



INDUSTRIAL HERITAGE

THE LINEN, COTTON AND SILK INDUSTRIES IN THE ŠUMPERK AND JESENÍK REGIONS

MICHAELA RYŠKOVÁ PAVLA DUBSKÁ PETRA MERTO VÁ

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Šumperk, Mechanical linen
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weaving mill / Moravolen /
Sumtex CZ. Photograph by Viktor
Mácha, 2020.

INTRODUCTION

For centuries, the towns of Šumperk and Jeseník were major centres of textile production – an industry which until quite recently played a dominant role in the economies of North Moravia and North-West Silesia. The region's natural environment and climate made it an ideal place for growing flax. A large proportion of the rural population supplemented their otherwise meagre earnings through linen production (flax spinning and weaving); this represented a welcome additional source of income. Rural spinners and weavers played a key role in the emergence of the strong local tradition of linen production, which then developed further in urban communities and ultimately became the basis for the factory-based industrial production that burgeoned in the 19th century. At the end of the 18th century, local producers also began working with cotton – though it tended to be used mainly in the production of cloth made from cotton/linen blends. From 1850 onwards, the region became known for its woven silk and semi-silk cloth – a type of production that was introduced by Viennese businessmen.

Although textile production in Šumperk and Jeseník now largely belongs to the past, its heritage is still a strong presence in both towns – as well as in other communities in the region. Cloth is still produced locally by the Šumperk-based company Sumtex CZ, which supplies Oskava-based CNM Textil, a producer of various textile goods. However, most of the local factories are no longer operating, and their buildings are now used for other types of production, or as commercial premises or warehouses. This proves that the buildings that were originally used for textile production are essentially universal premises, and that breathing new life into them need not always be difficult.

This book explores the heritage of the textile industry in the Šumperk and Jeseník regions, focusing particularly on the buildings and production sites that have survived to the present day. It investigates their significance within the wider historical context of the local linen and silk industries (also including a detour into cotton, in the form of corduroy production) and the buildings that were associated with these industries.

The region of North Moravia and North-West Silesia comprised several separate industrial centres of varying size, mainly concentrated around the administrative capitals of the individual districts (Šumperk, Jeseník, Rýmařov, Bruntál, Krnov). These centres remained essentially separate from each other (especially along an east-west axis), as the hilly terrain prevented settlements from expanding.¹ In view of this fact (and also due to length constraints), this publication focuses on the regions

1 GAWRECKI, Dan et al. *Průmyslové oblasti českých zemí za kapitalismu (1780–1945)*. Part 1. 1780–1918. Opava 1987, 228–231; POPELKA, Petr. *Historie textilního průmyslu na Jesenicku. Stav a perspektivy bádání*. In MACHÁČEK, Pavel (ed.). *XI. svatováclavské mezinárodní setkání v Jeseníku. Historie textilního průmyslu na Jesenicku*. Jeseník 2011, p. 7.



Jeseník, general view of the town square and its vicinity from the north-west. The view includes the original Josef Raymann bleachery, later the Regenhart & Raymann bleaching shop no. I, which was located next to the Bělá River to the east and south-east of the square. The basis for the bleaching shop was a previous bleachery and mangle (with chimneys) at the right of the photograph and the low buildings on the right behind the church. Historical photograph, collection of Michaela Ryšková.

centred around three main towns: Šumperk, Zábřeh and Jeseník. The territory covered in this book thus covers the area of the former judicial districts of Šumperk, Zábřeh, Staré Město, Vízmbek (today Loučná nad Desnou), Frývaldov (today Jeseník) and Cukmantl (today Zlaté Hory).² The regions to the east of this area, centred around Bruntál and Rýmařov, will be dealt with in a future publication, and a separate monograph has already been dedicated to the Krnov region.³

The opening chapters of this book trace the historical development of linen and silk production in the region, focusing primarily on the 19th century and the first half of the 20th century – i.e. the period in which the industry thrived, and when most of the region's textile factory buildings were constructed. Post-1945 developments are only treated marginally. In order to map developments in this post-war period, it would have been necessary to conduct very extensive surveys of source material which is still largely unprocessed, and this was not a realistic task due to the various restrictions imposed by the government in 2020/2021 in a response to the ongoing coronavirus pandemic.

After the historical chapters, the book presents an overview of important entrepreneurs and companies. The decision to include particular individuals and businesses in this section was based on their importance within the history of the local textile industry, their importance

2 These boundaries are only exceeded once in this book – in the case of the village of Oskava (formerly in the Uničov judicial district).

3 RYŠKOVÁ, Michaela. *Sdílné město. Krnovské textilky v pohledu památkové péče / A Communicative Town. The Krnov-based textile factories from the point of view of monument preservation*. Ostrava 2008.

to the architectural history associated with the industry, and the heritage values of the surviving buildings and production sites.

Before 1945, the region covered in this book was part of the former Sudetenland, and it had a large German-speaking population, so the names of places and organizations always existed in parallel German and Czech versions. For the purposes of this book, the decision has been made to use primarily the German versions of company names for the period up to 1945, when the large majority of German-speakers were expelled and the region lost its predominantly German-speaking population. Where relevant, the names of Czechoslovak organizations dating from the inter-war period are naturally given in Czech. Place names are given primarily in their modern (Czech) variants, to aid orientation for today's readers and visitors. However, where necessary or relevant, the former (German) variant of the name is given in brackets. So, for example, the towns of Šumperk and Jeseník were formerly known by their German-speaking inhabitants as Mährisch Schönberg and Freiwaldau respectively, but in this publication the contemporary names are used.

There then follows a chapter giving a brief presentation of the production methods and technologies used in the linen, silk and cotton industries. This will help readers to gain a basic understanding of the processes that took place in the region's spinning mills, weaving mills and finishing shops.

The core of the book consists of an extensive chapter tracing the history of textile industry buildings in the region. Buildings from the pre-industrial era (textile workshops and manufactories) have only survived very sporadically, and we generally have no information on what they looked like. However, buildings from the industrial era (factories) have either survived intact or are described in archive materials.

The book presents and describes existing sites that are deemed important due to the historical, typological, architectural or technical values embodied in them. The architectural history of these sites is illustrated by means of archive plans, present-day photographs, and also numerous drawings which reconstruct what the buildings looked like at the peak of their historical development – i.e. when the most substantial part of the site had already been built, but the structures had not yet been subjected to degradation or even demolition. These drawings also give information on the dates of construction or later structural alterations.

The final part of the book consists of registers which present various data (including location data) on the individual textile production sites. However, these registers are not exhaustive listings. Especially in the linen industry, there were numerous businesses in the region for which sources are very scarce, often making it impossible to determine anything more than just the name of the business. For this reason, the registers list only those companies for which it was possible to determine at least some elements of basic information – the type of site, its location, the name of the company that operated it, and the dates when it was active.



Hanušovice-Holba, the
Oberleithner & Co. linen
spinning mill, photograph
from 1886. VMŠ (Šumperk
Museum of Local History),
inv. no. H6055.

HISTORICAL CONTEXTS

THE HISTORY OF THE LINEN AND SILK INDUSTRIES UP TO 1918

THE LINEN INDUSTRY

Until recently, linen production played a major role in the economy of North Moravia and North-West Silesia. The soil and climate in the region were not conducive to growing grain (especially wheat), and particularly outside the growing season, the inhabitants of the densely populated towns and villages were forced to look beyond agriculture for a source of income.¹ One such source of income was the production of linen yarn and cloth – an activity that was widespread both in rural areas and in urban communities, where those involved in linen production established guilds from the 15th century onwards.²

In the 16th century, the Šumperk and Jeseník regions became an integral part of a large swathe of Central Europe where textile production was an important form of economic activity. This area included not only North Moravia and Silesia, but also North-East Bohemia, the Orlice hills, the Kladsko (Glatz / Kłodzko) region, the Silesian foothills of the Krkonoše (Riesengebirge) mountains, Saxony and the adjacent part of Lusatia. This territory was one of the most important sites of proto-industrial activity in the whole of Europe. The estates of North Moravia, as well as the mountain villages in the Silesian Jeseníky mountains, produced yarn which was sold by Silesian merchants in linen-making centres in the Silesian Krkonoše foothills, Lusatia, Saxony, and as far afield as the Netherlands. The yarn was processed at bleaching shops in the region that later became Austrian (Habsburg) Silesia, as well as in Lusatia (which bleached and dyed linen cloth). This emerging network of commercial cooperation was disrupted in the mid-18th century when Silesia was partitioned between Prussia and Austria (the Habsburg Monarchy). The large swathe of linen-producing territory became increasingly fragmented, and stronger links began to form among the linen-making centres in North-East Bohemia, North Moravia and Austrian Silesia.³

During the 17th century and the first half of the 18th century, landowners from the local nobility played the key role in organizing the production of and trade with linen yarn in the Šumperk

1 ZÁŘICKÝ, Aleš et al. *Rakouské Slezsko v procesu modernizace 1742–1914*. Vol. 1. Ostrava 2020, p. 172.

2 The first linen-makers' guild in Šumperk probably dates from 1472. In Jeseník, Zlaté Hory or Staré Město, separate linen-makers' guilds were not established until the 16th or early 17th centuries.

3 ZÁŘICKÝ, A. et al. *Rakouské Slezsko*, pp. 172–173; MAINUŠ, František. *Plátenictví na Moravě a ve Slezsku v XVII. a XVIII. století*. Ostrava 1959, pp. 193–194.

(Mährisch Schönberg) and Jeseník (Freiwaldau) regions.⁴ The nobility exploited the system of local taxation and compulsory labour (in which subjects living on aristocratic estates had to perform a set amount of labour duties for their lords) to further their own commercial interests, taking advantage of their pre-emptive right to purchase flax and yarn from their subjects. For this purpose, the nobility created a system of buyers, most of whom were individuals who represented the local lords' interests within their estates (e.g. village mayors, millers, etc.). These buyers frequently delegated their rights to commercial companies from the local area or further afield. The monopolistic position of local lords in the linen yarn trade led to a long-term shortage of yarn, and this situation acted as an obstacle to local weavers, hindered the development of linen production, and reduced the volume of commercial capital in local economies.

The situation only began to change in the second half of the 18th century. After the Austrian Monarchy's defeat in the Silesian Wars, the government attempted to support the local linen industry so that it would be able to supply not only the Austrian market, but also foreign markets in southern (and south-western) Europe as well as in the Near East. Customs regulations introduced in 1752 prohibited Silesian merchants from buying yarn produced on estates in North Moravia and Austrian Silesia, and legislation introduced in Moravia three years later prohibited the forced purchase of yarn.⁵ In 1773, new legislation made it possible for non-guild members to produce linen cloth.⁶

In the 1760s, merchants (especially from Moravia) attempted to gain control over the organization of linen-weaving in the region. However, the first workshop-type production site (manufactory) was not established until two decades later, by the Viennese entrepreneur Johann Ernst Klapperoth (though his main focus was on producing cotton and semi-cotton cloth).⁷

It was only at the end of the 18th century that linen production in the Šumperk and Jeseník regions began to see a more substantial injection of capital from local merchants and factors. The first major linen-producing company in the region was established in Šumperk by Franz and Karl Wagner.⁸ Numerous other entrepreneurs (Eduard Oberleithner, Friedrich Ulrich, Felix and Anton Müller, Johann Siegl, Josef Raymann, Ignaz Seidl) followed the Wagners' lead from the 1820s onwards, as the linen industry managed to overcome the negative impacts of the boom-and-bust cycle that had characterized the early years of the century (caused by the Napoleonic Wars, the Continental Blockade and the Austrian state bankruptcy of 1811).⁹ During the 1820s and 1830s, many such businessmen invested in modernizing their bleaching and treatment operations; they introduced new methods involving chemicals which enabled them to improve the quality of their goods and thus gain a stronger position on (mainly foreign) markets.¹⁰

Šumperk soon became one of the leading centres of linen production in Moravia – which by the turn of the 1840s had become the second largest linen producer of all the provinces in the Habsburg Monarchy.¹¹ Similarly, Jeseník and the surrounding area made the largest volume of linen cloth in

4 See the Introduction for an explanation of the use of German and Czech names for places and companies in this publication.

5 In Silesia, the nobility's monopoly on the purchase of yarn from their subjects had already been abolished by legislation introduced in 1708 (and subsequently in 1717 and 1724).

6 ZÁŘICKÝ, A. et al. *Rakouské Slezsko*, p. 173; DOHNAL, Miloň. *Původní akumulace a vznik manufaktur v severomoravské plátenické oblasti*. Praha 1966, pp. 68–86.

7 DOHNAL, M. *Původní akumulace*, especially p. 87.

8 Ibid., especially pp. 94–96.

9 ZÁŘICKÝ, A. et al. *Rakouské Slezsko*, p. 174.

10 For more details see DOHNAL, Miloň. *Průmyslová revoluce a počátky dělnického hnutí v severomoravské plátenické oblasti*. Ostrava 1973, pp. 27–33.

11 Ibid., pp. 15–16; *Tafeln zur Statistik der österreichischen Monarchie für das Jahr 1841*. Wien 1844, Tfl. 41 (here-under *Tafeln 1841*). In 1841, Šumperk-based businessmen alone produced 200,000 rolls of linen cloth with a

Šumperk, Friedrich
and Gottfried Kunz,
former corduroy
manufactory,
unfinished yarn
stock book,
1823–1828.
SOKA Šumperk,
fonds AM Šumperk,
inv. no. 1226, box 277.



Austrian Silesia.¹² The regions produced mainly coarser cloth, with other production falling into the categories of finer cloth (Šumperk Jeseník) or damask and table linen (especially Jeseník and Zlaté Hory). The cloth was sold either in its raw (unbleached and undyed) form or white (bleached), coloured (dyed), patterned, or dressed (i.e. finished). Besides local markets (mainly based in the Moravian cities of Olomouc and Brno), it was also sold in Vienna, Trieste, Venice, Milan, Ancona, Pest, Pressburg (now Bratislava), Debrecen, Lemberg (now Lviv), Galicia and the Balkans. Higher-quality fine linen cloth was exported via Bremen and Hamburg to American ports.¹³

Alongside the existing purchasing system, the linen industry also saw the emergence of higher forms of proto-industrial production. Larger companies operated on the basis of the factor system or used a range of small-scale manufactories, and centralized manufactories also began to emerge.¹⁴ In some cases, all three systems existed in conjunction with each other, and “it was common practice among factors to procure raw materials (yarn) via the usual purchasing system, while also supplying the yarn to the weavers in a manner typical of the factor system. A frequent combination was a symbiosis of the factor system in cloth-weaving with a centralized manufactory system in finishing”,¹⁵ this combination was used by the above-mentioned Wagners as well as Raymann and Oberleithner.

