board or block while the operator at the press carefully measures the position of the board, which must match the crosses.



Printing station for wallpaper or textiles very similar
to the one in the Lefèbvre factory.

Corner arrangement of the wallpaper in continuity with the scenic papers.

Chapter 10

Scenographic maps and the illusion of space

That there were not many manufacturers who could boast cards as scenic as those that can be admired in the Villa Lefèbvre today known as the Villa Nota is certain: the largest and most important were French, the Parisian Dufour and the Alsatian Zuber, in primis. But the Lefèbvre's maps also showed a remarkable quality and indeed, as we shall see, quite equal according to the observers of the time.

The cycle of scenic maps of the Villa appears to be consistent: they are scenes of ancient classical inspiration that were to be read in sequence and represented places and episodes inspired by classical history and mythology. The Villa, although very large, could not compete with the Lefèbvre Palace in front of it and was probably built to be inhabited mostly by the directors of the Manifatture del Fibreno. Since these were people who had great responsibility and from whom absolute efficiency was expected, they were also well paid and lived in a suitable place. We know for a fact that when the Manifatture del Fibreno was purchased by the Cartiere Meridionali, the directors lived there: this was probably an established habit. If the Villa's cycle of stage cards appears remarkable to us today, we can imagine how much more remarkable was the one that could be seen at the Palace, which was much larger and had at least two large halls, one where music was danced and played, with pink marble floors, and one where people ate. De Rogatis testifies that at

the time of his visit, the spaces, even the larger ones, were covered with ruined, detached and mouldy "painted" paper due to rain and infiltration. Despite this, the engineer makes it clear that it must have been something remarkable. Almost certainly, although we do not have absolute certainty – De Rogatis does not express himself on the subject – those "painted" papers were scenographic papers exactly like those found in the Villa. The Lefèbvre Palace in Isola del Liri was a place frequented by many wealthy people who for decades had found there a refined and exclusive environment like that of Parisian salons.

The Lefèbvre family had hosted artists, ambassadors, nobles, statesmen, churchmen, poets, painters, ambassadors and travellers of all nationalities for decades, since 1824, and perhaps even earlier. The Palace had become a stopover for some of those who, on their Grand Tour, chose to pass through the area on their way from Rome to Naples and vice versa, also to visit the nearby Ciceronian sites. The decoration with scenographic maps not only in the later Villa but also in the Palace is therefore entirely appropriate, and the subject matter that can still be admired in the first building: a scene of ships arriving on a beach, a marina, a sylvan scene with classical figures, an ancient city with temples and colonnades. These cards opened up the enclosed space of the Villa and certainly also of the Palace in a way that has been well described by Giuliana Bruno who sees, admittedly with some reason, a forerunner of the reasons for the cinema in the scenographic cards. Whether or not the supposition is well-founded is of no interest to us here. Certainly, in the 18th and 19th centuries there was a need for travel, for displacement, for the exotic, and stage maps made it possible to achieve journeys while remaining indoors, illusorily breaking through walls. This was

especially true for places of representation, luxury homes, perhaps frequented – as was the case with the Lefèbvre's homes – by travellers and curious geographers.

The fashion for panoramic wallpaper made its appearance in Europe at the end of the 18th century. At that time, frescoes and tapestries had been supplanted by wallpaper, which embellished rooms with various images, especially landscapes. As the surviving interiors of Pompeii's Villa dei Misteri show, frescoed walls have always provided a form of architectural double and a meta-architectural journey. Decorative painting was fashionable in the time of ancient Rome and resurfaced with an illusionistic touch during the Baroque period, when ornamental paintings, often depicting architectural elements, covered the ceilings and walls of churches and palaces. Trompe l'oeil techniques pervaded furniture, while mural painting became fashionable in home decoration. The eighteenth century saw the rise of the garden room, where the boundaries of the covered area expanded to a total view. In the 19th century, wall decoration added a new and global dimension to ornamentation. Initiated by Joseph Dufour, Jean Zuber and others, the new fashion of covering the entire room with panoramic wallpaper became increasingly popular, supplanting paintings and tapestries. The panoramic tapestry re-framed the interior as the exterior. The only decorative element in the room, it was an architectural aspect that transformed the outside into the inside.[46]

So, if the assumption is true that the same or similar papers adorned the great Palace that witnessed so many receptions and the passage of so many travellers, what better aesthetic choice than to break through the walls with views that recalled classical facts, and extended the view?

[46] Bruno Giuliana, *Atlante delle emozioni. In viaggio tra arte, architettura e cinema,* Bruno Mondadori, Milan 2006, p. 149.

The panoramic wallpaper was not simply an extension of earlier forms of wall decoration, but a new technological invention. Created industrially as a serial image, it was based on the mode of mass production. The fresco, a unique work of art, was thus replaced by a series of industrially produced images. [...] the papier peint panoramique not only anticipated the cinematic mode of production but, as a composition rhythmically structured in a series of tableaux, it exhibited the new spatial form of representation of cinema. Scenes followed one another without repetition, describing a landscape or narrating a story. Breaks appeared along the way, because the sequence of images glued to the wall was made up of separate panels, each carefully framed. The panels were connected by structural elements whose function was to create (dis)junctions and produce an effect of sequential continuity. Imaginatively framed, the contours of the scenes depicted were drawn in such a way that the wallpaper appeared as an uninterrupted stream of images flowing seamlessly between the walls. Films before cinema, the panoramic wallpaper [...] was the result of a montage of images. [...]. The filmic framing of the frames and the process of their sequential montage thus originated architecturally on the walls of the house before migrating to the movie house. The *papier peint panoramique* modelled the panoramic impulse that cinema would technically reproduce; in an attempt to achieve this vision, it accentuated the horizontal direction of its visual horizon.[47]

The author pushes for this identification of the scenic maps as forerunners of cinema (such as dioramas or panoramas, which the Lefèbvre we know were very curious about) and certainly this openness, this allusion to facts and stories of classical-mythological ancestry, denotes culture and a desire to amaze and entertain.

[47] Bruno Giuliana, *Atlante delle emozioni. In viaggio tra arte, architettura e cinema,* Bruno Mondadori, Milan 2006, p. 150.

After all, this was a family perpetually on the move, who had equipped themselves with a large carriage, a series of smaller carriages for servants, a chef, to cope with constant passages through France and Switzerland. Thus, in the houses wrapped in the scenic papers one had the impression of travelling while standing still, and this effect can be seen in the striking *papier peint* decorations of the Villa that belonged to the paper and wallpaper industrialists.[48]

Assembly diagram for a scenic wallpaper.

In the picture above, you can see a composition diagram of a scenic wallpaper. The example is modern but the production method is the same: 5 or more rolls are printed by breaking up

[48] Other known factories, apart from Zuber and Dufour, among the not many that produced panoramic maps, were Desfossé & Karth, Leroy and probably also Roger, see in Turgan Julien, *Les Grandes usines: études industrielles en France et à l'étranger*, Paris 1923 where mention is made of the Desfossé & Karth factory, pp. 113-128; of Isidore Leroy, pp. 193-208 and of Roger à Mouy, pp. 1-6.

the main image into strips. As you can imagine, today the process is facilitated by the use of computer software, but once upon a time, the overall design had to be laid out, enlarged on a series of tablets or blocks that could easily exceed 50 units and then printed and reassembled.

Motionless in the centre of the scene, the spectator-passenger is embraced by the composition and transported by the circular flow of images. The convention of the inhabitant-viewer-passenger was established architecturally before it became a filmic practice. The body was made to travel within. Ubiquity resided in a room. The apparatus' impulse to travel was enhanced by the subjects of the panoramic wallpaper, which depicted scenes of travel, discovery and adventure as well as historical and mythological narratives and natural scenes. [...]. The viewer of mythological scenes or historical journeys was the representative of a familiar story: the walls also contained his story, enacted within them and sketched on their surfaces. An inhabitant-traveller, he was both on the move and settled. When living rooms and dining rooms opened outwards, migrating panoramically elsewhere, the closure of the interior collapsed.[49]

At this point it is of utmost importance to note that the group that gathered at Coppet, consisting of Madame de Staël (1766-1816), Juliette Récamier (1777-1849) and René de Chateaubriand (1768-1848), to name the most important, was made up of people who are also considered in Italy (for example by the exponents of the magazine *Il Conciliatore* in Milan) to be the inspirers and greatest supporters of Romantic exoticism. This was declined in travel reports, such as those of Chateaubriand, a great traveller, but also in the production of panoramic maps which, according to Paul Claval – an

[49] Giuliana Bruno, *op. cit.*, pp. 151-152.

important scholar of human geography and one of the refounders of the discipline – are an English phenomenon in origin but, in its panoramic declination, eminently French.[50]

And so it will not be insignificant to note, as has been done in other studies dedicated to this family and its vast cultural and industrial entourage, that the Lefèbvre family frequently had as guests in Naples and Isola del Liri, both Chateaubriand and other writers of that circle, and Juliette Récamier, who visited the very places that were portrayed in the panoramic maps of historical-mythological subjects. Nor should it come as a surprise that they also knew Madame de Staël well.

In essence, the only true Italian scenic wallpaper factory was desired and managed by a family that was strongly linked, first by business interests (in Paris) and then by affection, to the romantic-intellectual circle that had made exoticism towards the past and geographical elsewhere one of its intellectual hallmarks. An Italian factory, certainly, but above all a factory of typically French taste and sensibility, implanted in central-southern Italy.

[50] Paul Claval, *Le papier peint panoramique français, ou l'exotisme à domicile.* In: «Le Globe. Revue genevoise de géographie», *L'exotisme*, tome 148, Geneva 2008, pp. 65-87.

Chapter 11

Wallpaper printed with the Potter & Ross system

In an aristocratic palace belonging to the Visocchi family (a different branch from the one that is known to have engaged in papermaking) in the town of Atina, not far from Isola del Liri, there is a room covered entirely with 19th-century wallpaper.[51] By family tradition of the Visocchi family, but also by logic of contiguity and evaluation by the experts of the Rixheim Museum, it is attributed to Ernesto Lefèbvre's Fabbrica San Carlo and today this attribution is also officially recorded in the documentation of the Italian Association of Historic Houses.[52]

The scene printed on this wallpaper specimen has many shades and has texture and colour complexity that makes it compatible with the paper produced on the Potter & Ross (or similar Leroy) machine.

It is composed of successive strips that are integrated into a repeated continuum, but the design is nevertheless contained within each vertical strip. It could also have been produced by the system of block printing in a single continuous roll, but the uniformity of the scenes and the distribution of the colours, when examined carefully, suggests the former.

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[51] The large and wealthy Visocchi family, with Pasquale Visocchi (1817-1908), started a paper factory in Atina in 1841 that employed around 120 workers in 1870.

[52] After seeing the paper I personally formulated the same conviction in 2018.

The subject shows a river landscape, a river at its mouth – the sea looms in the distance – with Gothic buildings in the Northern European style, a shepherd scene in the foreground (a group of shepherd boys with a dog walk along a road) among trees and hills.

Detail of the hand-painted wallpaper attributed to the Fabbrica San Carlo. Image courtesy of the Visocchi family of Atina.

On the river, coming in from the sea, one sees some steamboats, of the wheeled kind, which were moreover a feature of the dell'*Amministrazione della Navigazione a Vapore di Napoli* in which the Lefèbvre family had many interests. A fusion of modernity and tradition that is typically romantic, certainly dating from the 1860s-1870s and of French taste. The various scenes are linked together not by festoons and garlands, as happens in other motifs, but by fences and patches of trees. After all, San Carlo produced a paper in the French taste and, as

Betocchi claimed, absolutely indistinguishable from examples from beyond the Alps.

The quality of this paper meant that it was chosen as the presentation image of a wallpaper museum in Belgium, in Rixheim (Alsace), where a portion of the same paper is kept in the Palazzo Visocchi in Atina.[53] The fact that the paper arrived in the Belgian-French area suggests that it was also exported. After all, it was, in this case, a wallpaper absolutely in keeping with the French tradition. However, the museum curators were unable to trace any French specimen and agreed to attribute that paper to San Carlo. Today, it can reasonably be said that it was a Lefèbvre production made with French taste, with references to Gothic taste but also to the modernity of steam navigation.

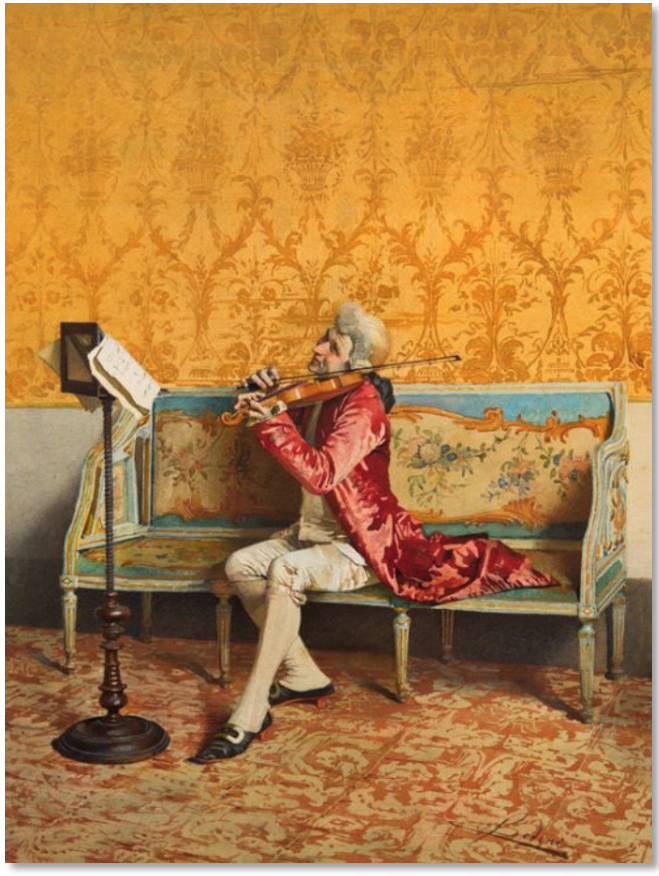
Enlarged detail from the previous image.

[53] At the time the exhibition was organised in 2018, the Museum's organisers had chosen this paper for its poster but were unaware of its origin. The only other example of this paper was found in Atina and is attributed to the production of the Fibreno-San Carlo.

Wallpaper in the Palazzo Visocchi in Atina, attributed to the Manifattura del Fibreno-Fabbrica San Carlo, (sixth decade of the 19th century).

Palazzo Visocchi.
Photograph taken from the Italian Historic Houses website.

Interesting, for the period mentioned here, are the visual testimonies left to us by the Bolognese artist Giovanni Paolo Bedini (1844-1924) who painted many scenes of Italian upper-class and aristocratic interiors, often dressing his characters according to late 18th and early 19th century taste. The wallpapers, however, reflect the taste of the 19th century, and can therefore be regarded as an interesting visual, if not exactly documentary, record of Italian and French wallpaper taste.



A painting by the Bolognese painter Bedini (1844-1924) showing a classic wallpaper with floral and monochrome designs, fashionable in France and Italy from the end of the 18th century to the end of the 19th century.

Chapter 12

The moment of glory.
The exhibitions of 1881 and 1884

As testified by an article published in issue X of *L'Illustrazione Italiana* and written by Raffaele Erculei (a great expert on art history), the artists of the Fibreno factory reproduced the models of Neapolitan palaces and the most luxurious Roman palaces, such as Palazzo Corsini, to produce and re-propose the wallpapers to the customers of their time. The piece is one of, if not the most interesting and informed of those written about the factory in those years and has considerable documentary value.

Those who visited the 1881 Milan Industrial Exhibition must remember the Class XXX exhibition, in which the Stabilimento del Fibreno was awarded a gold medal for "their exceptional display of wallpaper, a speciality of that important paper factory".

The quoted words are taken from the jurors' report, which also states that "the Fibreno tapestries, especially those imitating silk, have absolutely no fear of foreign competition: the colours are harmonious, the execution accurate".

In the period between the Industrial Exhibition of 1881 and the Exhibition of 1884, the Fibreno factories travelled a long and rapid path, not only perfecting their technical systems, but also applying a series of new designs, as can be seen in the showcase that is on display in Turin and which we present to our readers in this same issue. [see next chapter]. There are reproductions of antique Venetian fabrics, counter-cut fabrics from Genoa and Florence,

Gobelins taken from originals in the Corsini Gallery in Rome, brocades copied from 17th and 18th century originals by Cretonnez in good artistic taste.

The report of the Milan jurors recommended the variety of designs to the Fibreno, so, as we would also say on this side, it has made a lot of progress, although in Italy it is very difficult to have designs for cloth and paper, as we are unfortunately a long way from the progress of France, where more than 300 studios of industrial designers are employed in Paris alone, in the service of artistic industries.

It is to be hoped that the schools of applied arts in industry, subsidised by the state, will provide Italy with a number of talented designers, through whom our country's products, also in terms of form and colour harmony, will not have to fear foreign competition in the future. The wallpaper industry dates back a short time in Italy. Its invention is attributed to the Chinese, and in Europe it only dates back to the 17th century.

In previous centuries, it was customary to decorate the flats of princes and sovereigns with leather embossed on a gold or silver background, from the workshops of Cordoba, Venice, Holland and France, as the inventories of Francis I, Caterina de' Medici and Charles VIII attest.

Where no cuojo was used, the wealthy had figured and carved velvets, guilloche silk damasks and carpets woven in the Orient spread on the walls of their salons, as we can see from the paintings of Renaissance artists. The day the third state began to rise in Europe, the need naturally arose to replace cuojo, velvet and silk with a more modest tapestry, more accessible to bourgeois purses, and an attempt was made to imitate velvet or silk, by colouring and embossing the paper, so as to give it the appearance of that too rich decoration for dwellings.

It was England that practically paved the way for this kind of industry. We say practically because, as we read in Jacquemart's *Histoire du mobilier*, France had made some more or less fruitful attempts since the time of Francis I. The first English papers were

reproached with a defect of solidity and resistance to humidity, therefore, as it was easy to *inventis addere*, in 1688 Giovanni Pavillon gave a great impulse to the French manufacture of paper upholstery, which was later inspected by Giacomo Chanveau.

John Gabriel Huquier was the first to imitate the English species, but Aubert in 1756 found the true way to manufacture velvety papers and multi-coloured damasks. What this kind of industry then became among our neighbours, we need not say.

While the art of wallpaper manufacture was progressing in France, work was being done in Frankfurt, Worms and other cities in Germany to imitate and replace upholstery leather with paper gilded and silvered with flowers and relief ornaments.

The application of multi-colour continuous impression machines produced a real revolution in this industry, and Germany, Holland, Belgium and Switzerland shared the world market with England and France.

The first appearance of this industry in Italy was at the Milan Exhibition of 1881, with the products of the late Carlo Oggioni, the Giovanni Ferro company and especially the Stabilimenti del Fibreno.

The latter, founded in 1827 by the Count of Balsorano in Isola del Liri, have become one of the most colossal national factories, if it is true that the importance of an industry is determined by the quantity and quality of the raw materials it employs, their value, the value of the products, their export, the number of workers it employs and the power of the machines it uses.

The Stabilimenti del Fibreno have powerful mechanical defibrators that feed wood pulp to a large paper factory equipped with five paper machines, two of which are used to prepare wallpaper; they have a chemical factory from which they derive the colours necessary for their industry.

They produce 1,200,000 rolls of upholstery paper per year, about one million lire in addition to printing paper, writing paper, etc. They employ more than 1,400 workers, to whom they provide free

schools, kindergartens, medicines in case of illness, life-long pensions in old age and in case of accidental inability to work.

A very rare machine specially built in the Gontani Marten workshop in Paris simultaneously prints up to 24 different colours and can produce up to 1,200 rolls of paper per day. The Fibreno factories have houses in Naples, Rome, Milan and Turin, and in this year they even exported their paper to South America. We are certain that this very important industry, which does so much honour to our country, will find in the Jury of the Turin Exhibition those just rewards to which the quality, quantity, beauty and good price of its artistic decorative papers entitle it.[54]

[54] Raffaele Erculei, *L'Illustrazione Italiana,* No. 35, 31 August 1884, Treves, Milan 1884, p. 135.

Chapter 13

The visit of the Royals of Italy to the pavilion of the Manifatture del Fibreno by Ernesto Lefèbvre

Only two pictures appeared in issue 35 of *Illustrazione italiana* (31 August 1884) to accompany the article, as mentioned, about the International Exhibition in Turin: *La mostra degli Stabilimenti del Fibreno, visitata dalle loro maestà*, with a beautiful engraving by Ettore Ximenes and *La visita dello zio cardinale*, a painting by Raffaele Armenise. Evidently two moments that were considered important and significant in the exhibition at the time. This confirmed what Betocchi had written ten years earlier.

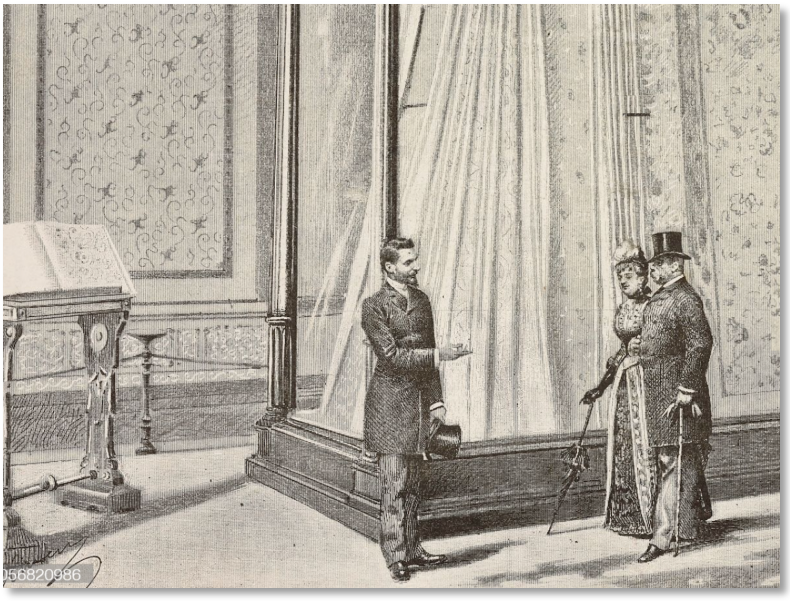
The Manifatture del Fibreno was present in another section of the exhibition, that of paper production, but the visit of the Savoy rulers was decided in this section because Fibreno's wallpaper was an Italian excellence to be displayed internationally with pride, while in the actual paper and papermaking sector, the Isola del Liri plant had been joined by other industrial concerns in 1884, mainly in northern Italy (Lombardy and Veneto in particular).

Receiving the royals seems to have been Count Ernesto Lefèbvre, then 63 years old. We know that he was in Turin at the time and only he could worthily receive the Savoyards. The picture shows the delegates, the organisers of the exhibition, the ministers, with the royals in the centre approaching Lefèbvre who extends his hand to them. All are under a large pavilion displaying several dozen varieties of wallpaper rolls.

On the left of the picture is a large sample book and the wall behind it shows the wallpaper spread over a large area.

Umberto I and Margherita of Savoy approach Ernesto Lefèbvre at the Padiglione del Fibreno. Two other visits by the Bourbon had taken place in 1832 and 1858 to the Stabilimento delle Forme.