The labour force consisted not only of weavers based in urban communities, but also (and indeed primarily) of rural populations who produced yarn and cloth either as their main source of earnings

length of 30 ells and a total value of 1,800,000 gulden; this was 42% of all such rolls produced in Moravia, and it accounted for more than 50% of the monetary value of the province's entire production.

12 *Tafeln* 1841. In the same year, total linen production in Austrian Silesia was 161,000 rolls with a length of 30 ells and a total value of 986,000 gulden. Jeseník and the surrounding area produced 30,000 rolls (total value 250,000 gulden). Production in Zlaté Hory was counted together with Bruntál and Andělská Hora (15,000 rolls, total value 120,000 gulden).

13 Ibid.; MZA Brno, fonds D8 Stabilní katastr – vceňovací operáty (Stable cadastre – valuations), sign. 406, box 161; Ibid., sign. 1408, box 526; Ibid., sign. 1858, box 682; Ibid., sign. 2219, box 805; Ibid., sign. 2284, box 827; SOKA Šumperk, fonds AM Šumperk, inv. no. 1225, box 277; ZÁŘICKÝ, A. et al. *Rakouské Slezsko*, p. 174.

14 Cf. MYŠKA, Milan. Nákladnický systém a decentralizovaná manufaktura. Teoretická úvaha o podstatě těchto ekonomických kategorií na příkladu textilního průmyslu. In *I. setkání historiků textilního a oděvního průmyslu. Z dějin textilu*. Suppl 4. Ústí nad Orlicí 1985, p. 86.

15 Ibid., p. 102.

or (in most cases) as a supplementary job.¹⁶ However, by the middle of the 19th century the emergence of higher forms of organization in linen production led to a fall in the numbers of small-scale independent weavers and a corresponding rise in the numbers of waged weavers – though the linen industry nevertheless remained highly fragmented, scattered over a large number of small-scale production centres.¹⁷

From the end of the 1830s onwards, entrepreneurs in the linen industry increasingly lagged behind their technically more sophisticated competitors in other countries – especially in England, Ireland, Belgium and Germany, who were able to make cheaper and better-quality goods¹⁸ which supplanted products from Moravia and Silesia on foreign markets.¹⁹ Even on the Austrian market, the situation for the linen industry became complicated. Although linen producers had long been protected against foreign competition by high import duties, domestic consumers increasingly preferred cotton fabrics.²⁰

In order to make finer linen goods which would be able to compete more effectively with Western European products on foreign markets, producers had to have access to sufficient quantities of high-quality yet reasonably priced yarn. The handmade yarn produced in the Šumperk and Jeseník regions was no longer of the required quality, and the local production capacity was also insufficient.²¹ Local entrepreneurs were thus forced to buy machine-produced yarn from abroad, mainly from neighbouring Prussia.²²

This undesirable dependence on imports of foreign-made yarn was one of the arguments used in 1839 by the signatories of an application for a permit to establish a joint-stock company whose plan was to build the first mechanized flax and hemp spinning mill in Moravia. The mill began production three years later in Šumperk.²³ In the early 1850s, a mechanized flax spinning mill was opened in Loučná nad Desnou, as well as the Raymann spinning mill in Jeseník.²⁴ However, these mills did not produce enough yarn to meet demand from local cloth producers. Moreover, the quality of their yarn was not always adequate; this was a consequence of the inadequate preparation of the flax stems prior to the spinning process – though more modern and effective

16 DOHNAL, M. *Původní akumulace*, pp. 21–24; *Tafeln 1841*. In 1841, 143,000 people in Moravia and Silesia produced yarn for the market, but only 6,000 of them were involved in this production year-round. In the same year, 21,500 people worked as weavers, but only 6,000 of them did so on a year-round basis.

17 STEIN, Ernst von. *Die Oesterreichische Leinen-Industrie*. In *Die Gross-Industrie Oesterreichs*. Band IV. Wien 1898, pp. 281–282.

18 MYŠKA, Milan. *Hospodářsko-politické předpoklady rozvoje lnářského průmyslu v českých zemích 1830–1914*. *Wiek i stare i nowe*, vol. 2, (Katowice) 2001, pp. 92–109, reprinted in: ZÁŘICKÝ, A. et al. *Milan Myška. Z díla hospodářského historika*. Ostrava 2010, p. 270. Mechanized linen yarn mills had been operating in these countries for many years; for example, in the north of Ireland the first attempts to establish a mechanized spinning mill dated from the first years of the 19th century, and in Lower Silesia from before 1820.

19 JANÁK, Jan. *Dějiny Moravy*. Part 3/1. *Hospodářský rozmach Moravy 1740–1918*. Brno 1999, p. 101.

20 MYŠKA, M. *Hospodářsko-politické předpoklady*, pp. 272–273.

21 *Ibid.*, p. 271; DOHNAL, M. *Průmyslová revoluce*, p. 34.

22 The mechanization of flax spinning generally lagged behind the mechanization of cotton spinning, which in Bohemia, Moravia and Austrian Silesia became widespread from the beginning of the 19th century. Cf. MYŠKA, Milan. *Bavlnářský průmysl v Evropě a v zemích habsburské monarchie v době založení maloskalické přádelny*. In ZÁŘICKÝ, A. et al. *Z díla*, p. 292; PÁVEK, M. *Textilní výroba*. In JÍLEK, František et al. *Studie o technice v českých zemích 1800–1918*. IV. Praha 1986, pp. 20–21.

23 For more details see particularly JANÁK, Jan. *Ke vzniku první mechanické přádelny lnu na Moravě v Šumperku. Lnářský průmysl*, vol. 4, (Trutnov) 1981, pp. 190–192; 207.

24 *Bericht der Handels- und Gewerbekammer in Olmütz an das hohe k. k. Ministerium für Handel, Gewerbe und öffentliche Bauten über den Zustand der Landeskultur, der Industrie, der Gewerbsverhältnisse und des Verkehrs im Jahre 1852*. Olmütz 1853, p. 60; MYŠKA, Milan. *Slezská lnářská firma „Regenhart und Raymann“ za průmyslové revoluce. Příspěvek k dějinám lnářského průmyslu ve Slezsku*. In *Příspěvky k dějinám lnářství na severní Moravě*. LP. Supplementum 6. Šumperk – Trutnov 1986, p. 102.

methods came into use from the 1840s, becoming widespread in the 1850s.²⁵ The demand for machine-produced yarn remained high, and it remained necessary to satisfy this demand by importing yarn (some of it from spinning mills in Bohemia).²⁶

In the early 1850s, entrepreneurs in North Moravia began to draw attention to the necessity of mechanization in the weaving process, in line with contemporary developments in the cotton industry;²⁷ the focus was especially on the mechanized production of coarser cloth, which would enable larger volumes to be produced more quickly and cheaply.²⁸ However, it was many years before these progressive ideas became a reality.

The reasons for this delay included a number of general factors as well as regional factors. The state's policy on customs duty had the effect of protecting handcraft production, and most local entrepreneurs thus had little motivation to introduce new, modern methods.²⁹ Additionally, the region had a surplus of cheap labour in the form of home-based weavers, who could be quite flexibly incorporated into the production process in response to fluctuating demand.³⁰ A further contributing factor was the fact that the mechanization of linen production was more expensive than was the case with cotton production,³¹ and for many years local entrepreneurs lacked the necessary capital for this type of investment.³²

Moreover, the economic situation in the 1850s was not conducive to large-scale investments; the linen industry had to contend with stagnating and then falling demand, as well as with the impacts of the first global recession which struck the local market in the autumn of 1857.³³ A further difficulty was presented by the increasingly strong competition from England and Belgium, which weakened local producers' position especially on the (crucially important) Italian market; up to this point, their goods had enjoyed solid sales in Italy not due to their quality, but rather thanks to their low prices.³⁴ Sales were thus increasingly restricted to Austrian markets, with smaller volumes also finding buyers in the Hungarian part of the Habsburg Monarchy.³⁵

During the 1850s, the cotton industry underwent dynamic growth in North Moravia and Silesia (with important centres of production including Šternberk, Místek, Frýdek, Červená Voda, Rýmařov and Štíty). In an attempt to boost their competitiveness, some entrepreneurs from Šumperk and Jeseník thus began making not only pure linen cloth, but part-linen and pure cotton fabrics. Products included semi-linen cloth, cotton chifon, calico, twill for trousers, and cotton duck.³⁶ The linen industry had to wait until the first half of the 1860s until it experienced a substantial boom; this was a consequence of the American Civil War, which precipitated a major crisis in

25 For more details see particularly DOHNAL, M. *Průmyslová revoluce*, pp. 50–60.

26 *Bericht im Jahre 1853*, p. 31; SMUTNÝ, Bohumír. K působení firmy Jan Faltis dědicové Trutnov na severní Moravě. In *Příspěvky*, pp. 131–136; *Adreßbuch für die Stadt Mähr.-Schönberg*. Mähr.-Schönberg 1911, p. 135.

27 PÁVEK, M. Textilní výroba, p. 23. Mechanical weaving looms began to be used in the Bohemian, Moravian and Silesian cotton industry from the 1850s onwards, and in the 1870s their production volumes overtook that of hand looms.

28 DOHNAL, M. *Průmyslová revoluce*, p. 64; *Bericht im Jahre 1853*, p. 44.

29 GAWRECKI, D. et al. *Průmyslové oblasti*, p. 231.

30 DOHNAL, M. *Průmyslová revoluce*, pp. 24–26.

31 JAKUBEC, Ivan – JINDRA, Zdeněk. *Dějiny hospodářství českých zemí. Od počátku industrializace do konce habsburské monarchie*. Praha 2006, p. 191.

32 *Bericht im Jahre 1852*, p. 68; GAWRECKI, D. et al. *Průmyslové oblasti*, p. 231.

33 JINDRA, Zdeněk – JAKUBEC, Ivan et. al. *Hospodářský vzestup českých zemí od poloviny 18. století do konce monarchie*. Praha 2015, p. 213.

34 *Ibid.*, p. 110; *Bericht im Jahre 1852*, pp. 58, 62, 67.

35 *Bericht im Jahre 1853*. Olmütz 1854, p. 43; ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 2314, box 252.

36 VMŠ, Sběrka šumperského muzea, podsbírka historická (Collection of the Šumperk museum, history subcollection), sign. H11.026 – H11.049, H11.057 – H11.060, H11.062 – H11.066, H11.069, H19.832.



Šumperk, Mechanical linen spinning mill in Šumperk / Ed. Oberleithner's Söhne mechanical weaving mill, photograph from 1886. VMŠ (Šumperk Museum of Local History), inv. no. H6055.

the cotton industry (the main competitor for linen producers).³⁷ The increased demand for linen goods motivated local entrepreneurs to implement further investments, especially in mechanizing the spinning process. New spinning mills were built in Hanušovice and Holba (belonging to the Oberleithner family) and in Sudkov (I. Seidl),³⁸ and the Šumperk businessman Karl Bock also opened a small linen spinning mill.³⁹

When the American Civil War ended, raw cotton supplies to Europe were resumed, and the cotton industry again became a stronger competitor for linen producers. Moreover, the mechanized linen spinning mills in the local region had to contend with competition from cheaper yarn produced in neighbouring Bohemia.⁴⁰ Austrian industry as a whole experienced dynamic growth from the second half of the 1860s until the collapse of the Vienna stock exchange in 1873,⁴¹ but even during this boom period the linen industry faced weak demand and financial difficulties.

During this period, local linen producers again began to voice the opinion that the industry's precarious situation could potentially be alleviated by the introduction of mechanical looms – which had been introduced in neighbouring Germany from 1860.⁴² Probably the first mechanical linen looms in the Habsburg Monarchy began operating at the Jeseník company Regenhart & Raymann in 1866. Two years later, the company built a large mechanized weaving mill with 150 looms.⁴³

However, most of the linen entrepreneurs in the region continued to operate with hand looms. This was partly due to the continuing surplus of cheap labour offered by local weavers, and partly

37 MYŠKA, Milan. *Lnářský a bavlnářský průmysl na Frýdecku a Místecku do počátků tovární výroby. (Opožděná industrializace)*. Frýdek-Místek 2013, pp. 48–49.

38 SPURNÝ, František. Moravolen Hanušovice. *Vlastivědné zajímavosti*, no. 125. Šumperk 1974, unpaginated; d'ELVERT, Christian. *Zur Cultur-Geschichte Mährens und Oesterr. Schlesienp. 3. Teil. Geschichte der Woll-, Leinen-, Baumwoll- und Seidenwaaren, der Bier-, Branntwein-, Essig- und Zuckerfabrikation und des neuesten Bergbaues in Mähren und Oesterr. Schlesien*. Brünn 1870, p. 363; SOKA Šumperk, fonds AO Holba, inv. no. 22, box 3.

39 DOHNAL, M. *Průmyslová revoluce*, p. 45; HARRER, Franz. *Die Anfänge der mechanischer Spinnerei in Mähr. Schönberg*. Nordmährischer Grenzboten, no. 129, 6. 11. 1943, p. 5; DUBSKÁ, Pavla. Vývoj šumperského textilnictví na příkladu podnikatelské rodiny Seidlů. In SLABOTÍNSKÝ, Radek – STÖHROVÁ, Pavla (eds.). *K historii průmyslu, exaktních věd a techniky na Moravě a ve Slezsku I. Od konce 18. století do roku 1918*. Brno 2013, pp. 61–71; ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), sign. Q 1852/32, box 172.

40 DOHNAL, M. *Průmyslová revoluce*, pp. 47–48. At the time, spinning mills in Bohemia paid tax at less than half the rate that was levied on Moravian spinning mills, giving them a major advantage.

41 JINDRA, Z. – JAKUBEC, I. et. al. *Hospodářský vzestup*, p. 214.

42 DOHNAL, M. *Průmyslová revoluce*, pp. 68, 70.

43 MYŠKA, M. *Slezská lnářská firma*, p. 109.

due to the lack of the necessary capital – initially also combined with high duties on imported machinery. Local producers also complained of the high prices of fuel and transportation.⁴⁴

At the beginning of the 1870s, the conditions for the development of the linen industry took a severe turn for the worse. The first major blow came in 1872, when the Austrian state decided to stop using linen cloth and to use cotton fabrics instead.⁴⁵ Linen entrepreneurs reacted to this step with dismay.⁴⁶ The industry's situation became catastrophic as a result of the collapse of the Vienna stock exchange in May 1873.⁴⁷ During 1874, companies that had already faced a shortage of capital in the previous years⁴⁸ were forced to reduce or entirely cease production. Their warehouses were full of unsold goods, tying up a substantial amount of capital.⁴⁹ Many of these companies never managed to resume production, and ended up insolvent.⁵⁰

In the second half of the 1870s, the major recession brought by the stock exchange collapse led to wide-ranging changes in the field of international trade – with substantial impacts on the Moravian and Silesian linen industry. Individual countries began to introduce high rates of duty in order to protect their own agriculture and industry. In 1878 Austria-Hungary too set out on this path, though the government in Vienna focused mainly on protecting agricultural producers, and this worsened the conditions for exporting industrial goods.⁵¹ The most severe impact on the further development of the linen industry was brought by Austria-Hungary's trade agreements signed with Germany, Italy, Switzerland and Belgium in 1891; import duties on grain were reduced in these countries, *"but again, as many times before, the linen industry served as the victim."*⁵² Import duties on linen yarn and cloth were actually raised, and this represented a fatal blow to Austrian linen exporters, who could no longer compete on these markets against cheaper competitors. In the 1890s, the USA likewise began to use import duties as a protectionist tool;⁵³ until that point, linen producers (mainly from Bohemia) had still managed to retain at least a small share of the market.⁵⁴

Demand for linen goods on the domestic market was insufficient. The main demand was for coarse cloth (which was used for medical purposes or for linen sheets, tablecloths and handkerchiefs) as well as for cheap semi-linen goods. Domestic consumers had a strong preference for cheaper cotton cloth,⁵⁵ though some linen cloth was sold on the Hungarian market.⁵⁶ Overall, Austrian linen producers were forced to look for foreign markets to sell around one-half of their output.⁵⁷

44 DOHNAL, M. *Průmyslová revoluce*, p. 70.

45 STEIN, E. von. *Die Oesterreichische Leinen-Industrie*, p. 297.

46 E.g. *Summarischer Jahresbericht der Handels- und Gewerbekammer in Olmütz über die Tätigkeit der Kammer und die wirtschaftlichen Verhältnisse des Kammerbezirkes im Jahre 1890* (hereunder *Summarischer Jahresbericht im Jahre* – also when referring to issues of the report from later years). Olmütz 1891, p. 26.

47 STEIN, E. von. *Die Oesterreichische Leinen-Industrie*, p. 298.

48 DOHNAL, M. *Průmyslová revoluce*, pp. 70–71.

49 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 2336, box 253; MZA Brno, fonds B13 Moravské místodržitelství – presidium (Moravian Governor's Office – Presidium), sign. 197, box 290.

50 DOHNAL, M. *Průmyslová revoluce*, p. 71.

51 STEIN, E. von. *Die Oesterreichische Leinen-Industrie*, p. 298; HLAVAČKA, Milan et al. *České země v 19. století. Proměny společnosti v moderní době I*. Praha 2016, pp. 391–392.

52 *Summarischer Jahresbericht im Jahre 1892*. Olmütz 1893, p. 47.

53 STEIN, E. von. *Die Oesterreichische Leinen-Industrie*, p. 283.

54 *Summarischer Jahresbericht im Jahre 1894*. Olmütz 1895, p. 35.

55 *Summarischer Jahresbericht im Jahre 1892*. Olmütz 1893, pp. 46–47; *Summarischer Jahresbericht im Jahre 1894*. Olmütz 1895, pp. 33, 35.

56 *Summarischer Jahresbericht im Jahre 1900*. Olmütz 1901, p. 85.

57 JANÁK, J. *Dějiny Moravy*, p. 107.

They increasingly focused their attention on southern European markets and Turkey. However, at the beginning of the 20th century, the Austrian government raised import duties on agricultural goods (as part of a policy to support Austrian agriculture), and this worsened the conditions for exporting industrial goods to these markets.⁵⁸ The linen industry thus regularly imported more than it exported – though most imports were raw materials, while most exports were linen yarn and cloth.⁵⁹

The overall unfavourable economic situation was also reflected in the industry's slowness to introduce mechanical looms. In the 1870s, just 500 mechanized linen looms were in operation in the entire Habsburg Monarchy, whereas the cotton industry already had 17,500 mechanized looms.⁶⁰ For example, in 1881 just 24 mechanical looms (belonging to the Ed. Oberleithner's Söhne company) were active in the Šumperk region.⁶¹ Nevertheless, the number of mechanical looms in the local linen industry did increase slowly in the subsequent years. Mechanical weaving mills were built by a number of local companies: Karl Siegl sen., Norbert Langer & Söhne, Bischof and Jeržabek, and Wilhelm Schay.⁶²

Despite these developments, a substantial proportion of local linen entrepreneurs continued to rely on handcraft production. Indeed, even the owners of mechanized weaving mills also continued to produce goods with manually operated looms (or using home-based weavers).⁶³ Handcraft production remained competitive primarily due to its low operating costs. It also involved the use of mechanized commercial bleaching and finishing shops which were able to offer goods of a very high quality for acceptable prices.⁶⁴

It was during the first decade of the 20th century that the negative consequences of Austria's customs policy became fully apparent. The situation was relatively favourable in 1905 and 1906,⁶⁵ enabling the owners of some mechanized weaving mills to expand their operations.⁶⁶ However, in the subsequent years there was a sharp drop in exports of linen goods (yarn and cloth) to European and overseas markets. The situation was also exacerbated by a shortage of flax on the domestic market;⁶⁷ from 1908 there was a substantial reduction in the area of land where flax was grown in Austria.⁶⁸ Shortly before the First World War, 75–80% of flax for the Austrian linen industry had to be imported, mainly from Russia, Belgium and Germany;⁶⁹ this increased the cost of the raw material. The price of flax also rose due to several successive poor harvests that had hit both Austrian and foreign producers.⁷⁰

58 HLAVAČKA, M. et al. *České země*, pp. 391–392.

59 MYŠKA, M. *Hospodářsko-politické předpoklady*, pp. 276–277; STEIN, E. von. *Die Oesterreichische Leinen-Industrie*, p. 302; *Summarischer Jahresbericht im Jahre 1900*. Olmütz 1901, p. 85.

60 JAKUBEC, I. – JINDRA, Z. *Dějiny hospodářství*, pp. 209, 211.

61 TURKOVÁ, Hana. Vybrané objekty textilního průmyslu na území města Šumperka. *Památková péče na Moravě – Monumentorum Moraviae tutela*, 2008, no. 14, Technické památky, p. 24.

62 BERAN, Lukáš – VALCHAŘOVÁ, Vladislava – ZIKMUND, Jan (eds.). *Industriální topografie. Olomoucký kraj* (hereunder *Industriální topografie*). Praha 2013, pp. 189–190, 222–223.

63 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 7328, box 863, 864. SOKA Šumperk, fonds AM Šumperk, inv. no. 1368, box 561.

64 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 7188, box 830.

65 *Summarischer Jahresbericht im Jahre 1906*. Olmütz 1907, pp. 36–49.

66 BERAN, L. – VALCHAŘOVÁ, V. – ZIKMUND, J. (eds.). *Industriální topografie*, pp. 189–190, 222–223.

67 *Summarischer Jahresbericht im Jahre 1911*. Olmütz 1912, p. 21.

68 *Summarischer Jahresbericht im Jahre 1915*. Olmütz 1916, p. 107.

69 *Summarischer Jahresbericht im Jahre 1914*. Olmütz 1915, pp. 100–101.

70 MYŠKA, M. *Hospodářsko-politické předpoklady*, p. 277; *Summarischer Jahresbericht im Jahre 1911*. Olmütz 1912, p. 22.



Jeseník, Regenhart & Raymann company. Above: mechanical weaving mill, 1868; hand weaving shop (formerly A. Küfferle mechanical weaving mill). In the middle: hand weaving shops; administrative and commercial centre of the Regenhart & Raymann company, located in a mechanical linen spinning mill; weavers' housing schemes. Below: bleaching shop no. II; bleaching shop no. I. VMŠ (Šumperk Museum of Local History), inv. no. H17708.

In addition to high flax prices, linen producers were also hampered by increasing wage demands and the necessity to pay pension contributions and injury insurance. Entrepreneurs repeatedly complained of rising production costs, but many of them were reluctant to raise the prices of their products as they feared that this would damage their competitiveness.⁷¹

Matters were also complicated by the increasingly tense international political situation, which led to the outbreak of armed conflicts in the Balkans (1912–1913) and ultimately to the First World War.⁷² The local linen industry was negatively impacted by the initial conflict in the Balkans, as the region had been an important export market for its products.⁷³ During 1913, linen producers began to scale down their operations (mostly cutting production to just five days a week) and to lay off workers.⁷⁴

The crisis in the linen industry was exacerbated by the outbreak of the First World War. Linen producers were forced to adapt their operations to meet the demands of the wartime economy. The production and sale of linen yarn and cloth was regulated by the state from the outset, as the severing of transport links and the disruption of established commercial relationships caused substantial problems with procuring the necessary volumes of flax (and also pushed up the prices of the raw material).⁷⁵

During the war, most linen producers were entirely occupied with military contracts – though these were often sporadic, and they did not generate sufficient income.⁷⁶ Military contracts were mainly for herringbone twill and cloth for linings and backpacks.⁷⁷ The situation was particularly challenging for the handcraft weaving operations, as the army needed the goods to be produced very quickly – making handcraft production unviable by its very nature.⁷⁸ Overall, only one-third of the pre-war capacity of the region's weaving mills was used during the war years, and those mills that did remain in operation mainly worked just 3 or 4 days a week.⁷⁹

From the beginning of 1917, the shortage of flax became increasingly problematic, and Austrian spinning mills attempted to partially make up for this shortfall by using paper instead.⁸⁰ Despite these attempts, most linen mills ceased production during 1917; just 15% of the total capacity of the region's looms was used for military production.⁸¹

THE SILK INDUSTRY

In the second half of the 19th century, the Šumperk region became a centre for the production of silk and semi-silk cloth. The main impetus for this development came from Viennese entrepreneurs. In an attempt to overcome the severe crisis that hit Vienna's silk industry in the 1850s, they relocated their production to the provinces of the Habsburg Monarchy, particularly to the border regions of Bohemia and Moravia,⁸² where the crisis in the linen industry had created a cheap and relatively

71 *Summarischer Jahresbericht im Jahre 1906*. Olmütz 1907, p. 42; *Summarischer Jahresbericht im Jahre 1911*. Olmütz 1912, p. 25.

72 *Summarischer Jahresbericht im Jahre 1911*. Olmütz 1912, p. 21.

73 *Summarischer Jahresbericht im Jahre 1913*. Olmütz 1914, p. 120.

74 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 7208, box 838.

75 *Summarischer Jahresbericht im Jahre 1914*. Olmütz 1915, p. 101; *Summarischer Jahresbericht im Jahre 1915*. Olmütz 1916, p. 104.

76 *Summarischer Jahresbericht im Jahre 1916*. Olmütz 1917, p. 114.

77 WStLA, fonds Handelsgericht, Handelsregister B 6, fol. 136.

78 *Summarischer Jahresbericht im Jahre 1915*. Olmütz 1916, p. 115.

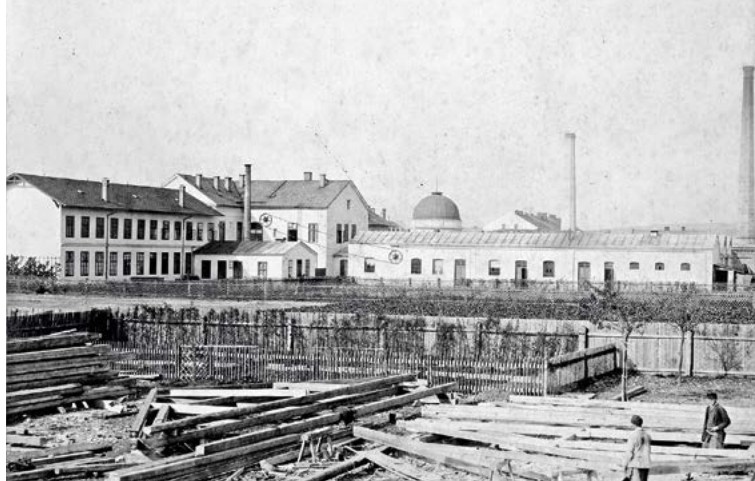
79 *Summarischer Jahresbericht im Jahre 1916*. Olmütz 1917, p. 115.

80 *Summarischer Jahresbericht im Jahre 1917*. Olmütz 1918, p. 132.

81 *Ibid.*, p. 131.

82 Besides Šumperk, other communities that became important centres of silk production included Moravská Třebová, Moravská Chrástová, Rýmařov, Kocbeře, Svitavy, Chrastavec, Brněnec, Vítkov and Ostrava.

Šumperk,
F. Reiterer's
Söhne silk
weaving mill.
VMŠ (Šumperk
Museum of Local
History), inv. no.
H17708.



skilled labour force.⁸³ In the large majority of cases, it was only the weaving operations that were relocated in this way. The various ancillary operations (such as dyeing shops, finishing shops and printing shops) remained concentrated in and around Vienna,⁸⁴ and most of the companies also kept their headquarters and warehouses in the city.⁸⁵

The first silk weaving mills in the Šumperk region were opened at the turn of the 1860s (S. Trebitsch & Sohn, Franz Bujatti). They made silk cloth on hand-operated looms in rented or newly constructed buildings in Šumperk and the outlying villages. The companies relied heavily on home-based workers.