The rulers' pause was due to the prestige of the production: the Manifattura del Fibreno had several competitors by that time, especially in northern Italy, such as the Rossi di Perale di Arserio factories, but in the field of mechanical and handmade wallpaper production they maintained an absolute supremacy, rivalling, in terms of quality, French and English papers.



Detail of the previous image: Count Ernesto Lefèbvre and the rulers. On the lectern, the sample book with the factory's production.

The sample album, as one can guess from the picture, is very well stocked and displays probably dozens of varieties of designs and colours. The large display case is closed on three sides by glass but free at the front and allowed visitors to touch and appreciate the cards on display. The visit of Umberto I (1844-1900) and Margherita (1851-1926), in the heart of the Bell'Époque and the not inconsiderable splendour of Umbertine Italy, was another high point of the Fibreno's career, the second visit of a royal after that of Francis II in 1840.

Unfortunately, these records and this quality were not enough to save the factory, which, due to a still insufficient market and other family, financial and judicial vicissitudes

(the Fibreno suffered an attack that set fire to the Stamperia del Fibreno in Naples and was swindled by a son of Lefèbvre and one of his accomplices). The company did not last long and from 1889 onwards it was closed temporarily pending relocation or rental. We know for sure that for many years – but we don't know how many – the director of the factory was Oreste Ricci, who took over the management of the factory on 22 March 1892, as shown by a private letter:

Mr. Oreste Ricci has taken over the operation of the Cartiera del Fibreno owned by me.

Mr. Ricci's special aptitudes and services rendered to me over many years made him my preferred choice to continue the business traditions of this Cartiera to the satisfaction of my long-standing and respectable clientele, to whose trust I now commend him.

The Stabilimenti del Fibreno are proud to have been the first to introduce the paper industry in this region. Established and run for almost a century by my family, they have kept up with the pace of progress, both in the manufacture of writing and printing papers, and for the well-known printing works in Naples and Rome, and in the manufacture of chemical products and upholstery papers.

My special care will be devoted to the ever-increasing development of my Fabbrica di Carte da Tappezzeria, which has attained primary importance over the past decade due to the artistic and mechanical improvements introduced, which have allowed me to stand up to foreign competition with national pride, while I aim to offer my customers ever greater facilities, both in terms of the variety of designs and the richness of the assortment, as well as the convenience of the prices.[55]

[55] I was able to reproduce the letter in the year 2018 from the Iafrate Brothers Archives.

The letter was written four months after Ernesto Lefèbvre's death by his son Francesco, who had taken over the management of the entire complex by renting the Forme factory to Ricci while selling the Carnello factory with the Villa to Gabriele De Caria. This meant that, after renting and selling off most of the factories, the tapestry factory had also remained active and that Ricci took over its management along with everything else. Another letter, which is in the Turin State Archives but a copy of which can also be seen in the Fratelli Iafrate Collection, a letter evidently addressed to customers and signed by Ricci reads:

I have the honour to bring to your attention that I have taken over the Cartiera del Fibreno, and my company will be Oreste Ricci - Esercizio della Cartiera del Fibreno. The experience I have acquired during 27 years of work in the industry that I am now undertaking on my own account, entrusts me with the power to take the best care in the execution of the orders that will be passed on to me, so that I may merit the full satisfaction of my customers.

With the request that you take note of my signature, I reverence you with distinct esteem.[56]

The letter confirms that the production manager of a factory in the Fibreno complex from 1865 to 1892 on behalf of the Lefèbvre family had indeed been Oreste Ricci. The fact that he uses the paper of the wallpaper factory for the private contract makes it clear that he had been the director of San Carlo from its foundation to 1892, i.e. for exactly 27 years, and that he aimed to take over the entire Fibreno complex (excluding Carnello).[57] However, this contract, or contract promise –

[56] Archivio di Stato di Torino, Atti privati, 1897.

[57] The fact is also confirmed by a communication in the Gazzetta

there is no notary's deed – had a life of only a few months because a more conspicuous offer was made by the Società delle Cartiere Meridionali to which the entire complex was rented except San Carlo, which had certainly entered into Ricci's contract.

In a contract dated 20 May 1892, the factory was entrusted to the Ditta Avitabile for three years with the payment of 30,000 lire (40,000 had been proposed). Shortly before the end of the first three-year period, Lefèbvre asked Ditta Avitabile, who had continued the production and distribution of wallpaper on a regular basis, to advance payment of two years' rent from 20 May 1895 to 20 May 1897.[58] The Ditta Avitabile gave the count 55,000 lire (although they made it appear as 80,000 so as not to make it clear that there had been an advance payment due to the count's lack of liquidity). After the Ditta Avitabile, evidently out of mutual dissatisfaction with the relationship, Emilio Weiss, Count of Valbranca, husband of Countess Caterina Lucernari of the Lucernari Counts of the paper factory of the same name, took over. But the agreement, for unclear reasons, did not go through. Evidently, Weiss had reimbursed the Avitabiles for their advance payment and then, when the contract was terminated, demanded the return of 55,000 lire from Lefèbvre. Somehow the parties came to an agreement when Weiss paid another 27,500 lira and held the lease for 1 year until 1896, but he did not get the 55,000 lira

Ufficiale (Official Gazette of the Laws) of 1888 in which, as director of San Carlo, he warned those who had issued bills of exchange with false signatures in the name of the factory to collect them.

[58] Copies are kept at the State Archives in Frosinone and other copies of the same contracts are part of the Iafrate Collection, which cite them in Amleto Iafrate - Edmondo Iafrate, *Gli stabilimenti del Fibreno,* apud auctores, Isola del Liri 2020, p. 174 ff.

back.[59] At the end of the year, the count left the factory and demanded payment for improvements. Lefèbvre replied that they had been granted in exchange for an extension of the contract for another 4 years.

The factory remained closed without the count paying rent and the matter was put in the hands of the court, which exempted Weiss from giving money to Lefèbvre. From 1896 to 1910, the factory therefore remained closed.[60] Only in that year was it partly leased to Federico Augusto Ostrogovich, an engineer and inventor, husband of the daughter of the director of the Cartiere Meridionali.[61] He kept it for less than four years because after the earthquake of January 1915, the building was uninhabitable.

Around 1910, the factory ceased all activity when the surveyor De Rogatis, making an inspection in 1915, found the machines old and lacking maintenance for several years. It was a sad end, accelerated by the Avezzano earthquake of 1915, which seriously damaged the large factory building and which was subsequently demolished at the end of the First World War.

[59] Rome State Archives, reg. 45, series 1 No. 8116, Private Deeds (1896).
[60] Amleto Iafrate - Edmondo Iafrate, *op. cit*., p. 176.
[61] He deposited one of his inventions in 1812 and named his initiative Prima fabbrica italiana di libretti da sigarette, September 1912. Central State Archive. Kingdom of Italy. Ministry of Agriculture, Industry and Trade. Intellectual Property Office. Vol. 11, No. 12806.

Count Ernesto Lefèbvre of Balsorano welcomes the rulers of Italy to the 1884 International Exhibition in Turin. Detail of previous image.

Count Ernesto Lefèbvre of Balsorano shortly before his death, here portrayed around 1890 when he sent his portrait to his cousin.

Chapter 14

Description of the establishment in the *Perizia de Rogatis*

Introduction

In a document describing the Lefèbvre estate after the death of Francesco Lefèbvre (1911) and Teresa Doria D'Angri (1912), following disputes over the exact value of the palatial building known as Palazzo Lefèbvre (also Palazzo Balsorano) in Isola del Liri and later the Fabbrica delle Forme and Fabbrica San Carlo (other parts of the estate such as the Villa Pisani-Nota mentioned above had already been sold), the engineer De Rogatis was commissioned to carry out the survey by the widow of the deceased count, Francesco Lefèbvre. Still alive at the time was another son who obtained the title of count on the death of his brother. The latter had been excluded from the management of family affairs because he was considered to be one of those responsible for the collapse of the Lefèbvre empire in the preceding eighties and nineties, and only entered into the question of the division of the estate at the end, receiving very little money.

As for De Rogatis, who was commissioned by Countess Gisèlle Waechtbaecker Dubois Lefèbvre (1858-1925), he wrote a detailed description of the rooms of the house, the surrounding grounds and also ventured into the Fabbrica San Carlo. Here we reproduce the part that concerns, precisely, the wallpaper factory. This had worked, as we know, from 1865

until 1889 and then, on a lease, until 1915. This was a partial lease that occupied part of the large factory: since 1896, wallpaper production had gradually stopped and the large machines had been left to rust for more than 20 years.

In the meantime, most of the activities and properties of the family that had founded the factory, the Lefèbvre family, were being sold, leased and then sold (1893-1907). Some production units, such as the Fabbrica Chimica, the Soffondo, the Forme, the Stamperia del Fibreno in Naples and the Carnello factory had continued their activities under other ownership or had been rented out. The lease had fallen to San Carlo. Between 1890 and 1915 it had had various tenants, among them, from 1910, Federico Augusto Ostrogovich who produced paper for cigarettes (a booming market at that time). After the 1915 earthquake, the building was damaged, as this same survey testifies. Not enough to tear it down, according to De Rogatis. However, it was later abandoned and demolished immediately after the war.

From the *Perizia de Rogatis*, the transcript of which I reproduce here, we learn that the large printing presses, the Gontani-Marten and the other machines that had been working at full capacity for some 25 years were still there, albeit in a bad state due to lack of maintenance. At that time, Ostrogovich was only using part of the machinery and part of the factory, and had little more than a dozen workers.

It is a very frosty report: the engineer is not interested in reflecting on the spaces or in giving his personal assessment, but in restating the dimensions, the succession of interior and exterior spaces; in understanding above all the state of the walls and of the entire factory in order to give a pecuniary assessment; moreover: he is not interested in giving details of the machines, unfortunately, considered during the survey to

be old and outdated but above all rusted and damaged after the earthquake. Yet the machines were still there at that time: they seem to be completely invisible to the engineer's eyes, so we have to stick to the appraisal of about 25 years earlier, which gave us a machine park that was still intact, with four paper machines, half a dozen 2- and 4-colour printing machines and all the equipment for secondary processing and finishing.

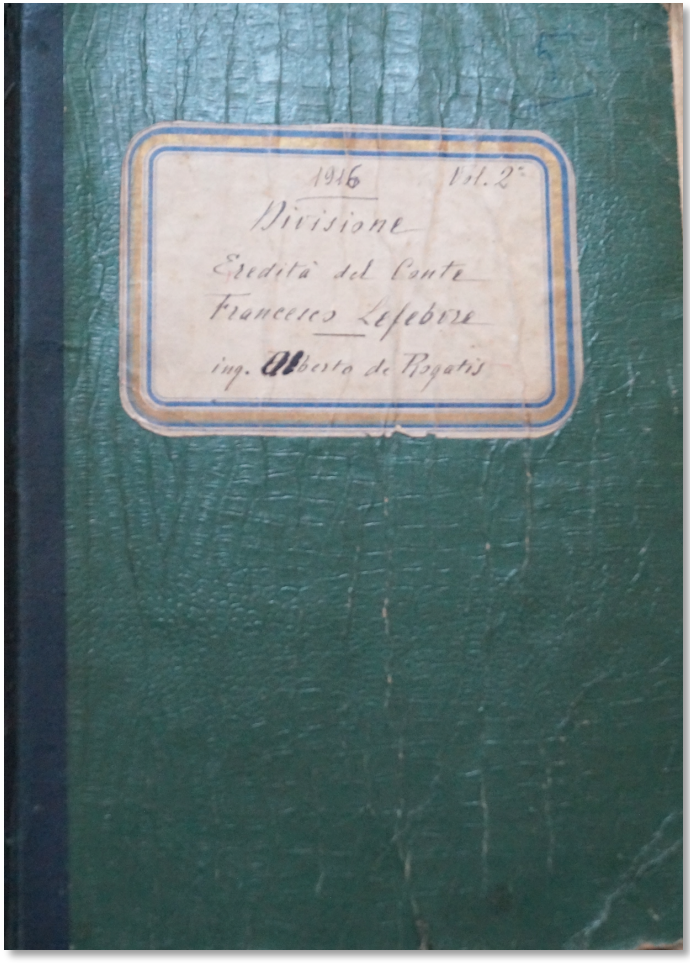
The survey had in fact begun in the autumn of 1914, then was suspended due to the earthquake of 15 January 1915, and when he returned in August of that year, the engineer had found a compromised situation, which is what he gives us in his description, which is nevertheless valuable for understanding the exact structure of the factory and its, truly gigantic, dimensions. A description of the machinery exists for the other production units: the Fabbrica delle Forme (originating from a former Carmelite convent) and the Soffondo factory and is dated 31 December 1892.[62] But the appraisal makes no mention of the Fabbrica San Carlo because at that time there was only interest in renting the Forme factory.