The local silk industry experienced a boom during the 1880s as a result of the economic revival that followed the deep recession caused by the 1873 collapse of the Vienna stock exchange. A further contributing factor was the gradual mechanization of production, which necessitated the construction of modern factories.⁸⁶ The region offered enough vacant land for the construction of these factories, and the land was available at reasonable prices.⁸⁷ An equally important factor was the region's expanding transport infrastructure (especially the railway network), which enabled raw materials and machinery to be transported much more quickly to the factory sites as well as facilitating the transport of the finished products to Vienna.⁸⁸

The number of silk-making companies in the Šumperk region increased gradually, as did production volumes and the number of workers employed in the local silk industry. At the beginning of the

83 JANÁK, J. *Dějiny Moravy*, p. 114; ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 2316, box 253. Linen weavers were not used to making fine silk cloth, so first they had to be trained not only in weaving, but also in various other related activities, such as unwinding, winding and warp-setting.

84 BUJATTI, Franz. *Die Geschichte der Seiden-Industrie Oesterreichs, deren Ursprung und Entwicklung bis in die neueste Zeit*. Wien 1893, pp. 168–169.

85 KNOTH, Herta. *Seide und Seidenwarenerzeugung in Österreich. Wirtschaftsgeographische, volkswirtschaftliche Untersuchungen*. Wien 1947 (unpublished dissertation), p. 173; *Summarischer Bericht der Handels- und Gewerbekammer in Olmütz über die geschäftlichen Verhältnisse in ihren Bezirke während des Jahres 1889*. Olmütz 1890, s. 129.

86 The mechanization of silk weaving in Western Europe (especially in France, Switzerland and Germany) began to become established around the turn of the 1870s. Austria too had several mechanical silk looms at the time, though for most Austrian business-owners, the cost of purchasing these looms remained prohibitively high for a number of years. Cf. HARPKE, Anton. *Seide und Seidenwaren (Gruppe V, Section 4.)*. In *Officieller Ausstellungs-Bericht*. Heft 6. Wien 1873, pp. 1–9.

87 BRUSATTI, Alois (Hrsg.). *Die Habsburgermonarchie 1848–1918*. Band I. *Die wirtschaftliche Entwicklung*. Wien 1973, p. 200.

88 *Summarischer Bericht während des Jahres 1889*, pp. 129–130; KNOTH, H. *Seide*, p. 162. Šumperk became part of the railway network at the beginning of the 1870s.

20th century, Šumperk had 15 silk producers which together employed a total 2,844 people (making up 11% of all textile industry labourers registered within the territory covered by the Olomouc Chamber of Trade and Industry).⁸⁹ Among the most important silk entrepreneurs in the region were Franz Bujatti, Friedrich Déri, Emanuel Fischmann, Felix Reiterer's Söhne, S. Trebitsch & Sohn (Šumperk), and Hermann Schefter (Zábřeh).

By this time, a large proportion of silk production was carried out in mechanized factories, though many companies also continued to outsource some labour to home-based workers. In 1902, there were a total 431 home silk production premises in the Šumperk and Zábřeh district, with 482 labourers – though the actual number may have been higher.⁹⁰ Besides weaving silk cloth, they were also involved in various other tasks, such as winding, warp-setting, cleaning and sewing. The machines and equipment they used were either their own property, or were supplied to them by the contracting company.⁹¹ In some cases, these labourers lived and worked in rented accommodation built near the factories.⁹²

A large proportion of local companies focused on producing semi-silk cloth (i.e. silk combined with cotton), which was used mainly for fashion goods, fans, haberdashery, umbrellas and parasols, garment linings, patterned scarves, ties, footwear, hats, wallpaper and similar goods.⁹³ These goods were mainly sold on the domestic market; only a small percentage of the production was exported – mainly to Egypt, the Orient, Britain, America,⁹⁴ and the Balkan countries.⁹⁵

From the 1890s onwards, the local silk industry was hit by a lengthy crisis. Producers found it increasingly difficult to compete with higher-quality and cheaper silk products from France, Switzerland and Germany – not only on foreign markets, but also within the Habsburg Monarchy itself.⁹⁶ Domestically produced goods were made uncompetitive by the slow adoption of mechanized production methods.⁹⁷ As has been mentioned above, some silk cloth was still produced on hand-operated looms and outsourced to home-based workers. The situation in silk cloth finishing was also problematic. Dyeing shops in Austria were unable to handle the required volumes of cloth and to meet the required quality standards, so many cloth producers had to have their goods dyed abroad – which pushed up production costs.⁹⁸

Among the other factors that had a negative impact on production costs, business-owners frequently complained about the high cost of railway transport, the excessive administrative burdens they had to face (including various administrative fees), the instability of the currency, and the high tax rates.⁹⁹ They also criticized the state's intervention in matters of employees'

89 *Österreichische Statistik. Ergebnisse der gewerblichen Betriebszählung vom 3. Juni 1902 in dem in Reichsrath vertretenen Königreichen und Ländern*. 75. Bandgabe, 10. Heft (Mähren und Schlesien). Wien 1905.

90 Ibid.

91 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 7328, box 863, 864.

92 SOKA Šumperk, inv. no. 491, box 108. For example, at the end of the 19th century Emanuel Fischmann's company owned at least five accommodation buildings located near its factory, whose tenants were involved in dressing (finishing) the cloth. Fischmann also employed weavers in nearby villages, to whom he provided material and looms.

93 *Summarischer Bericht während des Jahres 1889*, p. 127; *Summarischer Jahresbericht im Jahre 1890*. Olmütz 1891, p. 9; *Summarischer Jahresbericht im Jahre 1893*. Olmütz 1894, p. 57.

94 *Summarischer Bericht während des Jahres 1889*, p. 131; *Summarischer Jahresbericht im Jahre 1894*. Olmütz 1895, p. 49.

95 *Summarischer Jahresbericht im Jahre 1891*. Olmütz 1892, p. 85.

96 KNOTH, H. *Seiden*, p. 179.

97 *Summarischer Bericht während des Jahres 1889*, pp. 129–130; BUJATTI, Franz. Die österreichische Seidenzeug-Industrie. In *Die Gross-Industrie Oesterreichs*, p. 34.

98 *Summarischer Jahresbericht im Jahre 1906*. Olmütz 1907, p. 46.

99 *Summarischer Jahresbericht im Jahre 1890*. Olmütz 1891, p. 93; *Summarischer Jahresbericht im Jahre 1892*. Olmütz 1893, p. 63; *Summarischer Jahresbericht im Jahre 1908*. Olmütz 1909, p. 46.

Šumperk,
S. Trebitsch & Sohn
silk goods factory.
VMŠ (Šumperk
Museum of Local
History), inv. no.
H11909.



working and living conditions; for example, they complained about the demands made by the labour inspectors as well as the costs of paying pension contributions and injury insurance.¹⁰⁰

From the turn of the 20th century the pressure from foreign competitors became increasingly strong,¹⁰¹ and the local silk industry sank into a deepening crisis. This situation culminated in 1903 and 1904,¹⁰² and then it recurred in 1912–1913 due to the political situation in the Balkans.¹⁰³ At that time, most companies in the region were forced to scale down their production, reducing the number of working days and laying off employees.¹⁰⁴ The situation in the silk industry was further exacerbated by the outbreak of the First World War.

Silk production was mainly focused on luxury goods as well as being heavily dependent on imports of raw materials. It therefore offered little potential for wartime production – perhaps with the exception of cloth used to make bags that contained gunpowder.¹⁰⁵ The only slight upturn in the industry's fortunes came during 1915, which saw a rise in demand for silk cloth to be used in the ladies' fashion industry, which faced a shortage of cotton, woollen and linen cloth as these industries had prioritized military orders.¹⁰⁶

However, business-owners still had to contend with a range of problems – the impossibility of securing payment from customers in states that were now enemies of Austria, the poor state of the currency, the severe drop in exports, the growing dependence on the German economy, and the lack of skilled workers (especially foremen and workshop supervisors as well as preparation workers, machine technicians and carpenters, whose jobs could not always be done by women or by older men). One of the most pressing problems during the war years was access to the

100 *Summarischer Jahresbericht im Jahre 1891*. Olmütz 1892, p. 87.

101 *Summarischer Jahresbericht im Jahre 1900*. Olmütz 1901, p. 116.

102 *Summarischer Jahresbericht im Jahre 1905*. Olmütz 1906, p. 55.

103 *Summarischer Jahresbericht im Jahre 1912*. Olmütz 1913, pp. 131–135; *Summarischer Jahresbericht im Jahre 1913*. Olmütz 1914, pp. 129–132.

104 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 7208, box 838.

105 *Summarischer Jahresbericht im Jahre 1914*. Olmütz 1915, p. 117.

106 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 7195, box 834. Due to a shortage of cotton yarn, local companies could not make the semi-silk (blended silk/cotton) cloth that had represented a major component in their product ranges.

necessary raw materials; initially this mainly affected supplies of dyes or lubricants,¹⁰⁷ but later it also affected access to raw silk.¹⁰⁸

During 1917, there was a severe shortage of raw silk. There were also problems with the supply of coal, as well as a shortage of workers (who had been reassigned to other industries that were more essential to the wartime economy).¹⁰⁹ The silk industry thus came to experience the same problems that faced other types of textile production, and its production volumes dropped to between one-quarter and one-fifth of pre-war levels.¹¹⁰ Most local silk producers gradually wound down their production.¹¹¹

THE DEVELOPMENT OF THE TEXTILE INDUSTRY IN THE PERIOD 1918–1938

When the First World War came to an end, an estimated 75% of the former Habsburg Monarchy's total textile production was located within the territory of the newly independent republic of Czechoslovakia.¹¹² However, the Czechoslovak state represented only around one-quarter of the area of the former Monarchy, and its market was likewise a quarter of the size. During the Austro-Hungarian era, local textile producers had been able to sell up to 85% of their products on the domestic market, with only 15% having to be exported. Now, they faced a radically different situation, being forced to sell a substantial part of their production on foreign markets.¹¹³

In the first months after the end of the war, local business-owners were still not fully aware of the extent to which the situation of the textile industry had changed. Their main focus was on coping with the transition from the system of wartime state controls, in which all raw materials were rationed, imports of raw materials were prohibited, there was no access to foreign currency, and so on. The severest shortages affected cotton, but flax and silk were not unaffected either. In 1919–1920 the linen industry in the Šumperk and Jeseník regions was working at just 10–15% of its total capacity. The silk industry was in a somewhat better position, operating at around 30–40%. A brief economic boom alleviated the situation, but by the end of 1921 the first signs of impending problems could be seen. The global economic crisis of 1921–1923 clearly demonstrated how the outcomes of the First World War had impacted on the post-war situation of Czechoslovakia's textile industry. During the 1920s and 1930s, the Olomouc Chamber of Trade and Industry conducted a number of surveys among textile companies within its territory; local producers pointed out several limiting factors that hindered their performance on global markets.

Initially, the main focus of their complaints was the disruption of business contacts with Vienna. Before the war, Vienna had been the main centre of the silk trade (both raw materials and silk goods), and practically all the sizeable local companies had had a sales office there, as well as warehouses with sales outlets; silk producers in particular often had their headquarters and main factory there. The situation was also unfavourable for the silk industry, as most of the subsidiary

107 Ibid., inv. no. 7196, box 836; *Summarischer Jahresbericht im Jahre 1915*. Olmütz 1916, p. 132.

108 Ibid.; *Summarischer Jahresbericht im Jahre 1916*. Olmütz 1917, p. 132; *Summarischer Jahresbericht im Jahre 1917*. Olmütz 1918, p. 140.

109 *Summarischer Jahresbericht im Jahre 1917*. Olmütz 1918, pp. 138–141.

110 KNOTH, H. *Seiden*, p. 182.

111 *Summarischer Jahresbericht im Jahre 1917*. Olmütz 1918, p. 141.

112 In the case of the industries that dominated in the Šumperk and Jeseník regions, this percentage was even higher. In the linen industry, Czechoslovakia had an estimated 96.9% of the former Monarchy's spindles and 97.95% of its looms. In the silk industry, Czechoslovakia accounted for 89.6% of the former Monarchy's looms. PROCHÁZKA, Jiří. *K vývoji postavení textilního průmyslu v kapitalistickém Československu v letech 1918–1938, zejména bavlnářského a vlnářského odvětví*. Z dějin textilu, vol. 5, (Ústí nad Orlicí) 1983, p. 99.

113 HERAIN, Václav. Vývoj textilního průmyslu v ČSR. *Textilní obzor*, 28, 1930, no. 1, p. 21.

plants that processed and finished the silk cloth (dyeing shops, finishing shops and printing shops) were still located in Vienna and the surrounding region.¹¹⁴

A problem of key importance was the long-term shortage of operating capital. A sizeable proportion of the textile businesses' funds was depleted via direct and indirect taxes, various administrative fees, and high transportation costs.¹¹⁵ Another significant issue was the fact that many companies had their capital tied up in Austrian war loans or in still-unpaid receivables from the former Austrian military authorities. The most frequently criticized imposition was the tax on corporate turnover, which the business-owners viewed as particularly excessive and a serious burden. Producers of silk goods also protested against the high taxes levied on luxury goods.¹¹⁶

The lack of sufficient funds often led to enormous debts.¹¹⁷ During the inter-war period, many companies (including those owned by the Oberleithner and Seidl families) had to operate with budgets that were stretched to the limit. Whenever commercial conditions worsened and the global market stagnated, insolvency became a real threat.¹¹⁸ In the second half of the 1920s and in the early 1930s, several companies (including Felix Reiterer's Söhne) had to cease operating having become insolvent.

The lack of funds represented a major hindrance to entrepreneurs' ability to modernize the machinery at their factories. Most of the companies in the region still had machinery dating from the late 19th or early 20th century. During the 1920s, most companies only purchased the most essential equipment. In the late 1920s and at the end of the 1930s they made larger investments, probably in an attempt to boost production efficiency. Some of the machinery had also been damaged by lengthy periods of disuse; as has been mentioned above, during the First World War many factories had had to reduce production and take some of their machines out of service.¹¹⁹ During the inter-war period the industry never managed to regain the same employment levels as it had enjoyed before the war, so many machines were out of service for several years.¹²⁰ It is also

114 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 16996, box 2030. Following an agreement with the Austrian government, the situation was addressed by introducing a special customs regime which enabled Czechoslovak-produced silk cloth to be imported into Austria duty-free for purposes of finishing.

115 Ibid., inv. no. 7197, 7198, box 837.

116 Ibid., inv. no. 16996, box 2030.

117 This is indicated by numerous records of loans and related documentation held at the Czech National Bank Archives in Prague (AČNB).

118 SOKA Šumperk, fonds AM Šumperk, inv. no. 1371, box 572.

119 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 7197, box 837.

120 In 1930, the Šumperk political district had 806 textile production sites, employing 8,957 people. The linen industry comprised 237 production sites with 4,277 employees; 201 of these sites were in private residences, with 307 people working there. The silk industry comprised 14 production sites with 2,892 employees; 3 of these (with 3 employees) were in private residences. The cotton industry comprised 140 production sites with 395 employees; 102 of these (with 130 workers) were in private residences. In the Zábřeh political district in the same year, there were 380 textile production sites with 4,434 employees. The linen industry comprised 92 production sites with 890 employees; 88 of these sites were private residences, with 113 people working there. The cotton industry comprised 117 production sites with 2,059 employees; 77 of these (with 92 workers) were in private residences. The silk industry comprised 1 production site with 693 employees; 3 of these (with 3 employees) were in private residences. In the Jeseník political district in the same year, there were 88 textile production sites with 1,883 employees. In the judicial districts of Freiwaldau and Zuckmantel the cotton industry comprised 5 production sites employing 1,492 people (this figure probably included producers of blended-fibre cloth); 2 of these were in private residences, with 5 people working there. The linen industry comprised 12 production sites employing 21 people (7 in private residences, with 9 workers). The silk industry comprised one production site with 253 employees. Československá statistika. Řada XVII, Sčítání lidu, sv. 114, sešit 1, díl. Sčítání živnostenských závodů v republice Československé podle stavu dne 27. května 1930. Díl 1, hlavní data o místních jednotkách podle okresů. Praha 1935.



Zábřeh, H. Schefter
silk goods factory,
ZAO, Olomouc
branch, fonds
H. Schefter, Zábřeh,
inv. no. 372.

important to remember that some of the machines had been damaged during the war when they were used to process ersatz raw materials – mainly paper and nettle fibres.¹²¹

The factory buildings themselves mainly dated from the second half of the 19th century or the very beginning of the 20th century. They had undergone certain reconstructions and extensions during the intervening years in order to modernize production, but the levels of investment were not sufficient; for example, reports compiled by official building inspectors in Šumperk clearly show that many of the factories were in a poor technical condition.¹²² A survey carried out at textile production sites in Šumperk during 1924 also showed that a large proportion of manufacturers (mainly those producing linen cloth) still relied substantially on home-based workers (who were involved in hand weaving, sewing, winding or knitting) or had hand-operated looms at their factories.¹²³

Both these closely related factors – the lack of funds and the antiquated machinery – were exacerbated by other negative factors, including the fluctuating prices of raw materials, high production costs, the government's customs policy, etc. These factors made it difficult for local companies to compete with foreign competitors (mainly in England, Ireland, Germany and Belgium) who often made cheaper and better-quality goods.¹²⁴

However, the only way to improve profits was via exports, so local textile producers often found themselves trapped in a vicious circle; it was only during the economic boom of 1927–1929 that they managed to break out of this situation, as the region's textile production rose to almost the same level as before the First World War.¹²⁵ By contrast, the Great Depression forced the producers to operate to as little as 50% of their full capacity, and several factories had to lay off workers and halt production due to a lack of demand.¹²⁶

121 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 12152, box 1449.

122 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 95–101, 104, 108–110.

123 Ibid., fonds AM Šumperk, inv. no. 1368, box 561.

124 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 17268, box 2073.

125 SIEGL, Robert. Die Leinenindustrie des Bezirkes Mährisch-Schönberg. In *Der politische Bezirk Mährisch-Schönberg mit den Gerichtsbezirken Mährisch-Schönberg, Mährisch-Altstadt und Wiesenberg*. Hohenstadt 1938, p. 79.

126 Protokol XXXVI. řádné plenární schůze správní komise Obchodní a živnostenské komory v Olomouci, konané v pondělí dne 27. dubna 1931 o půl 3. hod. odpol. ve velké zasedací síni komorní. Olomouc 1931, p. 2.

For these reasons, textile producers from Šumperk and Jeseník found it difficult to succeed on foreign markets in the face of stiff competition. Most of them made a wide range of goods, though (partly due to the factors listed above) they were often of poor quality. Local producers had strong commercial ties with Austria, Hungary and the Balkan countries, and some of the larger companies made capital investments in an attempt to establish themselves on these markets. The main linen producers who did so were Karl Siegl sen. and Regenhart & Raymann, both of which had a stake in textile factories in Hungary and Slovenia.¹²⁷ A few companies managed to penetrate onto more distant markets (mainly in America), where they established themselves as producers of luxury and bespoke goods (e. g. Regenhart & Raymann, Ed. Oberleithner's Söhne, Carl Giani jun.).¹²⁸

THE DEVELOPMENT OF THE TEXTILE INDUSTRY IN THE PERIOD 1938–1946

When the border regions of Czechoslovakia were annexed by Nazi Germany in 1938, the Šumperk and Jeseník areas became part of the newly formed province known as the Reichsgau Sudetenland.¹²⁹ Many local textile producers saw their integration into the Reich economy as a potential source of material and organizational assistance that would help them overcome the problems that they had faced practically since the end of the First World War.¹³⁰ They expected to benefit from an enlarged domestic market and state support for exports, as well as from valuable assistance in modernizing their antiquated machinery and boosting the efficiency of their production processes. They assumed that the state would offer them interest-free loans for the purpose, as well as reduced tax rates, price assistance, and priority delivery of modern textile machinery.

The initial course of developments largely led them to believe that these expectations would eventually be met. They soon experienced an upsurge in sales; almost immediately, in October and November 1938, they received a large number of orders from the state sector, especially the army. The German economy – previously a foreign market – now became the domestic market, opening up unprecedented opportunities for local textile producers. The German economy was strongly focused on war production, which meant that the market for consumer goods suffered from substantial shortages, as demand exceeded supply.¹³¹

However, increased demand forced local textile producers to face a tricky problem: how to meet this demand in practice. One relatively easy solution appeared to be buying the necessary factory buildings and machinery that had originally belonged to Jewish entrepreneurs whose property had been confiscated as part of the process termed “Aryanization”.¹³² A number of companies in

127 ZAO, Olomouc branch, fonds Siegl Carl senior, tkalcovna, bělidlo, úpravna lněného a bavlněného zboží, Šumperk (Siegl Carl Sr., weaving mill, bleachery, linen and cotton goods finishing shop, Šumperk), inv. no. 16, box 1; inv. no. 60, box 2.

128 Ibid., inv. no. 54, box 2; AČNB, fonds Národní banka Československá, úvěrový spis (Czechoslovak National Bank, loan documentation), sign. NBČ/3407-1; fonds Živnostenská banka v Praze, úvěrový spis (Živnostenská banka, Prague, loan documentation), sign. ŽB/6484/8.

129 BARTOŠ, Josef – TRAPL, Miloš. *Dějiny Moravy. Díl 4. Svobodný stát a okupace*. Brno 2004, p. 172.

130 ZAO, Olomouc branch, fonds Seidl Ignác a spol., přádelna lnu a bavlny Sudkov (Seidl Ignaz & Co., linen and cotton spinning mill, Sudkov), inv. no. 8, box no. 1; HOFFMAN, Jaroslav. „Mnichov“ a sudetoněmecký textilní průmysl. Ústí nad Labem 1996, p. 44.

131 Ibid., pp. 47, 156–157.

132 The term “Aryanization” here refers to the transfer of Jewish-owned property to non-Jews (“Aryans”). Cf. JANČÍK, Drahomír – KUBŮ, Eduard. „Arizace“ a arizátoři. *Drobný a střední židovský majetek v úvěrech Kreditanstalt der Deutschen (1939–1945)*. Praha 2005, p. 7. Aryanization also affected several Jewish-owned businesses in the Šumperk and Jeseník regions, such as S. Trebitsch & Sohn or Carl Giani Jr.

the region were involved in the Aryanization process, including I. Seidl & Comp., Hermann Schefter and others.

It was not only the business-owners in the Sudetenland who expected a lot from their integration into the German Reich; expectations also flowed in the other direction. The German government saw the Sudetenland's textile industry as a way to boost the country's war economy by increasing exports of goods, thus gaining access to foreign currency. However, the Reich's economy was centrally controlled; that was a relatively new experience for the local textile producers, and it was one which provoked mixed reactions. The situation became even less favourable in this regard after the outbreak of the Second World War in the autumn of 1939. The government issued a decree on the war economy, which set out all the specific tasks that were assigned to individual industries and thus also to individual companies.

The textile industry's focus shifted to state contracts. There were severe obstacles to exports, and domestic demand was restricted by state regulation of civilian consumption, implemented via a system of vouchers that were used to buy textile goods.¹³³ It was the linen industry that was most suited to the state contracts, and its role in textile production continued to grow throughout the war.¹³⁴

However, the textile industry as a whole had to deal with the ever-increasing difficulty of procuring basic raw materials.¹³⁵ A further problem was the shortage of skilled labour (and later, any labour at all), as workers had been sent to the front or commandeered for other industries.¹³⁶ The textile producers dealt with this labour shortage by employing pensioners, training ancillary workers, or retraining home-based weavers to use modern looms. The labour force was also supplemented by prisoners of war or civilians from occupied territories who had been sent to the Reich as forced labourers.¹³⁷

During 1942, the authorities decided to use some of the local textile factories (and their workers) in a manner that was considered more effective for the war economy – producing armaments.¹³⁸ The main impetus for this step was the bombing of arms factories in Germany, which naturally led the authorities to relocate armament production to safer locations. This practice became more widespread in 1943, when the local textile factories scaled down or completely suspended their original production and shifted to producing arms (e.g. for the Berlin companies Telefunken, Fritz Werner and others).¹³⁹

After the war, the new Czechoslovak government faced a difficult task. It needed to deal with the damage caused by the war and kick-start the country's war-scarred economy. However, the post-war economy was to be built on very different foundations to its pre-war equivalent. Major changes were expected, especially with regard to ownership; the state planned to take on a substantially greater role in industrial production.¹⁴⁰

133 HOFFMANN, J. "Mnichov", pp. 59–65.

134 Ibid., p. 69.

135 PRŮCHA, Václav et al. *Hospodářské a sociální dějiny Československa 1918–1992*. Part I. Období 1918–1945. Brno 2004, p. 512.

136 HOFFMAN, J. „Mnichov“, pp. 34–35.

137 Ibid., pp. 151–153.

138 Ibid., p. 83.

139 PRŮCHA, V. et al. *Hospodářské a sociální dějiny*. Part I, p. 517; SPURNÝ, František et al. *700 let města Šumperka*. Šumperk 1976, p. 99; ZAO, Olomouc branch, fonds Norbert Langer a synové, továrna na lněné, bavlněné a hedvábné zboží, Horní Libina (Norbert Langer & Söhne, linen, cotton and silk goods factory, Horní Libina), inv. no. 18, box 2.

140 PRŮCHA, Václav et al. *Hospodářské a sociální dějiny Československa 1918–1992*. Part II. Období 1945–1992. Brno 2009, p. 71.

The starting-point for these changes was the establishment of “national administration” authorities whose primary task was to manage the property that had been seized from Germans, Hungarians, traitors, collaborators and other individuals whom the state deemed unreliable – as well as the property of people who had not yet returned from the concentration camps or from emigration. The legal basis for these authorities’ activities was a presidential decree (no. 5/1945, issued on 19 May 1945), which deemed all transfers of property or ownership arrangements concluded after 29 September 1938 (when Nazi forces annexed the Sudetenland) to be invalid.¹⁴¹ The imposition of national administration did not mean that the state had actually taken ownership of the property, though it did mean that the original owner could not use it or sell it freely.

However, the system of national administration was only a temporary solution. It was therefore necessary to decide what would happen to this property in the future. Four presidential decrees issued on 24 October 1945 had the effect of nationalizing the property. The most relevant of these decrees for the textile industry in the Šumperk and Jeseník regions was decree no. 100/1945 on the nationalization of mines and certain industrial companies. The nationalizing decrees were immediately followed by (and closely connected with) decree no. 108/1945 (25 October 1945), which confiscated enemy property.¹⁴² This entire process ultimately led to the creation of national (state-owned) corporations, whose legal basis was set out in a government decree of 15 January 1946 defining the status of national industrial corporations.¹⁴³

The system of national administration and the process of nationalization affected most textile producers in the Šumperk and Jeseník regions due to the nationality of their owners. Many of these companies did not resume production after the war: they were closed down completely (e.g. Friedrich Ulrich in Rejhotice, Wilhelm Schay in Šumperk, and others), their machinery was transferred to companies that were still operating, and new uses were found for their factory buildings.¹⁴⁴

The textile producers that survived were incorporated into several national corporations. The largest of these was Moravsko-slezské lnářské závody (Moravian-Silesian Linen Mills), which was established on 1 January 1946. The largest linen and cotton producers in the districts of Šumperk, Zábřeh, Bruntál and Šternberk were incorporated into this entity.¹⁴⁵ Another national corporation, Tkalcovny a úpravny jemného lnu (Fine Linen Weaving Mills and Finishing Shops), was established in Jeseník, also on 1 January 1946. Most of the local silk factories became part of the Prague-based corporation Tkalcovny hedvábí (Sile Weaving Mills).¹⁴⁶

141 GERŠLOVÁ, Jana – SEKANINA, Milan. *Lexikon našich hospodářských dějin: 19. a 20. století v politických a společenských souvislostech*. Praha 2003, p. 230.

142 PRŮCHA, V. et al. *Hospodářské a sociální dějiny*. Part II, p. 71.

143 GERŠLOVÁ, J. – SEKANINA, M. *Lexikon*, p. 228.

144 TURKOVÁ, H. Vybrané objekty, p. 34; ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 3831, sign. A X 87, box 199; Ibid., inv. no. 2806, sign. A V 175, box 154.

145 SPURNÝ, Fratišek. Historie národního podniku Moravolen a jeho závodů. In *Příspěvky*, pp. 7–38.

146 JEŘÁBEK, Jindřich. *Historie a současnost hedvábnického průmyslu v Čechách a na Moravě*. Moravská Třebová 1993, pp. 29–30.



Jeseník, bust of Josef Raymann (1943) by the sculptor Josef Obeth. Photograph by Viktor Mácha, 2020.