Note: the numbers in brackets indicate the page of the original preserved in the Fratelli Iafrate Archive in Isola del Liri.

[62] No. 939 of the Repertories (Court of Frosinone, 1892) *Inventario dei locali e Macchinario dello stabilimento della Cartiera del Fibreno*, 31 December 1892, certified copy), Iafrate Brothers Collection.

Chapter 15

Description Industrial plant called San Carlo. 1915-1916



Title page of the *Perizia de Rogatis* (1915-1916) describing the San Carlo property and the division of the estate of Francesco Lefèbvre, who died in 1911, between his wife, mother, brother and other relatives.

(25)

Access road

On the municipal road of Arpino, and specifically at the junction with the access road to the Isola del Liri Superiore railway station, at a distance of about 100 metres from the station itself, in the boundary wall of a property belonging to the Cartiere Meridionali, sold by Count Lefèbvre, there is a large compartment 5.40 metres wide, with two side columns of old chestnut wood, secured at the foot by two cast-iron curved steps that constrain the passage to 2.50 metres.

This passage leads to an internal street at the bottom of the Cartiere Meridionali, which extends approximately 132.50 m. in length, from the said

(26)

entrance to the far end of the bottom, and is started, at 8.50 metres from the first beginning, by a service track for connecting the paper factory wagons with those of the forthcoming railway network. It is made of earth with little cobblestones, only in the central part, at the level of the side bottom, with which it is confused, so that its width is somewhat indecisive. From the end of this first stretch, which crosses the Cartiere Meridionali Fund, it curves into the neighbouring Lefèbvre estate called San Carlo for a further 220 metres, until it reaches a clearing, in front of the industrial factory and San Carlo, which is earthen with little cobblestones in the central part for an average width of m. 2.50, which becomes uncertain laterally, where, merging with the ground of the bottom, it is limited by drainage ditches, preserving an

overall width varying from m. 4.80 to m. 5.50. From this second stretch of the street

(27)

a lane branches off to the right, leading to the small farmhouse, which will be described in the section on Fondo San Carlo; to the left there is another short stretch of road leading to the building known as Trianon, now ruined by the earthquake of January 1915, which road continues, crossing the other fund to be described as Strada dei Gelsi, to join the road leading to Carnello. Between this lane and the lateral road, there is a small bridge over the Magnene canal that crosses the San Carlo fund, made of iron with wooden sleepers, laterally guaranteed by four small factory pillars and two weak iron railings, and finally, at the end of the lateral road: and finally, at the end of the road in question, there are two small factory pillars that delimit the free space in the width of 4.29 m. between their internal sides and beyond which one reaches the aforementioned open space in front of the factory.

The described internal route that puts

(28)

communication of the above-mentioned point of intersection between the roads for Arpino and the Isola del Liri railway station with the industrial hospital to be described, also serves as access to the funds of the Lefèbvre inheritance, in addition to serving for the first tract already described, also for access to the area of land belonging to the Cartiere Meridionali sold by Count Francesco Lefèbvre with an istrumento by Notar Vallauri of Turin dated 25 January 1903. With regard to the

first section of this area of land sold, it should be noted that it is described here as it was and has been for many years by tacit agreement between the late Count Lefèbvre and his heirs with the Cartiere Meridionali society. However, Article 5 of the aforementioned contract of sale shows that a private road 12 m wide along the boundary of the railway line should have been left free in favour of Lefèbvre on the area of land sold. The vital purpose of this private road appears to be

(29)

was to directly connect the wagons coming from the San Carlo factory with the railway wagons, for which Count Lefèbvre had apparently acquired the right from the State Railway Administration, but for which the documents were not shown to the undersigned expert. In this regard, it is appropriate here to transcribe the words of the above-mentioned contract:

"The private road referred to above is the one that will be created by keeping free an area of land twelve metres wide between the railway and the land now described and bordered: it will be used to provide access to the San Carlo paper factories and other properties of the vendor, and will be conveniently and if necessary connected to the municipal road leading to the Station".

On the other hand, there is currently a dead end track serving the Cartiere Meridionali in the area of land sold,

(30)

as mentioned above, the junction track with those of the railway itself. When questioned by the undersigned, the widow Lefèbvre and her representatives were unable to give an answer on the matter. When I questioned some representatives of the Cartiere Meridionali company, they replied that, subsequent to the sale and purchase agreement, there were special agreements made by Count Lefèbvre that had not been transcribed, and that the expert would be informed of these, but that they did not think to give any information. It seems to us that the free area to be left on the land belonging to the Società per le Cartiere Meridionali is the area bordering on the railway, 12 metres wide from the said boundary, including the boundary wall, with rejoining in care along the boundary of the provincial road to Arpino as far as the junction with the road leading to the railway station; all this is marked on the attached planimetric model (pl. 1) with a dotted red line.

(31)

In the present state of affairs, however, it is appropriate here to fix the street in question in the location as shown in the attached planimetric model (Table 1), and with the rectified and constant width of 5 metres. Subject to the right of the Società per le Cartiere Meridionali to assert its right towards the Cartiere Meridionale society, and to notify the repeated first section whether or not the above-mentioned contract of sale is just. Without prejudice also, as a necessary consequence, to the right to move the San Carlo property owned by the Lefèbvre heirs, the beginning of the second stretch of road described, for a convenient connection with the

first, should this ever be modified, but in any case occupying the San Carlo property a strip 5 metres wide to replace the current one, which will be abandoned in favour of the present owner of the property with an indemnity payment for any

(32)

greater occupation in length, and for the cultivation of the entire new strip.

Land area on which the factory is located and industrial side zones

Towards the outer part of the street described above, starting from the road to Arpino, one crosses, as has been said, first the Cartiere Meridionali estate, then the estate known as San Carlo, owned by Lefèbvre; one finds, in the greater extension of the San Carlo estate, a large area of land, partly, as will be said, occupied by the San Carlo factory, partly kept uncultivated in the service of the factory itself, and partly cultivated. Of the comprehensive extension of 15,400 square metres with a very elongated irregular shape, enclosed between the Sora Isola Liri railway line, the Forme artificial canal coming from the river

(33)

Fibreno and the discharge canal known as Magnene, which almost comes into contact with the former at its western end towards the boundary with the building of the Cartiere Meridionali society.

In this extension, the San Carlo factory occupies the beautiful surface area of 7,740 square metres, and since it is built right on the edge of the artificial canal of the Forme, which is raised above ground level and from which canal it is separated by an external walkway, the factory is surrounded by areas of land serving the factory itself.

The first area of land measuring 3,870 square metres remains partly on the main front of the factory and extends into this one in a very narrow strip between the two canals mentioned above up to their maximum approximation near the building of the Cartiere Meridionali society.

(34)

A second zone, with a surface area of 1,670 square metres, remains to the right of the factory, limited by the Magnene ditch and by the first and third zones; and the third zone with a surface area of 2,070 square metres remains in the postural part of the factory limited by the Forme raised canal with its side walkway and by the Sora-Isola del Liri railway embankment. And the total surface area of the three zones serving the factory is 7,610 square metres.

Factory

Having already examined and described this grandiose building in the time before last year's earthquake, and having then had to re-examine it at the time

(35)

rear as a result of significant damage, we will here give a detailed description of the state it was in before the earthquake and the state it is in at present, listing all the damage it has sustained, in order to form as exact a concept as possible of what is needed to restore it to its various parts and thus determine its value.

External elevations

The main façade of the San Carlo factory located in the San Carlo factory Fund, as described above, and as can be seen in the attached planimetric type (Table II), has a protruding part of 1.75 m. along its length of 15.30 m. and a lateral part to the right of 27.70 m., the other to the left of 11.40 m., thus forming a total length of 54.40 m. The central part and the part on the left.

(36)

It consists of a ground floor measuring 5.41 m. and a first floor measuring 5.20 m., with partially detached plaster, which has fallen off only on the upper floor, and simply covered with rough plaster on the ground floor; they were roofed, the first with a hipped roof and the second with a double pitch, with a semicircular space in the middle of the gable for lighting the attic; the gables and roofs are partially ruined, as will be described in more detail below.

The central part of the elevation under study has three large continuous rooms on the ground floor, the central one without

a closure and the lateral ones with old frames and fixed glass in the upper part and opened in two parts in the lower part, and similarly three vertically arranged window rooms of the previous ones on the first floor, with partly disjointed ribbed frames and almost completely broken glass. In the side section on the left, open on the ground floor

(37)

on the ground floor, two arched compartments, one with a solid and complete two-light mullion and transom and a partially broken glass frame, and the other with an old, dilapidated and patched three-light mullion and transom; and on the first floor, two large window compartments, with only one frame remaining in place, somewhat disjointed, and four pieces opened in the rectangular part and fixed in the upper part with broken glass, the other being disjointed and fallen.

All the rooms described on the ground floor in the central part and the rooms on the first floor to the left of the Opicifio and the rooms on the first floor in the central part are surrounded by excellent smooth limestone beehives, with turned bases, capitals and keys, also smooth. Stucco pilasters in the corners and a crowning cornice complete the decoration, which is somewhat deteriorated, of the two parts of the two-storey façade, which has several lesions on the listed branches.

(38)

Upper floor

The body of the building on the right, which is longer than the previous two and consists only of the ground floor, is

divided into four parts by projecting limestone columns, each surmounted by triangular pediments with four double-pitched roofs. In each of the first two parts, into which the building is divided, there are two large arched windows, surrounded by beehives of volcanic stone, with fixed iron grilles and two-part glass frames in the rectangular part and a fixed part in the ribbed part.

The third niche, between the aforementioned pillars, has a false compartment with a beehive like the previous one, only it is open with a light in the upper curved part, with a fixed wooden grille and glass. Finally, in the fourth niche there is a passageway with an antique wooden door with two wings

(39)

and frame in the upper ribbed part as above. The whole is undamaged, except for some broken glass and a very minor damage to the second of these rooms. A coarse, double-registered tile cornice crowns the front of the last building described, to the right of which is a small wall with an unlocked compartment, through which one enters the side area to the right of the factory.

Along this area of industrial land is the southern front of the factory, divided into two parts, one more projecting with a length of 30.60 metres and the other, later retracted by 6.20 metres from the previous one, with a length of 126.20 metres, both single-storey and roofed with a single pitch of clay tiles.

No other damage can be seen to have been produced by the earthquake on this side, except at the right end of the aforementioned body of the building most protruding into the

(40)

portion of the wall ruined in the length of 5 m. together with the upper roof in correspondence with a storage area to be said to be lateral to the workshop and the side wall to the right of said area remained fan-shaped, shaky, and to be rebuilt. On the same side, before the earthquake, there were 28 arched window openings, reduced to 27 after the earthquake due to the small partial ruin described, with fixed iron grilles with ancient glass frames, some of them broken, open in the rectangular part and fixed in the ribbed part, Furthermore, in the most prominent part, there is a vaulted passageway with a strong iron double doorway with a fixed upper part, and in the most recessed part, there are two passageways with dilapidated double doors with fixed frames in the upper part, the second of which also has a fixed iron grille.