CATALOGUE OF SELECTED ENTREPRENEURS AND COMPANIES

WILHELM BRASS & SÖHNE

The dyer Wilhelm Brass (1819–1897) came from the German town of Rheydt. In 1849, he and his brother established a textile shop in Langenbielau (in Prussian Silesia, now Bielawa, Poland). The shop did not prosper, so Wilhelm moved to Moravia. There he established a textile dyeing shop in Uničov, before deciding to relocate to Zábřeh in 1856. To make this move, he joined forces with Julius Lensen, the owner of a state-licensed dyeing shop in Tišnov which used dyes made from a plant called madder (*rubia tinctorum*). In the same year, Lensen bought a house on the outskirts of Zábřeh with an adjoining meadow; there he built a new dyeing shop, which he and Brass managed together until Lensen's death.¹

Wilhelm Brass was granted a licence to run a dyeing shop in 1871, and in the following year he registered the business with the Olomouc Regional Court as a sole proprietorship; his son Otto (1845–1909) was later involved in the business too.² Seven years later, the legal form of the firm changed to a general partnership, with the name Wilhelm Brass & Söhne.³ It was at this time that the Brasses built their own cotton dyeing shop in Zábřeh. They also owned a dyeing shop in Dolní Grund (today Dolní Podluží) near Varnsdorf (Děčín district)⁴ and in the Polish town of Częstochowa. The Zábřeh dyeing shop had an available capacity of 74,000 spindles.⁵ Before the First World War, it employed around 1,500 people.⁶

The Brasses owned the factory until 1945, when it came under national administration. In 1946 it was incorporated into the national (state-owned) corporation Spojené české a moravské bavlnářské závody (United Bohemian and Moravian Cotton Mills) in Ústí nad Orlicí,⁷ and in the 1960s it became part of the national corporation Perla.⁸

- 1 MYŠKA, Milan et al. *Historická encyklopedie podnikatelů Čech, Moravy a Slezska do poloviny XX. století*. Ostrava 2003, pp. 57, 272–273; ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), sign. VII 1861/36, box 746.
- 2 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), sign. VII 1872/91, box 760.
- 3 Ibid., inv. no. 950, sign. Sp I 242, box 50. Besides Wilhelm and Otto, the other partners were Gustav (1851–1922) and Hermann Brass (1855–1938).
- 4 From 1903 it was managed by Gustav Brass as a separate company.
- 5 *Adreß-Buch der Textil-Industrie Österreich-Ungarns 1913*. Reichenberg 1913, p. 110.
- 6 MYŠKA, M. et al. *Historická encyklopedie*, pp. 57–58.
- 7 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 950, sign. Sp I 242, box 50.
- 8 BERAN, L. – VALCHAŘOVÁ, V. – ZIKMUND, J. (eds.). *Industriální topografie*, pp. 177–178.

G. A. BUHL SOHN

The Buhls were a family of entrepreneurs from the Silesian region of Glatz (now Kłodzko, Poland). In the 17th century part of the family moved to Staré Město. In the first half of the 19th century Gustav August Buhl (1819–1886) became the co-owner of a graphite mining company in Staré Město (founded in 1828) and a bleaching shop for linen yarn,⁹ which in 1868 he modernized to create a steam bleaching shop (there was also a dyeing shop and a printing shop at the site). Seventeen years later, he transferred ownership of the company to his son Hermann (1859–1927),¹⁰ who in 1886 had it listed in the commercial register of the Olomouc Regional Court as a sole proprietorship under the name *Chemische & Natur-Garnbleiche von Gustav A. Buhl Sohn's*.¹¹

The company prospered under his management. In 1902–1904 it built a bleaching shop for linen and cotton yarn in Malá Štáhle near Rýmařov,¹² and shortly before the First World War the bleaching shop in Staré Město was modernized (with the introduction of electric motors and lighting) and the adjacent dyeing shop was also enlarged.¹³

After the First World War, Hermann became involved in the business run by his sons Herbert (1892–1961) and Edgar (1898–1972), and he changed its legal form to a general partnership under the name *Gustav A. Buhl Sohn, Bleichwerke, Färberei u. Elektrizitätswerk*.¹⁴ In 1923 the Buhls bought a linen spinning mill in Žacléř (Trutnov district) with a total capacity of 4 148 spindles, which they ran via the company *Mechanische Flachsgarnspinnerei G. m. b. H.*¹⁵ Nine years later, they also acquired the company *Vereinte Flachsspinnereien Lichtenwerden, Messendorf und Würbenthal*, a linen spinning mill based in Světlá near Bruntál,¹⁶ which had a capacity of around 12,000 spindles.¹⁷ In 1939 all the family's businesses were merged into the company *Vereinte Flachsspinnereien und Textilwerke G. A. Buhl Sohn*, with its head office in Staré Město.¹⁸

After the Second World War, the Buhls were expelled from Czechoslovakia.¹⁹ Their company came under national administration. In 1946, the factories in Staré Město and Světlá became part of the national corporation *Moravsko-slezské lnářské závody* (Moravian-Silesian Linen Mills),²⁰ and the spinning mill in Žacléř was incorporated into the national corporation *České lnářské textilní závody* (Czech Linen Textile Mills) in Trutnov.²¹

9 MYŠKA, M. et al. *Historická encyklopedie*, pp. 67–68.

10 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 486, box 92.

11 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 2194, sign. A III 3, box 125.

12 Ibid.; SOKA Šumperk, fonds OÚ Šumperk, inv. no. 486, box 92. Even before 1904, Hermann Buhl ran a bleaching shop in the town of Rýmařov itself (via an unregistered firm), but in 1904 he closed it down. Milan Myška states that he purchased the bleaching shop in Rýmařov in 1889. Cf. MYŠKA, M. et al. *Historická encyklopedie*, p. 68.

13 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 486, box 92.

14 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 2194, sign. A III 3, box 125.

15 SMUTNÝ, Bohumír – WOLF, Vladimír. *Spojené přádelny lnu a textilní závody, G. A. Buhl syn, Žacléř 1847–1946* (Inventář). Trutnov 1983, p. 15.

16 BERAN, L. – VALCHAŘOVÁ, V. – ZIKMUND, J. (eds.). *Industriální topografie*, pp. 218–219.

17 *Adressbuch der Textil-Industrie der Nachfolgestaaten Österreich-Ungarns, ferner von Polen und Jugoslawien*. Reichenberg 1923, p. 287.

18 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 2194, sign. A III 3, box 125.

19 MYŠKA, M. et al. *Historická encyklopedie*, pp. 67–68.

20 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 2194, sign. A III 3, box 125.

21 SMUTNÝ, B. – WOLF, V. *Spojené přádelny lnu*, p. 26.

Alexander Buhl (1816–1884) ran his own grass bleachery in Staré Město from the 1840s until his death. He also traded in yarn.²²

FRANZ BUJATTI

The father of Franz Bujatti (1813–1897), Georg Bujatti (1770–1842), came from the region of Gorizia (now in Friuli Venezia Giulia, Italy), which was known as a centre of sericulture (silkworm breeding) and was home to a large concentration of silk weavers. In 1811 he relocated to Vienna²³ and established a business in the suburb of Schottenfeld (now part of Vienna's 7th district). The business prospered, and in 1826 he acquired a formal provincial licence to run a silk-weaving business.²⁴ After his death, his son Franz became the sole proprietor of the company and continued to run it under his own name.²⁵

At the beginning of the 1860s, he relocated part of his business to Šumperk.²⁶ Initially, he rented premises (at an unknown location) and equipped them with hand-operated looms.²⁷ He soon established other workshops in the nearby villages of Bludov, Nový Malín and Libina. In the first half of the 1860s, he had around 600 hand looms working for him in the area.²⁸

As the company prospered, its rented premises soon became too small for it, so Franz Bujatti decided to build his own factory in Šumperk.²⁹ The factory, situated on what is now 8. května Street, was completed in 1868, and a large proportion of the Šumperk region's hand-operated looms were located there.³⁰

At the beginning of the 1870s, Bujatti expanded and modernized his factory. In 1874 he bought a mill in the village of Haškov near Mnichovo Hradiště and built a factory next to it (probably completed in 1879).³¹ Besides the weaving mill, he also built a printing shop, dyeing shop and finishing shop in Haškov. Part of the site was also used for agriculture.³² However, the further development of the business was left to Bujatti's three sons, to whom he transferred ownership of the company in 1877: Hermann (1846–1925), Theodor (1848–1916) and Franz Georg (1849–1933); he officially left the company.³³ The legal form of the business was then changed to a general partnership with effect from 1 January 1878; the partners were Franz Bujatti's three sons.³⁴

22 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), sign. VII 1863/302, box 749.

23 Franz Bujatti, k. u. k. Hof-Seidenwaaren-Fabriken, Wien-Haškov-M. Schönberg. In *Die Gross-Industrie Oesterreichs*, pp. 37–39.

24 WStLA, fonds Merkantil- und Wechselgericht, A3 – Faszikel 3 – Firmenakten, 1. Reihe: B/410 (Bujatti Georg).

25 Ibid., B/598 (Bujatti Franz).

26 The precise date is not known. The literature most frequently gives the dates 1858 (e.g. MYŠKA, M. et al. *Historická encyklopedie*, p. 69) and 1862 (e. g. UMLAUFF, Karl – TERSCH, Friedrich Ritter von. *Chronik der Stadt Mähr.-Schönberg. Von der Gründung der Stadt bis zum Ende des 19. Jahrhunderts. II. Theil. Mähr. Schönberg 1901*, p. 185). A report addressed by Franz Bujatti to the Olomouc Chamber of Trade and Industry in 1870 indicates that he had started production in Šumperk in 1860. ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 2316, box 253.

27 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 2316, box 253.

28 *Die Gross-Industrie Oesterreichs*, p. 38. In view of this number, it is likely that Bujatti's production was not limited to his rented premises, but that he also outsourced work to home-based weavers.

29 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 2316, box 253.

30 TURKOVÁ, H. *Vybrané objekty*, pp. 27–28.

31 *Textilní závod Franze Bujattiho*. In: <http://www.industrialnitopografie.cz/karta.php?zaznam=V014137> [retrieved 1. 10. 2020].

32 REEDER, Josef Carl. *Eine Eiche*, p. 2. In 1899 another factory was built in the Hungarian town of Szentgotthárd. In: <https://sztghonismeret.hu/component/spidercatalog/showproduct/173/57/0/Selyemgy%C3%A1r> [retrieved 25. 8. 2021].

33 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 96.

34 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 952, sign. Sp I 246, box 50.

In the late 1870s and early 1880s the Bujattis decided to invest in a general modernization of the company's production (including mechanization); although this was a costly process, it was essential in order to ensure that the business would remain competitive. The first site to be modernized was the factory in Šumperk.³⁵ In 1885 it had around 400 looms, 200 of them mechanical.³⁶ Throughout the 1880s (and to a lesser extent also during the 1890s), the machinery was modernized and the factory was enlarged.³⁷

In 1886, the Bujattis decided to shut down their operations in Vienna,³⁸ where they still had a small number of looms.³⁹ From 1887 onwards, their main production site was the Šumperk factory, which also became the company's headquarters. Only a warehouse with a sales outlet remained in Vienna; it was listed as an sub-branch of the firm.⁴⁰

At the end of the 19th century, the company had approximately 1,200 workers, using around 700 mechanical looms. The Bujattis produced a wide range of silk and semi-silk cloth, and they increasingly focused their efforts on types of cloth used in the fashion trade (as well as for umbrellas). They had sales representatives in major commercial centres such as Paris, New York, London, Cairo and Constantinople, helping them to gain a position on important foreign markets.⁴¹

Shortly before the First World War, the business became a joint-stock company (a process managed by the Merkur bank).⁴² In November 1912 the general partnership *Franz Bujatti* was transformed into the *Seidenindustrie Aktiengesellschaft vorm. Franz Bujatti*, with its headquarters in Vienna.

During the First World War, the company's fortunes are likely to have been just as dire as those of all other silk producers in Austria. We only know with certainty that even before the war, in the crisis years of 1912–1913, the Bujattis were forced to scale down production.⁴³ When the war broke out, their main focus shifted to the production of cloth that was used to make bags for gunpowder.⁴⁴

After the First World War, the Bujattis continued to run factories in Czechoslovakia at Šumperk and Haškov, which from 1921 onwards were run via the company *Seidenindustrie A.-G. vorm. Franz Bujatti*, based in Prague.⁴⁵ During the economic crisis of the 1930s, the firm ran into problems with solvency, and it appears that it gradually scaled down its production. In 1934 the Vienna-based company *Franz Bujatti A. G.* (which controlled the family's business empire) went into liquidation; the process was completed in 1938.⁴⁶

35 *Die Gross-Industrie Oesterreichs*, p. 39.

36 SOKA Šumperk, fonds AM Šumperk, inv. no. 1329, box 457.

37 For more details see TURKOVÁ, H. *Vybrané objekty*, pp. 27–28, or NOVÁKOVÁ, Hana. *Objekty a areály textilního průmyslu na území města Šumperka*. Bakalářská práce. Ostrava 2003, pp. 246–248.

38 SOKA Šumperk, fonds AM Šumperk, inv. no. 1329, box 457; *Ibid.*, fonds OÚ Šumperk, inv. no. 491, box 96.

39 *Ibid.*, fonds AM Šumperk, inv. no. 1329, box 457.

40 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 952, sign. Sp I 246, box 50.

41 *Die Gross-Industrie Oesterreichs*, p. 39. In 1903, the company had 422 employees in Šumperk (125 men, 297 women). SOKA Šumperk, fonds AM Šumperk, inv. no. 1347, box 497.

42 *Wiener Zeitung*, no. 257, 8. 11. 1912, p. 13.

43 WStLA, fonds Handelsgericht, Handelsregister B 4, fol. 231; ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 7208, box 838.

44 SOKA Šumperk, fonds AM Šumperk, inv. no. 1358, box 526.

45 *Adressbuch der Textil-Industrie der Nachfolgestaaten Österreich-Ungarns, ferner von Polen und Jugoslawien*. Reichenberg 1923, p. 305.

46 WStLA, fonds Handelsgericht, A44 – B – Registerakten, B 22, 70 (Franz Bujatti A. G.).

JOHANN ERNST KLAPPEROTH / FRIEDRICH ULRICH & SOHN

The Viennese merchant Johann Ernst Klapperoth (1719/1720–1789) was probably born in the Lower Silesian town of Grünberg (now Zielona Góra, Poland).⁴⁷ In the 1760s he began working for the firm Johann Georg Sörgel et Comp.,⁴⁸ which ran trading operations in Vienna and Nuremberg. In 1772 he became a partner in Sörgel's firm, and nine years later he took over control of the company. He managed it alongside the Nuremberg merchant Heinrich Heerdegen under the name Heerdegen & Klapperoth.⁴⁹

In 1785 Klapperoth decided to expand his business activities, so he applied to the Emperor Joseph II for a permit to set up his own company in Šumperk producing corduroy and a durable cloth known as Douchester, which was to be the first production of its type in the Habsburg Monarchy. After being granted the permit (and also receiving a state loan of 10,000 gulden), in 1786 he bought two houses (nos. 70 and 72) in an outlying part of Šumperk, along with several adjacent plots of land.⁵⁰

A year later, he broke off his business association with Heerdegen for good, and continued to run his Vienna shop and the Šumperk factory under the name Johann Ernst Klapperoth. When he died in 1789, the company passed to his two daughters, Katharina and Elisabetha.⁵¹ Katharina later married Gotthold Kunz, a wholesale merchant from Saxony who relocated to Vienna after Emperor Joseph II issued the Patent of Toleration.⁵² When Katharina died in 1800, Kunz took over complete control of her father's business.

It was under Kunz's management (assisted by Josef Pohl, an expert in dyeing and colouring who had been part of the management team since 1794) that the manufactory experienced its greatest boom years. In 1804 it had 100 looms, which produced 2,500 pieces of corduroy and Douchester (a "piece" was equivalent to 72 Bohemian ells) and 300 pieces of plush fabric and velvet. The company's weaving workshops employed 140 weavers and 106 assistants, and the firm also employed around 150 girls to spin cotton yarn⁵³ and around the same number of girls whose job was to cut the raw fabric.⁵⁴ Corduroy and Douchester cloth were produced on the premises of the Klapperoth manufactory, which was also the site of the dyeing, bleaching and finishing shops.

47 His father Gottlieb Friedrich Klapperoth was a merchant in the town.

48 The company was founded by the Nuremberg merchant Johann Georg Sörgel. It was later taken over by his son Johann Conrad Sörgel, a prominent Austrian official, merchant and manufacturer. In 1795 he was granted the title *Freiherr*, using the predicate von Sorgenthal. Cf. WURZBACH, Constant von. *Biographisches Lexikon des kaiserthums Oesterreich*. 36. Theil (Sonklar – Stadelmann). Wien 1878, pp. 21–24.

49 WStLA, Merkantil- und Wechselgericht, A3 – Faszikel 3 – Firmenakten, 1. Reihe: C/K 33 (Klapperoth Johann Ernst).

50 DOHNAL, Miloň. *První menšestrová manufaktura v Šumperku*. Severní Morava, vol. 5, 1960, p. 29. Soon afterwards, Klapperoth applied for an imperial licence, requested that his skilled workers be exempted from military service, and also requested that the authorities prohibit any other entrepreneur in the Olomouc region from undertaking the same type of production for a period of twenty years.

51 WStLA, Merkantil- und Wechselgericht, A3 – Faszikel 3 – Firmenakten, 1. Reihe: C/K 33 (Klapperoth Johann Ernst). Elisabetha married Gotthold Kunz's nephew Christian Heinrich. They had no children, and Elisabetha later gave up her stake in the company to her elder sister.

52 Materials stored in the onion dome of a roof tower at the former Klapperoth manufactory, now held by the Šumperk town council.

53 However, these hand spinning operations were not capable of meeting the demand for cotton yarn, so the company bought in high-quality machine-produced yarn from England. The company's mechanic Engelbert Heinisch made several self-built spinning machines at the manufactory itself. By the turn of the 19th century there were 36 such machines there.

54 DOHNAL, M. *Původní akumulace*, pp. 89–90; DOHNAL, M. *První menšestrová manufaktura*, pp. 29–30.

Semi-linen, semi-cotton and semi-wool fabrics (velvet and plush) were made by home-based weavers, often members of the Šumperk weavers' guild. Some yarn was also spun in workers' homes.⁵⁵

The manufactory experienced a rapid growth in production volumes during the Napoleonic blockade, when English goods no longer had access to the domestic market. The site produced around 4,000 pieces of cloth per year,⁵⁶ and it employed more than 300 workers. However, the company was unable to produce enough cloth to supply all its markets, and the growing demand for corduroy, velvet and plush fabric encouraged numerous entrepreneurs (especially in Bohemia) to shift their focus from linen to this type of goods.

When the blockade was lifted, the higher-quality goods produced by foreign manufacturers (and increasingly also by manufacturers from Bohemia) regained their position on the Austrian market. The Šumperk factory thus began to lose its market foothold, and eventually its client base shrunk to just a few regular customers in Hungary. In 1821, it had 65 workers who used 15 looms to produce 1,000–1,200 pieces of corduroy each with a length of 24 ells.

In response to this situation, Gotthold Kunz decided to gradually shift his focus to linen cloth production. In the second decade of the 19th century he rented bleaching shops in Rapotín and Rejhotice from the owner of the Velké Losiny estate, and in 1821 he produced around 3,000 *Schock* of linen cloth (a *Schock* – in Czech *kopa* – was 60 “pieces”). At that time, the manufactory had 15 looms, and home-based weavers worked with 70 more looms. The company employed a total 160 people. In the following year, Gotthold's sons Friedrich and Gottfried (who had taken over their father's firm) completely phased out corduroy production and instead focused entirely on making linen cloth.⁵⁷

In 1829 the premises of the Šumperk manufactory were taken over by the local linen merchant Friedrich Ulrich (1802–1881).⁵⁸ According to Miloň Dohnal, he established a bleaching shop alongside the weaving mill and finishing shop.⁵⁹ Ulrich already ran a bleaching shop in Rapotín, which in the 1830s was one of the most modern operations of its type in North Moravia.⁶⁰ Christian d'Elvert states that it had 70–80 employees who bleached 22–25,000 pieces of white cloth each with a length of 60 ells and 1,700–1,800 *Schock* of yarn.⁶¹

Ulrich continued to develop the Rapotín bleaching shop during the second half of the following decade. He began using modern methods of chemical and steam bleaching, enabling him to process 50–60,000 pieces of white linen cloth per year.⁶² In 1845 he acquired the bleachery in

55 DOHNAL, M. *Původní akumulace*, pp. 89–91. Besides outsourcing yarn production to home-based spinners in the Šumperk region, Klapperoth was also active in the town of Telč and the surrounding area.

56 DOHNAL, M. *První menšestrová manufaktura*, pp. 32–33.

57 DOHNAL, M. *Původní akumulace*, pp. 92–94.

58 WStLA, Merkantil- und Wechselgericht, A3 – Faszikel 3 – Firmenakten, 1. Reihe: C/K 33 (Klapperoth Johann Ernst). Friedrich's father Friedrich Ulrich (* 1805) was appointed as the general manager of the Klapperoth company in 1794.

59 DOHNAL, M. *Původní akumulace*, p. 97. SOKA Šumperk, fonds AM Šumperk, inv. no. 1225, box 277. Ulrich's bleaching shop in Šumperk is also mentioned in a list of Šumperk businesses that were active in the mid-19th century. In 1854 it employed 50 people and processed an average 1,000 pieces of cloth per year; among the equipment listed are a mangle, two washboards and one steam boiler). In the second half of the 19th century the buildings of the former corduroy manufactory were converted into residential units.

60 Miloň Dohnal also states that Ulrich bought a bleaching shop in Velké Losiny. Cf. DOHNAL, M. *Průmyslová revoluce*, p. 15.

61 d'ELVERT, Ch. *Zur Cultur-Geschichte*, p. 319.

62 DOHNAL, M. *Průmyslová revoluce*, pp. 30–32; MZA Brno, fonds D 8 Stabílní katastr – vceňovací operáty (Stable cadastre – valuations), sign. 2219, box 805. According to the data given in the documents pertaining to the valuation carried out in 1844, the bleaching shop employed around 30 people and processed around 2,000

Rejhotice, which had been founded in 1812 by the Wagner brothers from Šumperk.⁶³

No later than in 1856, Friedrich Ulrich brought his son Gustav (*1867) into his business, first as the company's authorized agent and then (apparently from 1862) as a partner in the company Friedrich Ulrich & Sohn.⁶⁴ After Gustav's premature death, Friedrich Ulrich signed a memorandum of association with his son-in-law Eduard Viereck; this created the Ulrich & Viereck company, which ran a bleaching and finishing operation in Rapotín and Rejhotice. However, three years later the partners severed their ties and divided their joint business into two separate parts. Ulrich continued to manage the bleaching shop in Rejhotice, while Viereck ran the Rapotín sites.⁶⁵

The Ulrich family ran the bleachery in Rejhotice until the beginning of the 1930s. In 1932 two new partners joined Friedrich Ulrich & Sohn: Herbert (1903–1945) and Lothar (1904–1979) Ospald, the owners of a bleaching shop and finishing shop in Oskava. Two years later the Ospalds took de facto control of the company,⁶⁶ and in 1940 they purchased it outright.

The bleaching shop was evidently not in service during the Second World War. From 1943 at the latest the site was used by the German military authorities as a storage facility for munitions and equipment. After the war, production was never resumed. The machinery that had remained in place was dismantled and allocated to other companies in the region depending on requirements. The company came under national administration, and it went into liquidation. It was finally delisted from the commercial register of the Olomouc Regional Court in 1951.⁶⁷

NORBERT LANGER & SÖHNE

The beginnings of the company Norbert Langer & Söhne are usually traced back to 1792, when its founder, the weaver Norbert Langer (1768–1848), was granted the right to trade in the town of Šternberk and began running his own business there. He initially made smooth linen cloth, bed linen and duck, but he also produced English-type bed linen and shawls. He soon began subcontracting work to waged weavers. By around 1800 he already had 20 looms in operation, and two decades this number had grown to 78.⁶⁸ Langer's main markets were in Brno, Pest, Debrecen, Vienna, Graz, as well as export markets in the Balkans and Italy.⁶⁹

As the business grew, Norbert Langer applied for a licence permitting him to operate a factory producing linen and cotton goods. The Moravian-Silesian Governorate granted his request; in 1820 he received a basic licence, and a year later he was granted a formal provincial licence.⁷⁰

Schock of linen yarn and 8,000 *Schock* of various types of cloth, partly for the company itself and partly for other companies for a fee. The bleaching shop was used mainly by local clothmakers. The bleached goods were then sold at markets in Olomouc, Brno, Vienna, Pressburg (now Bratislava) or Italy.

63 DOHNAL, M. *Původní akumulace*, p. 95; MATEICIUC, Zdenek (ed.). *Altwaterland. Gustav Ulrich – fotograf z Rejhotic před 100 lety*. Praha – Odry 2002, p. 16. The Ulrichs apparently ran this bleaching shop until 1855 and then again from 1865/1866.

64 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 2806, sign. A V 175, box 154. The company was registered with the Olomouc Regional Court in 1860.

65 Ibid., inv. no. 78, sign. Jd II 91, box 4.

66 Ibid., inv. no. 2806, sign. A V 175, box 154; Ibid., inv. no. 1821, sign. A II 119, box 108. In January 1937 the Rejhotice operation became a subsidiary site of the Oskava-based Johann Ospald company.

67 Ibid., inv. no. 2806, sign. A V 175, box 154.

68 FEDERMANN, Ernst. *Die Leinen-, Baumwoll- und Kunstseidenwarenfabrik der Firma Norbert Langer & Söhne*. Not dated, p. 410 (manuscript held by SOKA Šumperk, fonds Archiv obce Horní Libina [Horní Libina Municipal Archives], fonds not processed).

69 d'ELVERT, Ch. *Zur Cultur-Geschichte*, p. 265.

70 Norbert Langer & Söhne, Sternberg, Oskau, Deutsch-Liebau und Nieder Dřewitsch. In *Die Gross-Industrie Oesterreichs*, pp. 322–323.



Libina, Langer family tomb.
Photograph by Viktor Mácha, 2021.

In 1821 he also opened a warehouse with a sales outlet in Vienna.⁷¹ It was at this time that he invited his sons Franz (1797–1872) and Karl (1799–?) to join the business. They set up a general partnership entitled Norbert Langer & Söhne, which they registered with the Brno Mercantile and Brokerage Court.⁷²

In the first half of the 1830s, when the North Moravian linen industry was experiencing a boom, the Langers made large-scale investments in their business. In 1832 they were the first weavers in Šternberk to acquire Jacquard looms, which enabled them to expand their range of products to include damask fabrics.⁷³ They also had a strong focus on the quality of their goods. In order to rid themselves of their dependence on other bleaching and finishing shops, they purchased land in the village of Oskava (around 30 kilometres from Šternberk) on which there was an old bleaching shop originally set up by the local lords (the Liechtensteins).⁷⁴ In 1835 and 1836 they converted the site into a modern bleachery and finishing shop. Oskava and the surrounding area was also home to a large number of weavers, enabling the Langers to establish a factor system and to produce coarse linen cloth.⁷⁵

At the beginning of the 1840s, the entire company's annual production was between 20,000 and 22,000 pieces of cotton and mixed-fibre goods with a length of 30 ells and between 5,000 and 6,000 pieces of pure linen goods,⁷⁶ which were produced on more than 150 looms.⁷⁷ No information is available on how much yarn and linen cloth were processed at the Oskava bleaching shop.

In 1853 the Langers expanded their production of damask (which they had previously made only in Šternberk) to Oskava.⁷⁸ During the 1850s and in the early 1860s, the Oskava site was further enlarged. The Langers built new accommodation and commercial premises, and they also invested heavily in the equipment at the bleaching shop and finishing shop. However, the growing demand for the company's products soon exceeded the capacity of the local workforce in Oskava. Responding to this situation, in 1863 the company gradually shifted its weaving operations to the nearby village of Deutsch Liebau (Německá Libina), where it built a hand weaving shop. The Jacquard looms at the shop produced mainly fine cloth and damask goods, including table linen.

71 WStLA, fonds Merkantil- und Wechselgericht, Faszikel 3 – Firmenakten, 1. Reihe: L 142 (Norbert Langer).

72 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), sign. Q 1852/16, box 171. The company was listed in the commercial register of the Olomouc Regional Court in 1852.