Almost in the middle of the said

(41)

area of land to the south of the factory and detached from it, one can see an incomplete, recently-built building, measuring 11.30 x 6 metres, consisting of solid, rounded main walls in rough limestone, 0.50 metres thick and 4.50 metres high, with 6 window openings with only rough moorings for the non-existent frames, with a large arched entrance area without closure on the west side.

This building has no roof, but on it can be seen only the rigging of five wooden corner beams with iron tie rods for brakes.

The exterior east front of the factory, unfinished like the other two sides, is also single-storey, partly lower with a

single-slope roof and partly higher with small double-slope roofs, three of the latter of which are partly ruined by the earthquake

(42)

At the top, it has 11 semicircular light shafts with fixed iron grilles and fixed wooden frames with partly broken glass. Finally, the north elevation, 156.80 metres in length, like the south elevation, is only 5.50 metres long, starting from its western end, with a single storey and the rest with two storeys, like the part to the left of the main front. It leans against the embankment on the side of the Forme artificial canal and is separated from it for its entire length by a walkway just over two metres wide. It is braced by three orders of iron chains, or 30 chains, as can be seen from the circular cast-iron plates on the outside: it then has two orders of compartments, one on the ground floor and the other on the first floor. The first order of compartments is made up of large semicircles, some of which are fitted with fixed iron grating but all of which are fitted with old wooden grating

(43)

rays with almost broken glass and iron sheets in the middle section pivoting on special hinges, and a small circular sheet in the centre perforated for a fan. The order then of the 30 rooms on the upper floor is formed by large, ventilated windows with old but discrete wood and glass panes that are mostly broken, in two pieces with slits in the rectangular part, and a fixed radius upper part with small circular sheets with holes in the centre for fans.

On this side, the extreme part to the east, which was said to be only one storey high, was ruined by the earthquake, the upper storey of the extreme part to the west for a length of about 6 metres, at the corner of the main façade, with the consequent ruin of two parts of the roof, already mentioned when speaking of the east and west façades. Along the entire remaining part, a rough cornice of three orders recurs at the top

(44)

of shingles, one more protruding than the other, and the upper most protruding one largely collapsed together with the largely destroyed zinc gutter for the downpipes.

In general, the perimeter walls on all four sides, apart from what has been described above, show no other traces of appreciable damage.

Ground floor

Entering through the central vestibule described above, speaking of the main façade in the most protruding part of the building, a vestibule with a half-height wooden gate, one enters a small, almost square-shaped vestibule, measuring 3.05 x 2.8 m paved with slabs of living stone, plastered and entirely stained with cement on the walls and vaulted with a ribbed roof, vaulted walls that show slight cracks in different directions. In the wall in front of the said vestibule is a wide arched opening with a beehive of living stone around it and similar wainscoting

(45)

raised, plain capitals and keystone of arch, fitted with a large and good two-door latch of chestnut wood with upper cornice and pawl's tail in the fixed ribbed part with wooden beams and glazing. Through this compartment one passes into a large waiting room to be described. To the right and left are two smaller arched rooms than the previous one with good partly broken glass frames and fixed ribbed part above.

The one on the left leads into the staircase cage for access to the upper floor and the one on the right into the *Sala del Custode*.

Sala del custode

This very tall 5.10 x 2.89 plastered and disfigured by rainwater infiltration on the paper-covered ruined walls, is paved with clay bricks and covered with brick volleys between iron *poutrelles.* On the right side is one of the three large arched rooms already mentioned from the elevation

(46)

the main room in the most prominent part with a glass frame and fixed superstructure, and on the wall to the left is a similar large room to the other, with a smooth stone beehive around it, fitted with a sturdy chestnut-wood closure with a drawstring movement, through which one also communicates as with the room already mentioned from the described vestibule with the *Sala d'aspetto.*

This room or central warehouse for storing workers, occupies the entire length of the described vestibule and Sala

del Custode and staircase cage. It is of great height, rectangular in shape, with a surface area of 15.20 x 4.30 metres, paved with asphalt in good condition, machine-plastered on the walls and covered with brick volticine between iron windows. Two of these small vaults have largely fallen down, and some minor injuries can be seen in the side walls. In ancient times, in addition to the

(47)

including two already described, this large room communicated with the staircase cage to be described, indicating another large room on the side of the entrance (room now abolished), in which one can see a robust rectangular chestnut door like the one in the room communicating with the Sala del Custode with a *coulisse-shaped* movement and with an opening leaf in a frame. On the side facing that entrance, three rooms can be seen, two of which are very large like the previous ones with similar sturdy two-door *coulisse* closures and a smaller, rectangular one in the centre with a magnificent one-piece chestnut-wood door, painted in spirit with rusticated squares on both sides and decorated with a display, around and with *coulisse* base and capitals inlaid with similar wood and a Gothic-style upper cornice in high relief

(48)

central part of the factory for the embossing machines. On the wall to the left, as one enters the room under examination, one finds another very large rectangular room similar to the previous ones, with a similar *coulisse* closure and with a small portal and slit in which one enters the processing room for

hand printing. And finally, on the wall to the right is a large arched compartment without closure in which one communicates with the printing press room.

Central hall for embossing and storage machines

This very long and wide hall of the factory is properly divided into two very large halls, 69 m long and 19.20 m wide, corresponding to the length of the side halls, which are interconnected by an uncovered courtyard measuring 19.20 x 14.50 m with side passages 3.20 m wide, which before the earthquake formed two porticos of arches and pillars

(49)

which can now be seen ruined. Both of these rooms, the first of which was used for embossing stains and the second for storage, are divided into two parts by a transverse system of four factory pillars and five arches. They are paved with partly deteriorated asphalt, plastered on the walls and each covered by five hinges of double-pitched canopies in the longitudinal direction with chestnut wood armouring and a clay mantle, interrupted for the illumination of each room by 36 skylights with gratings and glass panes. To support the said framework are, for each room, four rows of chestnut-wood plinths, squared, aligned longitudinally and transversally, and forming said plinths, for each room, resting on the floor and set in special small concrete bases rising from the floor

(50)

itself for the height of only 10 centimetres. Above these 5-metre-high footings are fixed bearings and two lateral spokes to support the transverse beams on which in turn rest longitudinal beams supporting the trusses of the five rows of canopies mentioned above, with a 1.10-metre-high arrow at the apex. Each impluvium between the pitches of two consecutive canopies and between the extreme canopies along the walls carries a longitudinal zinc gutter that pours the downpours into transverse zinc gutters and then into gutters resting on the walls, which in turn pour the downpours into longitudinal gutters under the floor that carry the waters of the Magnene. In the first wall of the first hall, three of the described longitudinal rows of double-pitched canopies were completely ruined by the earthquake, as well as the associated timber mooring so

(51)

with corresponding terms there. Similarly, in the second part of the second room, a portion of the clay mantle fell away for the length of approximately 5 m and for three rows of canopies.

The remainder, throughout the residual very large area, is in fair condition for the timber described, but the clay mantle and zinc gutters are in need of occasional repair. You will notice in the floor of the first room several wooden trapdoors, closed by chestnut wood, through which one enters small [cavities] that were used to keep paints and prints cool.

On the right-hand side, immediately entering from the waiting room into the first room in question, is a wide and high

arched passageway, fitted with a good two-piece frame with broken glass and a paone's tail at the top, through which one communicates with the printing press room; and following this passageway are

(52)

12 large window compartments, from which the side room for the printing presses is illuminated, with discrete two-leaf frames, complete with irons, with a fixed ribbed frame at the top and largely broken glass. On the left side one can see first a similar window compartment, then a passageway like the previous one that communicates with the side room for hand printing, then other similar window compartments, another compartment communicating with the said room without closure, and then 7 window compartments entirely similar to the previous ones for lighting and ventilation of the same side room. Finally, on the front side, in the central part, there are three more rooms with similar large windows that receive light from the aforementioned courtyard separating it from the second room under examination, and from the right and left. With large arched compartments with similar frames

(53)

glazed communicating respectively with the two overhanging porticos to the side of the courtyard and through which one enters the second room under examination. These passages are paved with asphalt and covered with a double-pitched canopy resting at one end in a longitudinal walled current on the marking of arches and pillars towards the

courtyard with transverse currents for greater support; all now almost entirely ruined, as mentioned above.
On the wall to the right of the right-hand passage are two window compartments similar to the previous ones and a central arched compartment for communication with the drying room; and on the wall to the left of the left-hand passage are two similar window compartments and a central compartment for communication with the hand-printing room; finally, on the front of each of these passages

(54)

there is an arched room with a similar broken glass frame communicating with the second room under examination after the previous one, which we said was used for storage and which forms the second part of the large central hall of the factory. This room, as described above, is completely similar to the previous one, with three large windows on the entrance side from the described side passages to the courtyard and another 23 large windows similar to those described for the first part in the side walls, 12 on the right wall for lighting and ventilation in the drying room, and 11 on the left wall for lighting and ventilation in the hand printing room, which is also described above. At the end, in the wall on the right, is a large room with a strong and good closure of chestnut wood for access to the unwinding room

(55)

on the left, there is another room with an entrance gate for communication with the second of these rooms to be described: in the far left corner, by means of arches and pillars,

there is a small unfinished room, covered with brick vaults between small iron windows, which was used for sheets and had a lift mechanism, of which only the wooden wings remain. Finally, on the opposite side of the building is a small room with a one-leaf closure, through which one enters a space further down, measuring approximately 7 x 5 metres, used for storing out-of-use goods, without flooring, with a rough structure, covered before the earthquake by three rows of canopies similar to the previous ones and now completely ruined, illuminated by one of the semicircular windows mentioned earlier when speaking of the façade on the opposite side of the factory.

(56)

Central building to the right

This body of the building to the right of the previous one is 14.50 m long and is first divided into two sections along its length by a system of 31 small factory pillars, each 0.80 m square, with 30 intermediate arched compartments each 4.20 m wide. It is then divided transversally into two systems, each of 9 factory pillars and 10 small intermediate compartments with upper arches surmounted by two large arches to support the canopy, into three unequal parts, the first of which, 19.3 metres wide, was used for the cutting machine for tapestry paper, the second of which, of a very considerable length of 113.50 metres, was used for the cutting machine for tapestry paper. 113.50 m long, was used for the drying rooms for said paper printed in rolls and developed from the previous room, and the third, 14.50 m long, was used as a room for winding and cutting said paper.

(57)

Finally, at the far end of said last room by means of a transverse wall, a 5x18 m paper storage area is separated. We will describe in detail the three rooms mentioned above and the paper storage room.

Wallpaper printing machine room

It is accessed via the described room to the right of the waiting room already mentioned when speaking of the first central building, as well as via the passageway also described on the wall to the right of the embossing machine room, which is later seen communicating with the room under examination.

Two of the previously mentioned arched windows with glass panes in front of the compartment communicating with the waiting room can be seen

(58)

without closure, so as to pass through to the first included in the third body of the building. It is lit on the right-hand side by four of the large window openings described above when speaking of the main front of the building; it is separated from the great hall for the drying rooms by one of the aforementioned transversal systems of arches and pillars and is composed of two longitudinal rows of double-pitched canopies resting on the side walls and on part of the central system of arches and pillars, the central part of which we have said is formed longitudinally of the building under examination. These canopies, set at a height of 5.70 metres

from the floor with a 1.90 metre arrow on the cervine (?), are supported by wooden trusses braked by iron tie rods, with beams and planking, all made of chestnut wood in fair condition and have ...(?) clay tiles and cornices that are in very small part broken. In the second of them is

(59)

a large lantern made of iron and partly broken glass, double false, for greater illumination.
Leaning against the central part of the outer wall, there is a factory-made basin with an iron pipe carrying water from the Fibreno River and its underflow into the Magnene.
The walls are plastered but dirty and deteriorated; the flooring is largely made of chestnut wood planking separated from the rest by asphalt in some places deteriorated and missing. In the opposite left corner, a trapdoor opens through which one descends into an underground compound used for the transmission gear with their axle (?) in communication with the turbines.

Drying room

This very long inclusive length interspersed longitudinally by arches and pillars as mentioned above, with clay brick pavement in

(60)

good condition in the central part, the rest in asphalt also in good condition, walls made of plaster and covering with

longitudinal double-pitched canopies as above. It receives secondary light from 22 large windows communicating with the central building described above on the left, and on the right, similar secondary light from 21 large windows with two panes of glass, two pieces, and on the upper fixed ribbed part, complete with ironwork and in fair condition, communicating with several of the windows described above, which are part of the third building and which in turn receive direct light, as will be described, from the south side of the building. Finally, the room under examination communicates by means of similar arched passageways, in the centre on the left, with the arcade of the courtyard already described of the second body of the building in the centre on the right with the passageway of the factory

(61)

on the south side and, laterally, not far from the caretaker's dwelling. On the side facing that of the previous room one can see, as mentioned above, another transverse order of small arches and pillars from the passage of the old spinning factories in communication with the...

Paper winding room

This room of the dimensions already mentioned, interspersed along its length by arches and pillars, is paved, plastered, and covered like the previous ones with iron-core bricks and glass on the roof. Two large windows give passage to the left, communicating with the storage room of the main building already described there, three similar rooms to the

left, communicating with the main building, and three rooms to the right, communicating with other rooms from the right, there is a wooden gate with a metal grating that gives access to the...

(62)

Including for storage

rectangular in shape, of the same dimensions as above, of good appearance, plastered on the walls and covered on the roof with a good pitch of planked timber and covered with upper clay. In addition to the three rooms of large windows already mentioned in communication with the previous room, in another window in communication with including the outside of the third building body and a semicircular window on the left beginning with the closet already described; and, in front, above, five circular rooms of exterior light with fixed grating, brake and fixed iron frames with mostly red glass overlooking the ground of the fixed part of the building body to the right of the previous one.

This third building, with a width of 5.60 m, accompanying the entire length of the factory is divided by transverse walls into several sections as we will describe later.

(63)

Including felt washing

This first section is accessed from the aforementioned printing press room via the aforementioned compartment,

opposite the waiting room with an old and dilapidated single-leaf wooden gate. It is paved with asphalt, plastered and deteriorated on the walls covered by a canopy with longitudinal and transverse wall beams with partly broken clay tiles, lit by a high semi-circular room and an external wall on the main front already described above in the right-hand corner, and one can see a masonry basin for washing hides with a cast-iron drainpipe for the Fibreno river water and a drain for underflow into the Magnene. In the opposite wall we see a compartment

(64)

reinforced without closure in communication with an undamaged left-hand wall building, and with a missing piece is another arched compartment without closure with two upward steps of deteriorated limestone through which one passes into the *Compreso per la Dinamo e Pozzo a Turbina.*

This included is divided into two parts by a low convex communication wall, asphalt paving with deteriorated plaster on the walls and covered by a canopy with a pitch similar to that of the previous included with a central iron lantern and broken glass, in the first of 7 parts that also receives secondary light to its right from two arched side rooms without closure communicating with the Carpentry Room as it were, is left free

(65)

only one passageway and the rest is enclosed by wooden honeycomb panels with windows in the lower part on two sides with a small door for access to an enclosure and in which a small dynamo for lighting is installed; in the second of the

aforementioned parts into which this shaft is divided, there is a large circular hole guaranteed by a factory parapet for a well that is accessed by means of an iron cataract with several vines guaranteed by a railing and interspersed with vaulted shelves of limestone. At the bottom of the said well is implanted the turbine, which receives the dynamic force as will be described elsewhere and by means of a gear on its vertical axis sets in motion the main horizontal axis of the transmission that extends to the left under the including of the printing presses already described. A compartment

(66)

arched to the right without closure with two descending steps covered with deteriorated limestone connects this second part of the included under examination with the carpenters' and shipping room. And a small rectangular room also without closure in the opposite wall connects it with the mechanical workshop.

Carpentry and shipping room

This large, rectangular building with a surface area of 19.50 x 5.50 metres is part of the building added to the one under examination which is more prominent on the described external side to the left. It is accessed, as has been said, both from the leather-washing area described above and from the wall below, with which, as has been said, there are two large arched window openings without closures. It is also accessed from the right end of the main front of the building

(67)

by means of an aforementioned room with an ancient two-leaf chestnut-wood closure and semicircular glass frame that receives ample light through four of the arched windows on that side, as also mentioned above, fitted with fixed iron grilles with ancient broken glass panes, opened in two pieces in the rectangular part and fixed in the upper ribs. It is divided into two parts, one almost triple the size of the other by means of a pillar with two arches that are severely damaged, dilapidated and in need of repair: the asphalt paving as a covering, the plaster on the walls, ruined and in need of repair, and it is covered with a single-pitched roof similar to the previous ruined ones for about 6 metres of the length of the included ones, and the rest to be repaired in the clay roofing alone.

(68)

Mechanical workshop

Returning to the described Compreso della Turbina, and passing through the aforementioned compartment opposite, one enters the mechanic's workshop paved largely with cobblestones with walls covered in dilapidated plaster, a roof like the previous one with largely broken frames, and an iron lantern like the others with broken and missing glass. In the remaining part of the clay-brick floor, near the entrance room, a trapdoor opens with a cover of old chestnut-wood planks, with which, by means of a small wooden and iron ladder, one descends to the end of the canal that conducts the water of the Fibreno River and that at that point forms the jump to animate the turbine mentioned earlier.

In the wall on the right-hand side, there are two rooms with old wooden latches from which two small storage compartments open up, respectively, and another of the arched light compartments with fixed latticework similar to the previous ones

(69)

facing the south front of the building. In the wall to the left, there are three of the described arched window openings for secondary light from the drying rooms already described, and, in the wall opposite, there is an arched compartment without closure that gives access to the included forge.

Side deposits to the right of the workshop

These were two small chambers for storing timber, gears, tools, etc., communicating with each other in an arched passageway (sic) equipped with a two-leaf wooden curved under-closure, each lit by a large window chamber like the previous ones and covered with beams and planks with upper embrici largely destroyed by the earthquake. One of the aforementioned included is the one said to be completely ruined in the most protruding corner of the building of the described south end.

Including forge

Back in the machine shop, there is the mentioned

(70)

compartment in the opposite wall, partly damaged and in need of repair, one passes into the forge, which is in all respects similar to that of the workshop, with two large windows, communicating with the drying room and two large windows on the south front with the others and the glass almost all broken. From the ceiling, a cast iron bell for the forge's extractor fan is suspended, which is destroyed.

Caretaker's dwelling

It is accessed through an external compartment on the south façade with a dilapidated two-door closure and a fixed ribbed upper frame. It consists of a single large compartment divided into two by a brick partition with a central part closed by an old rough timber honeycomb core with a weak door in the upper part of the compartment. These inclusions are paved with antique wooden planking in a mediocre state of plastering and filthy on the walls in parts covered with dilapidated paper parchment

(71)

to a design and covered by a single-pitch roof with clay bricks and canvas ceilings covered with tattered and broken cloth. The first included has a rectangular compartment to the right with a lock and two sashes and communicating with the grindstone room to supply the cylinders for printing to be described, and a united compartment to the front with a mediocre frame and two sashes with missing glass, replaced

by nailed glass in the lower part and communicating with the described including the drying rooms. The second included is lighted by one of the many south-facing window baths, with Roman-style closure in the rectangular part, fixed glazed frame on the upper hundreds and fixed iron gate. In front of said light compartment is a large window communicating with the drying rooms and masked by wallpaper affixed above.

Grinding room for returning cylinders to press

(72)

This large room, which is the same size as the others included and 20 metres in length, is accessed both from the porter's quarters, as mentioned above, and from the entrance and passageway at the centre of the south side, which will now be described, through a room with a solid two-door closure with a fixed frame at the top. It is floored with timber planking generally in fair condition and only in a few places in need of repair, and covered with a single pitch roof like the others and a paper-covered canvas ceiling. Separated in general by wallpaper largely worn and destroyed by rainwater infiltration. It has four large window openings in communication with the described hall for drying rooms and symmetrically on the outer south side 4 large window openings like the others on this side.

South entrance

It is a short vestibule in the middle of the south side, with an entrance chamber with a doorway.

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with two sashes and a ribbed windbreak at the top. It is paved with asphalt in good condition, plastered on the walls and covered with a canopy. It has a pitched roof in good condition. In the wall opposite the entrance, on the left, there is the communication chamber with the drying rooms already mentioned, and on the right, a similar closing chamber and a frame through which one enters *Sala per la stampa della carta da parati a fondo misto*.

This very long hall, measuring 79 x 5.50 metres and occupying almost half the length of the south side of the building, was used for the mixed-bottom machines and the associated drying rack for unwinding the paper. It is paved with asphalt in good condition, with a small rectangular hole, as is another similar one in the southern entrance described, with a cast-iron flap

(74)

in correspondence and for examination of the subjected loading duct for the turbine. It has walls covered with plaster in good condition and is covered by a canopy, like the others, with a single pitch in good condition, except for minor repairs to be made to the clay mantle. On the inner side to the left there are 15 large windows, of which 11 are in communication with the drying rooms, 3 with the paper-wrapping room and 1 with the storage room. On the outer south side, symmetrically to the previous ones, there are 25 large window openings with fixed iron gates, open frames in the rectangular part and a fixed ribbed piece in the upper part, all in fair condition but with largely broken glass; and finally, on the outer east side, there

are two of the semicircular openings mentioned earlier in this front.

Outer body on the left

(75)

This last body of the building, 10 metres wide, located at the left end of the building, is first of all divided into two parts for the entire extension of its length minus a very small part at the end, as will be described later, by a system of pillars in the factory and as many transversally arched compartments. On the two faces of the said central pillars, there are other pillars and as many in correspondence on the opposite side walls with as many arches, these marked in such a way as to result that the entire major part of the building under examination is subdivided into 60 rectangles covered by as many factory vaults and cross vaults. It has direct access from the two arched rooms already described with superior lesions speaking of the left side of the main front of the building starting on the right side indicating passageways such as

(76)

also categorically described above, with the waiting room, the embossing machine room, the portico to the left of the courtyard, the storage room following the courtyard itself and the one included in that room that was recessed for the goods lift. The same side to the right has the 23 window rooms with largely broken glass communicating, as described above, with the first central building, consisting largely of the embossing

machine room, with the courtyard, with the side portico and with the large storage room thereafter.

It is illuminated on the left side corresponding to the external front of the North building, by 30 semicircular window openings, at the top, one for each cross on the left. Some, as mentioned, fitted with a fixed iron grille, but all of them with ancient and mediocre wooden spoke frames with largely broken ribs

(77)

and iron sheets in the middle section, pivoting, on special hinges, and a small iron sheet in the centre pierced with holes for a fan. The entire left wall has abundant damp patches in its lower part, due to being leaning against the embankment that forms an embankment to the Forme intake canal, an embankment that rises approximately 2.50 m. from the level of the pavement of this building. And, in the same wall on the left, there are four small openings that give way to four small and low compartments covered by small vaults under the walkway and fed back into the embankment itself for water from the Fibreno canal by means of special small derivation channels and related cast-iron pipes, all of which are almost abandoned and falling down. The asphalt paving is very dilapidated for only the part

(78)

length of 25 metres from the main entrance and everything else is in fair condition. Under the floor, factory gutters are built for the waste water that drains into the Magnene, the walls, arches, pillars and vaults are plastered. The walls are

braced by 30 iron chains transverse to the impost of the vaults. These, in the first and second transepts on the left, are variously damaged and in need of repair; all the others, in the row on the left, have a strong longitudinal lesion that can be healed and "watered down" with plaster and cement. The same applies to part of the vaults in the right-hand row. The plaster on the walls and under the vaults is partly detached and falling off. The walls, which, according to information obtained some time ago, were stably underpinned, as well as the pillars, do not show any appreciable damage, except for a small part

(79)

of the two outer walls in the corner of the main and south front, for which only minor repairs are required. In the first cross to the left, to the side of the corresponding room the entrance to the main exterior front is a small, oil-painted wooden tambour, which is unfinished in the upper part with a passageway equipped with a wind compass, planting and board cover in fair condition. In the centre of the second cross on the left is implanted, on a circular base of moulded cut stone with a rounded turn, a magnificent iron and cast iron staircase 5.20 metres high for access to the upper floor, with a central spindle, moulded steps with moulded fronts and helical guarantee railings made of iron rods and cast iron buds. Above the second cross on the left

(80)

a small damaged wall with a central compartment equipped with a fixed wooden gate and seven other simple two-piece wooden gates, made of horizontal and vertical strips of wood,

are set in the first said passageways between the right and left crosses, and a similar one across the sixth cross. At the side of the wall in the centre of the third cross on the left was an ancient wooden hoist that communicated with the first floor and no longer exists. In the centre of the left side, there is still a staircase leading to the upper floor in two wide flights of steps with 27 steps covered with freestone, guaranteed by an iron railing and interspersed with a landing, turning to the left of which one reaches a low studio from which one can see the ground floor with beams and planks interspersed halfway up from the central transept on the right.

(81)

Three crosses on the right and three crosses on the left are segregated at the back by a small wall with compartments with old, low glass closures fixed at the top, one of which leads into a compartment for colouring and the other into the compartment for the glue to be described. All the rest of the longitudinal part to the right of the building in question was used as *Sala di lavorazione degli stampi a mano*. The longitudinal part on the left, in its extension prior to the aforementioned factory staircase, was used as *Deposito di carta a rollo da lavorare* and the remaining part after the staircase was used as *deposito degli stampi a mano*, in the wet and filthy colouring compartment, occupying, as mentioned, the last crosses on the left are masonry tanks divided into 42 compartments with respective water intakes from the Canale delle Forme and discharge channels under the floor. On the wall to the right that divides them from the one on the right to be described are three equal-sized compartments equipped with

(82)

double door closures.

The glue-sole softening area, which is also damp and filthy and occupies, as mentioned, the last three crosses on the right, is paved with waste materials with a slope in the centre to discharge the waste water into special submerged lanes that transport it to the Magnene. There is a tank in the factory for lime storage and two washing tanks into which water is fed by means of a special cast-iron pipeline with an intake from the Forme Canal. This includes, in addition to the two window wells communicating with the first central building and the passageway already mentioned, fitted with a *coulisse* closure and communicating

(83)

with the small hoist compartment in said building recessed, it has a small rectangular compartment on the front side, with a single door closure, with a semi-circular frame with broken glass in the upper part, through which compartment one passes into the last two compartments for the manufacture of glue. These last two inclusions located at the end of the building examined, with cookers, chimney and more, were almost completely destroyed in the earthquake. All that remains of them is a portion of the damaged exterior walls, as already mentioned when speaking of the north elevation.

First floor

The first floor, which before the earthquake of January 1915 occupied the entire wing to the left of the main front of the factory, is the part of the factory that has seen the most damage,

(84)

the greatest damage from the immense disaster that destroyed part of it and left the rest in an abnormal condition. It will be described here as it was and as it currently is for the purposes of calculating the major reconstructions and repairs to be carried out, which will also be useful in terms of the benefits and concessions that could easily be obtained under the special laws of the Marsica earthquake; It can therefore be reached, as mentioned earlier, from the ground floor described above, by three different ways, namely by the aforementioned factory staircase, currently in ruins, located to the left of the entrance vestibule on the main entrance of the building; by the iron and cast iron spiral staircase already described when speaking of the last building to the left of the ground floor; and finally by the factory staircase also mentioned in the centre of the left of the last building.

(85)

The staircase to the left of the vestibule, of which only the ruins can now be seen, with a large passageway with a large window that has already been described when speaking of the main façade and with a room used for communication with the waiting room, had three flights of steps, each with ten steps,

with excellent limestone cladding, guaranteed by a good iron railing and interspersed with two rests with clay tile cladding, as on the landing at first floor level. It was amply lit by two window openings, one on the ground floor and the other above, each with two openings in the rectangular part and one fixed in the upper centred part. It had good asphalt paving on the ground floor and iron gable covers and brick vaults, literally the first-floor part of this staircase is destroyed

(86)

with the entire coverture frame and the two highest ramps. The remaining walls are extensively damaged but can easily be repaired. It gave direct access to a first-floor flat on the north-east corner that was completely destroyed by the earthquake. The spiral staircase described above, which still exists today, reached an upper-floor flat lateral to the aforementioned small flat. Finally, the factory staircase in the centre of the described left wing of the ground floor is the one that still exists today, which has direct communication between the ground floor and the industrial part of the factory on the first floor, i.e. the one most in use and most needed by the factory and which has not suffered major damage. It consists of a first included ramping of fifteen factory steps, covered with limestone in good condition and an old wooden upper handrail.

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Going up this ramp, one comes to a landing with asphalt covering, on the front of which there is a ribbed compartment with a strong door closure, through which one communicates directly with the upper walkway at the side bank of the canal

of forms. Turning to the left of this landing, there is a second section of the same landing, normal to the previous one, and paved in wood, in front of which is a rectangular room with a discrete door that leads to the low mezzanine studio, recessed, as mentioned above, into the upper part of the central cross vault of the right side of the last building on the ground floor, with a wooden structure, which can be seen below, consisting of six wooden panels.

(88)

square beams and oil-painted table.

It is covered by another similar good layout of squared beams and planks lit towards the central courtyard by a small arched room with a two-piece glass frame and secured by a Roman-style iron railing. The same studio overlooks the entire body of the building on the left-hand side of the ground floor by means of two small rooms with single-leaf closures, which are unhinged at the top, and through which one enters two small opposite verandas secured by iron railings and facing one end and the other end of the building.

Returning to the described staircase landing and turning to the right, there is another flight of 12 similarly secured steps, which leads directly and freely to the first floor recess. Turning to the left of the central compartment on the first floor, there are two more flights of sixteen long, sturdy wooden steps, interspersed with wooden rests, which lead to the first floor.

(89)

mezzanine to be described, reaching all the way to the first floor. These ramps and rests are built with sturdy square beams

and table with iron pillar and tie rods and rest on two cast-iron columns set on carved stone bases, and are secured laterally by iron railings and cast-iron buds with upper wooden handrails all in mediocre condition. The vertical of the exit door on the canal embankment, the described staircase receives light at the top from as many hinted window openings on the north side of the factory cut by one and traversed in the entire first floor part corresponding to almost the entire extension of the wing of the building in its two important lengths of 150 metres (159) and in its width of 11 metres, including the side walls was first divided into two longitudinal parts by means of a central system of pillars with 30 arches vertically from those on the ground floor.

(90)

On the external side walls and in correspondence with the central ones, other pillars protruded, on which as many arches were implanted so that the entire surface was thus divided into compartments, one occupied by the aforementioned staircase cage and the others covered by cross vaults braked by a system of 30 robust iron chains, which can be seen above at the level of the impost, transversally embedded with their ends in the side walls and braked in turn on the extreme walls of these walls by robust circular cast-iron plates. The last six crosses in the north-west corner and the same number in the north-east corner are entirely ruined together with the central pillars and the upper canopies, and four of the chains can be seen twisted and attached there. As a result, only the area walls can be seen there, partly damaged and partly fallen, as mentioned when speaking of the north elevation. All the other remaining crosses are badly damaged

(91)

in various points of the vaults with plaster that has occasionally become detached, and the small pillars leaning against the external side walls can be seen where fallen, where twisted, where partially displaced from the impost plane of the vaults, turned in on themselves, because they were not originally well attached to the perimeter walls, which are made of limestone material and of uncertain structure, except for the only central cross in front of the staircase cage that is paved with wooden planking in fair condition. The entire remaining part is paved with a thick layer of asphalt in good condition in which a small square iron service track braked by screws is inserted longitudinally. The walls and vaults that are still in place are generally covered by a partially detached and falling plaster. The entire said residual part is amply lit by large arched windows fitted with

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glazed frames in fair condition, with strong round iron posts, with large machined cast iron handles and corresponding wedges to receive the tips above and below. This means that there are currently 28 large windows, already 30, facing the north-west side, on the side facing the Canale delle Forme, 1, already 2 facing the main front, 2 on the east side of the postern part of the building and 28 on the south side facing the cover of the first central hall on the ground floor, 1 for each cross, less than 2 at the two ends of this side where the two passageways are located. With regard to the ancient layout of the use of these crosses, the following should be noted: that three of them in the central southern part, the first

in front of the room described above, and the other two on the sides were closed off by partitions under the said longitudinal and transversal arches, as can be seen in the plan (pl. 2) and constituted a

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Waiting room

with four similar rooms, one in the longitudinal part to the left of the room, another to the right, and the other two in the transversal walls to the right and left respectively, all of which have good chestnut-wood closures with two doors, each with three panels with ashlars and mouldings on both sides, and behind them also with mouldings and complete with fittings. Said partitions are almost entirely ruined, and one of said closures is smashed. Entering the first of these rooms in the longitudinal wall on the left, one enters a space enclosed by high partitions, also now ruined, used for the cashier's office; to the left side of this partition is a hole with a small wooden door with a coulisse and a marble board protruding outwards for payments to workers and others. Entering the room on the right, [one notices] in the other wall to the side of the staircase accessing the recessed study

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(from) two lateral partitions to the right of the engine room by other partitions that are now completely ruined. Through the aforementioned compartment then to the left of the waiting room in the transverse partition, which has also fallen down, one gained access to the left wing of the floor under

examination, which contained 26 of the aforementioned crosses, used for storing finished paper. At the right-hand end of this wing was a rectangular room with a wing-door closure through which one passed into a small compartment outside the wing, lit on the side opposite the entrance by a large window compartment similar to the previous ones, paved with asphalt, notched on the walls and covered with beams and planks. This compartment, which is now almost completely destroyed, corresponded vertically to the one described on the ground floor at the end of the second hall of the first wing

(95)

central, and had a trapdoor in the floor secured by a wooden railing for the lift from the lower floor through which completed wallpaper was raised. From the ground floor to the first floor and through which waste or disused materials unsuitable for shipping also rose in the attic. To the left of the above-mentioned room there is a low dividing wall with three small rooms and associated closures for access to three small rooms with as many toilets for Turkish use, all of which are currently in ruins and destroyed.

Finally, returning to the aforementioned waiting room and entering through the doorway of the last of the said transverse partitions, which no longer exists, one passed to the right wing of the floor, most of which was used as a shipping warehouse, the condition of which has already been mentioned above, and for the rest as a dwelling house.

(96)

This house occupied not only the five crosses already mentioned in the north-west corner, but already the whole of the main part of the central vertical front of the described ones on the ground floor, constituting the staircase, the vestibule, the entrance, the caretaker's room and the waiting room. It was reached directly from the said staircase to the left of the vestibule on the main side of the factory and from the spiral staircase as mentioned above. As can be seen in the attached plan (pl. 2) drawn up before the earthquake, it consisted of two small entrance halls, six rooms of different sizes, a hall in one corner and a kitchen with two small toilet rooms, all enclosed and divided by thin walls or tile partitions and covered in part by small windows and brick vaults and in part by the aforementioned brick vaults in the north-west corner. It was amply lit by the rooms described below

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in the exterior walls and also part of the small rooms facing the east side of the roofing to the first central building on the ground floor. All with old, dilapidated and weak Roman-style closures and simple deteriorated glass frames in the said light rooms and efficient closures in the passageways. It was also equipped with water pipes with taps for the toilet and kitchen basins and with electricity from the dynamo of the factory as was the entire first floor. Having so briefly mentioned this dwelling house, we believe it is useless to go into further details as they were accurately noted and described before the earthquake, since it is now completely ruined.

Mezzanine

The described staircase in the centre of the north side of the factory leads to the loft.

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A roofed mezzanine that not covers the whole of the described first floor, the two extreme parts of which are ruined in correspondence with those extensively discussed on the first floor. The residual central part is covered with a double-pitched roof reinforced on chestnut wood beams at a distance of one metre moon from each other, with strong longitudinal beams resting on small factory pillars and with transversal beams to support the clay mantle. All of the said residual wooden framework is generally in fairly good condition except for the occasional breakdown and currents for the change of a few horses and currents and for the better support of some of them. Repairs are also needed to the residual clay roofing as well as the replacement of new zinc gutters. Said loft receives light and air from several single-pitch dormer windows towards the south side with frames largely

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deteriorated and missing. It still received light and air from two semicircular window openings in the two outer gables to the east and south, which no longer exist because they were destroyed by the earthquake.

Machinery

Prior to the earthquake of 1915, there existed in this factory various operating machinery for the processing of wallpaper, according to the inventory and delivery made by Mr Ostrogovich and the relevant report submitted by Countess Lefèbvre at the beginning of this report, as mentioned in the introductory part of this report. And other material existed that was not handed over to the said conductor. Upon examination of this machinery, most of it was of an old model and in a poor state of repair due to the neglect in which it was kept. Moreover, after the disastrous earthquake, a large part of the

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the machinery in question was swept into the rubble and deteriorated further, making it almost completely unusable for the uses for which it was intended. In the meantime, at the time of this report and after the earthquake, Countess Lefèbvre, in her capacity as administrator of the property, had it sold by a similar decision of the Court of Cassino, a sale that was carried out at the current price of old metal, so that the factory is now stripped of all machinery and there is no need to talk about it any further. The motor machinery remains in place, which is of interest to the following dwelling.

Evaluation of the motive power in the shaft and in the underground side room of the described press room. It consists of a vertical turbine system Fornauld [sic] of 1.10 m of iron plate in poor condition with

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a turned vertical iron shaft, 4 cast iron gears in fair condition, 21 large gears of different sizes, 1 iron distributor with its piping, 1 hand regulator in fair condition with its handlebar handwheel, bronze bearings and accessories. Plus 5 pieces of transmission shafts with a total length of 22 m and a diameter of 60 cm made of turned iron, 23 cast iron supports, 11 iron pulleys of different sizes and bronze bearings.

There is still a transmission shaft of the described included for a small lighting dynamo No. 9549 Undrech Indermin 1400 volts 220 amperes 27 weighing about 400 kg.

Driving force

From the Fibreno river in Isola del Liri contrada Carnello runs a long artificial canal called Canale delle Forme through which runs an important

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volume of water that, by means of ancient works, is derived to the extent of not less than 1/3 of the normal flow of said river. This canal, after crossing some alien property funds, whose rights and active servitude are established, flows into the funds of the present Lefèbvre property, forming the proper boundary between the two funds of this property called the one San Carlo and the other Strade dei Gelsi until it reaches and drives the engines installed in the industrial factory of the said Fibreno paper factory. Among other things, this factory was sold by the late Count Francesco Lefèbvre to the Cartiere

Meridionali society by deed of notar Vallauri of Turin dated 29 January 1903, registered at Caselle on 23 February under No 330. And with Article 3 et seq. of the said deed, the late Count Lefèbvre, without having the ownership of the Forme Canal, ceded and transferred to the

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Cartiere Meridionali the active rights and easements to which it had hitherto been entitled on the land of others crossed by the aforementioned canal, and constituted on its own land, in accordance with the law, an aqueduct easement of passage, with the company being responsible for the ordinary and extraordinary maintenance of the canal, and Count Lefèbvre expressly waiving any liability that the company might have for damage to its land, should such maintenance fail. Article 4 of the same deed listed the water withdrawals from the same canal upstream of the Cartiere del Fibreno for irrigation or motive power, and among other things to allow the San Carlo factory to draw water not exceeding 4 Italian modules and 30 litres, equal to 4.30 litres per second per minute, with the express right to bring it closer to the same level

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to the San Carlo factory for easier manoeuvring of the intake pertaining to it. And without prejudice to the above-mentioned withdrawals indicated in the first part of Article 4, Count Lefèbvre undertook to maintain all the guarantees established in the previous lease of the same paper factory with the same company, stipulated in the deeds of the notary Bonucci of Naples in 1892, for the remaining amount of water

due to the Cartiere del Fibreno, the amount of water due to the Canale delle Forme not less than one third of the normal flow of the river Fibreno, or better still, to further ensure this amount by means of stable distribution works, would be exempt from this obligation.

(105)

Article 6 of the contract signed by notar Vallauri states that in the Cartiera del Fibreno, which among other things was sold to the Cartiere Meridionali society and previously leased by the same company as mentioned above, there was a pump dynamo that was excluded from the sale and was to continue to operate exclusively for Count Lefèbvre until three years after the signing of the sale contract, which was subject to a fourfold condition precedent. And from the effects of what we shall say of the endowment of motive power to the described San Carlo factory it is appropriate to describe here what is said verbatim in the last part of Art. After the said term of 3 years, the dynamo and pump shall cease to function, but Count Lefèbvre shall have the right to draw from the Forme canal upstream of the Cartiera the water necessary to power one or more motors to be installed in the two properties with a total power of 40 effective horsepower and for the pump to be installed in the two properties and to draw the water necessary for domestic use, all this when he pleases, without his responsibility, drawing a total of

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up to 120 litres per minute per second if, in an unlikely hypothesis, there is no inflow to the modules of the Cartiera del Fibreno paper, in addition to the above, no other innovation can be practised that takes water from upstream of this paper factory, even if it is proved that the minimum flow system of 25 modules is maintained. 4 In the deed of notary Vallauri, for irrigation and other purposes, which will be discussed below, Count Lefèbvre reserves the right to draw 400 lire per minute, which already existed for the benefit of the described San Carlo factory, with the right to bring the corresponding water intake closer to the same factory, and in article 6 he reserves the right to a new draw corresponding to 4 effective horsepower after 3 years from the conclusion of the contract, subject, as we have said, to suspensive conditions. Once the contract had been completed and the three-year period had elapsed, Count Lefèbvre commissioned the engineer Ciccodicola to draw up a project for the cessation of the works which would enable this quantity of horsepower to be produced

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of water from the Forme Canal, capable of adding a force of 40 effective horsepower to that already existing in the San Carlo works, with the waterfall in the said works already existing, available and usable, and in the manner required by the conditions imposed by the notary Vallauri in the aforementioned article 6 of the contract. Similar studies and reports by the aforementioned engineer showed that, with the jump available at the San Carlo plant, to obtain a power of 40

effective horsepower, a quantity of water equivalent to 270 litres per minute would have to be drawn from the Canale delle Forme. And since the plant's engines were already powered by the water that constantly flowed at a rate of 430 litres per minute from the Forme Canal through an intake located in the Montemorano district, at a point on the Canale delle Forme about 500 metres upstream of the plant, which was transported by a subdivision canal running alongside the Forme Canal, but at a lower level, it was decided to modify the intake

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and the subdivision canal to have a total flow of 700 litres per second per minute. At present, therefore, in the Contrada Montemorano, about 500 metres upstream of the San Carlo plant, on the left bank of the Forme canal, there is a one-wing span of width 0.95 and height 0.35, from which the said total extraction of 700 litres is obtained. The water then flows into a special sub-drainage canal which, after crossing the land of certain properties, is buried under the described industrial area belonging to Lefèbvre, in the part next to the Fibreno factory, through this factory in its extreme right wing, passing under the floor of the described grinding machine room to the south, From this end, it pours the water, with a considerable leap of which we shall speak, into the turbine well described, from where, after the motors have been driven, the water diverts into another canal: This canal also goes underground and crosses the remaining part of the outer wing to the right of the factory, then the San Carlo and Strada dei Gelsi estates, the park and the palace of the Lefèbvre estate, to join the canal of the Cartiera del Fibreno as shown on the plan (pl. 1). To study later the value of the motive power

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and for this purpose we will use some relevant data from the aforementioned Ciccodicola report, which we have found to be accurate in the specific experiments and verifications carried out above, except for the variations due to the modifications made, as mentioned above, to the factory mouth and the subdivision channel after the execution of the project, and that is, assuming this ideal level as m 50 in relation to the upper side of the threshold of the last wall of the San Carlo factory on the main western front described, the following results: 1) Since the height of the water surface at the motor loading shaft is m 14.79 and that of the water surface at the drainage channel is m 33.95 (the channel bottom is at m 32.95), the result is a usable waterfall represented by the difference in said height of m 14.80.

2) The diversion channel (2 m long with a variable gradient) has a bottom height of 51 m at its beginning, with a water level very close to 70 cm, giving

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the water line to an ordinary maximum of 57.70. [...].

4) Excluding cases of flooding and extraordinary low water and given the oscillations that, as shown by the investigations carried out, can cause the water surface of the Canale delle Forme to rise and fall under normal conditions, at the point of the Montemorano locality, where the inlet is located, the water surface elevation at that point can be considered as fluctuating between 52.55 and 52.45 metres with a very reliable average of 53.45 metres. [...].

(111)

Page occupied by calculations

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The San Carlo also intermittently receives small amounts of water immediately after the intake of the Canale delle Forme from the Magnene ditch, which branches off from the same Canale delle Forme and a little further upstream from the San Carlo plant intake. And the same driving force may be subject to fluctuations due to the normal lowering of the water surface of the Canale delle Forme. All things considered and calculated, however, it can be assumed with certainty that the 700 litres of water derived from the Canale delle Forme normally provide the San Carlo factory with not less than 100 effective horsepower at any given time, bearing in mind that of the 700 litres derived as before, 430 represent an existing right of withdrawal, held firm by the sale contract between Count Lefèbvre and the Cartiere Meridionali society signed by notar Vallauri, just as other withdrawals upstream of the Cartiera del Fibreno were recognised. It is necessary here to examine whether any liability can arise for the remaining 270 litres

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of withdrawal added at a later date, for the development of the force of 40 effective horsepower, permitted in addition by the contract, as a result of the unreliable hypothesis expressed in Article 6 of the same contract, if the 25 modules for the Cartiera del Fibreno should ever be unavailable. In that case,

in accordance with the above-mentioned article, no more than 120 litres per minute per second could be withdrawn, which, together with the 400 litres recognised as already existing, would make a total of 550 litres per second, which, on the basis of the above-mentioned data and formula, would give a motive power available to San Carlo of no more than 80 effective horsepower. In this regard, first of all, it is noted from information obtained above that this hypothesis has never been verified to date since the time of the modification of the San Carlo intake and is really normally unreliable except in cases of very excessively low water; mathematically, then, it is deduced that the width of the Canale delle Forme a little further downstream is 3.20 m wide.

(hydraulic flow calculations, 114)
(hydraulic flow rate calculations 115)

(116)

The advantage of the San Carlo plant is undoubtedly one hundred actual horsepower, all the more so since the above calculations showed an average of 103 actual horsepower and the difference must be compensated for on the very remote possibility of the (said) hypothesis.

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