73 OHÉRAL, Jan. Sternberg, der Stadt der Weber. *Moravia*, 2, no. 159, 5. 9. 1839, p. 634.

74 SPURNÝ, František. Moravolen Oskava. *Vlastivědné zajímavosti*, no. 123. Šumperk 1974, unpaginated.

75 FEDERMANN, E. *Die Leinen*, pp. 410–411. MYŠKA, M. et al. *Historická encyklopedie*, p. 256.

76 MZA Brno, fonds D8 Stabliní katastr – vceňovací operáty (Stable cadastre – valuations), sign. 1826, box 671.

77 FEDERMANN, E. *Die Leinen*, p. 411.

78 *Die Gross-Industrie Oesterreichs*, pp. 322–323.

At the beginning of the 1880s, one of the partners in the company, Adolf Langer (I, 1838–1909), proposed to build a mechanized weaving mill in Deutsch Liebau; the new mill was intended to partially replace the hand-operated looms, of which the company had at least 300.⁷⁹ The proposal was accepted, and the factory was built probably in 1883–1886. It contained between 170 and 200 mechanical looms.⁸⁰ Also taking into account the company's hand looms (which were used to make cotton and mixed-fibre cloth in Šternberk and the surrounding area), the Langers' business had around 600 looms.⁸¹ However, even in later years the company continued to outsource work to home-based weavers; for example, at the beginning of the 20th century home weavers produced linen cloth for the company in various villages in the Šumperk region, including Tschimischl (Třemešek), Watzelsdorf (Václavov) or Benke (Benkov), as well as in Deutsch Liebau (Německá Libina) itself.⁸²

The company decided to mechanize its production of pure cotton cloth in 1895, and it bought a mechanized cotton weaving mill in Nízký Dřevíč near the Bohemian town of Hronov (now part of Hronov, Náchod district), which the Langers ran probably until 1909.⁸³ Seven years later, they decided to buy a mechanical cotton weaving mill in Ústí nad Orlicí (with 100 looms),⁸⁴ and in 1918 they purchased a mechanical weaving mill in Roztoky-Kruh (Semily district) with 476 looms, where they later added a sizing shop and a winding shop.⁸⁵

When Czechoslovakia became independent in 1918, the company had to reorganize its wide-ranging operations. It was necessary to relocate the sales and financial departments from Vienna to the newly created state – specifically to Německá Libina (Deutsch Liebau).⁸⁶ During the inter-war years, the Langers continued to expand and modernize their production operations. From 1925 onwards, besides producing linen and cotton goods, they also began to weave artificial silk cloth, which was used mainly for tea and coffee service sets. The company also produced a wide range of linen and cotton goods, such as table linen and various types of linen for hotels, swimming pools, sanatoriums, shipping and railway companies, as well as for the army.⁸⁷

In 1930, Norbert Langer & Söhne ran three mechanical weaving mills plus a small factory in Uničov⁸⁸ (with a total 1,016 looms), as well as two finishing shops and one bleaching shop for yarn and cloth, one mechanized sewing and knitting shop, one dyeing and printing shop, one design and painting studio, and one factory that made packaging materials. The company as a whole employed between 2,400 and 2,800 people.⁸⁹ During the economic crisis of the 1930s, the firm apparently enjoyed a relatively favourable financial situation, as is indicated in the fact that in

79 FEDERMANN, E. *Die Leinen*, pp. 410–412.

80 BERAN, L. – VALCHAŘOVÁ, V. – ZIKMUND, J. (eds.). *Industriální topografie*, pp. 189–190; SPURNÝ, František. Moravolen Libina. *Vlastivědné zajímavosti*, no. 124. Šumperk 1974, unpaginated; *Die Gross-Industrie Oesterreichs*, pp. 322–323.

81 FEDERMANN, E. *Die Leinen*, p. 412.

82 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 7328, box 863, 864.

83 *Die Gross-Industrie Oesterreichs*, pp. 322–323; ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 4054, sign. A X 372, box 209. For a brief period, the company also operated around 60 mechanical looms at rented premises in Žabokřky (now also part of Hronov).

84 ZAO, Olomouc branch, fonds Langer Norbert a synové, továrna na lněné, bavlněné a hedvábné zboží, Libina (Langer Norbert & Söhne, linen, cotton and silk goods factory, Libina), inv. no. 42, box 6.

85 FEDERMANN, E. *Die Leinen*, pp. 413–414.

86 The company's headquarters remained in Šternberk until 1942, when they were moved to Libina. ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 4054, sign. A X 372, box 209.

87 FEDERMANN, E. *Die Leinen*, pp. 413–414.

88 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 4054, sign. A X 372, box 209.

89 LEITER, Wilhelm. Die Leinen-, Baumwoll- und Kunstseidenfabrik der Firma Norbert Langer & Söhne. In LEITER, Hermann (Hrsg.). *Deutsch Liebau. Heimatbuch*. Deutsch Liebau 1935, p. 227.

1934 it acquired a stake in the general partnership I. Seidl & Comp., which had been experiencing financial difficulties for quite some time.⁹⁰

With effect from 1 January 1939, Norbert Langer & Söhne changed its legal form to a limited partnership. In the early stages of the war the company succeeded in winning military contracts, and it even participated in the “Aryanization” of the Hahn & Kann company in Rozoký-Kruh.⁹¹ However, as the war dragged on, production was gradually scaled down, and some of the firm’s factories were made available for armaments production.⁹² After 1945 the company was nationalized, becoming part of the Šumperk-based national corporation Moravsko-slezské lnářské závody (Moravian-Silesian Linen Mills).⁹³

THE MECHANICAL LINEN SPINNING MILL IN ŠUMPERK⁹⁴

In 1839, a group of leading North Moravian textile entrepreneurs (including Eduard Oberleithner, Ignaz Seidl, Johann Siegl, J. A. Müller, the Steinbrecher brothers) and Olomouc-based merchants (headed by Paul Primavesi) applied to the Moravian-Silesian Governorate for permission to establish a joint-stock company which would build the first mechanical spinning mill for flax and hemp in Moravia, to be located in Šumperk. The permit was finally approved by the Court Chamber (Hofkammer) in Vienna in 1846. The firm’s capital comprised 500,000 convention gulden, divided into 1,000 shares, each with a value of 500 gulden. The company was registered at the Brno Mercantile and Brokerage Court at the end of 1847.⁹⁵ Eight years later, the Moravian Provincial Governor’s Office (Statthalterei) granted a formal factory licence to the company.

The planned capacity of the spinning mill (which was never actually achieved) was 14,000 spindles. The mill began operating in 1842 with 2,592 spindles. Spindles were added during the following decade, taking the number to 5,000, and in 1872 the mill had 7,400 spindles.⁹⁶ In the 1840s, the company’s products won awards at industrial exhibitions in Berlin and Vienna, and later in London and Munich. In 1855 the mill had 660 employees.

The company experienced severe financial difficulties as a result of the recession in the 1870s, and at the end of the decade production was halted. In 1880 the company went into liquidation, and the buildings were used by another firm (Ed. Oberleithner’s Söhne) for its own mechanical weaving mill.

ED. OBERLEITHNER’S SÖHNE AND OBERLEITHNER & CO.

The Oberleithners, originally from Lower Austria, were one of the most prominent families in the North Moravian textile industry during the 19th century and the first half of the 20th century. The origins of the family’s business activities are usually traced back to 1817, when Eduard Oberleithner (I, 1791–1849) began producing linen.

Eduard, like his father Johann Georg Oberleithner (1752–1804), trained as a dyer, and after completing his travelling apprenticeship he qualified as a Šumperk master dyer. Besides dyeing,

90 DUBSKÁ, P. Vývoj, p. 65.

91 ZAO, Olomouc branch, fonds Langer Norbert a synové, továrna na lněné, bavlněné a hedvábné zboží, Libina (Langer Norbert & Söhne, linen, cotton and silk goods factory, Libina), inv. no. 12–14, box 1.

92 SPURNÝ, F. Moravolen Libina, unpaginated; ZAO, Olomouc branch, fonds Langer Norbert a synové, továrna na lněné, bavlněné a hedvábné zboží, Libina (Langer Norbert & Söhne, linen, cotton and silk goods factory, Libina), inv. no. 17–18, box 2.

93 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 4054, sign. A X 372, box 209.

94 Unless stated otherwise, this text is based on a study by Jan Janák – JANÁK, J. *Ke vzniku*, pp. 185–221.

95 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), sign. Q 1852/32, box 172.

96 STEIN, E. von. *Die Leinen-Industrie*, p. 296.

he soon became involved in trading with yarn and linen cloth, and eventually moved to organizing cloth production. In response to the growing demand for higher-quality goods, in 1825 he began building his own bleaching shop, which began operating in 1826 and 1827.

In 1837, Eduard was granted a formal provincial factory licence to produce linen and cotton goods.⁹⁷ By this time, his eldest son Eduard (II, 1813–1892) was already involved in the business; Eduard Jr. had likewise trained as a dyer, and in 1833 he had qualified as a master dyer.⁹⁸ Six years later, father and son signed a memorandum of association in Vienna, creating the general partnership Ed. Oberleithner et Sohn. Later the same year, the company was registered both by the Brno Mercantile and Brokerage Court and in Vienna, where it opened a warehouse with a sales outlet.⁹⁹ Shortly afterwards, the company opened another sales warehouse in Lemberg (now Lviv).

In the 1840s, the company employed 242 weavers using 495 looms¹⁰⁰ to produce around 12,000 pieces of linen cloth (each 60 ells in length) per year.¹⁰¹ Its markets included Vienna and Italy, and the finest cloth was exported overseas via the port in Hamburg.¹⁰² The Oberleithners themselves never actually owned any looms; they outsourced work to waged weavers based in Šumperk and a range of villages and towns in the wider region, including Libina, Horní Město, Králíky, Temenice, Sudkov, Horní Bohdík and Zábřeh.¹⁰³

In 1842 Eduard Sr.'s younger son Karl Oberleithner (1828–1898) became a partner in the business, as well as his brother-in-law Konstantin Zephyrescu (1814–1872). The company was renamed Ed. Oberleithner et Söhne. After Eduard Sr.'s death in 1849, the company's name changed again; the new name (Ed. Oberleithner's Söhne) remained in use until 1945.¹⁰⁴

By the beginning of the 1850s, the company had grown to become one of the largest linen producers in the territory covered by the Olomouc Chamber of Trade and Industry.¹⁰⁵ In the summer months, it employed around 120 people working at its bleaching shop and finishing shop. There were around 650 home-based weavers producing cloth year-round, plus a further 20 artist-weavers working at the Oberleithners' own house in Šumperk, where they made damask. The company's annual production was between 24,000 and 28,000 pieces of smooth linen cloth, damask and herringbone twill, each with a length of 30, 38 and 54 ells.¹⁰⁶

Between 1855 and 1857 the Oberleithners built their own mechanized flax spinning mill in Hanušovice, with an initial capacity of 6,000 spindles.¹⁰⁷ In 1866 at the earliest, they built another mechanical spinning mill in the settlement of Holba (now part of Hanušovice).¹⁰⁸ These mills were operated by the Šumperk-based general partnership společnost Oberleithner & Co., founded in 1864.¹⁰⁹

97 SOKA Šumperk, fonds AM Šumperk, inv. no. 1233, box 294; DOHNAL, M. *Průmyslová revoluce*, p. 29.

98 SOKA Šumperk, fonds AM Šumperk, inv. no. 1172, box 239.

99 WStLA, fonds Merkantil- und Wechselgericht, A3 – Faszikel 3 – Firmenakten, 1. Reihe: O/58 (Oberleithner Eduard).

100 SOKA Šumperk, fonds AM Šumperk, inv. no. 1233, box 294.

101 d'ELVERT, Ch. *Zur Cultur-Geschichte*, p. 290.

102 SOKA Šumperk, fonds AM Šumperk, inv. no. 1225, box 277.

103 Ibid., inv. no. 1233, box 294.

104 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), sign. Q 1852/26, box 71; Ibid., inv. no. 916, sign. Sp I 6, box 42.

105 Ibid., fonds OŽK Olomouc, inv. no. 2314, box 252.

106 Ibid., inv. no. 1964, box 223; Ibid., inv. no. 1965, box 223.

107 SPURNÝ, F. Moravolen Hanušovice, unpaginated.

108 SOKA Šumperk, AO Holba, inv. no. 22, box 3.

109 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 924, sign. Sp I 58, box 44.

In 1873 the Oberleithners participated in the Vienna World's Fair, where their products won exceptional acclaim. Their display of yarn and cloth attracted considerable attention from visitors, who particularly admired its design concept¹¹⁰ – dominated by a structure resembling a fountain, with strands of yarn creating the impression of flowing water.¹¹¹ The jury of experts also awarded the company a gold medal in recognition of the high quality of the products exhibited.¹¹²

The company successfully managed to overcome the economic crisis of the 1870s with the help of loans provided by the Austrian National Bank.¹¹³ It then underwent further expansion and modernization. In 1880 the Oberleithners bought the building of the former mechanical linen spinning mill in Šumperk and converted it to a mechanical weaving mill.¹¹⁴ In 1881 the mill had 24 looms; these were among the very first mechanical looms operating within the territory of the Olomouc Chamber of Trade and Industry.¹¹⁵ By 1886 the total number of mechanical looms at the factory had increased to 113, of which 45 were simple looms and 68 were Jacquard looms. Besides these machines, Ed. Oberleithner's Söhne also had 464 operational hand looms (330 simple, 134 Jacquard), with a total of 650 employees.¹¹⁶ The spinning mills in Hanušovice and Holba had a capacity of just under 14,000 spindles.¹¹⁷

In the mid-1880s, the company's annual production was around 23,900 pieces of linen and semi-linen goods.¹¹⁸ It made a wide range of products, including raw, smooth, bleached and finished linen cloth, duck, damask and herringbone twill. The Oberleithners were particularly known for their production of damask table linen and towels,¹¹⁹ which they exported not only to Europe, but also to the USA – a market which remained very important to the company during the inter-war years. Products exported to America included fine damask goods, especially table linen for hotels, railway and shipping companies, as well as the army and navy.¹²⁰

From the 1870s onwards both companies grew as new partners joined them; these included Eduard Sr.'s sons Eduard Jr. and Karl, as well as other members of the family. Among the most prominent figures in the firm were Konstantin Zephyrescu's son-in-law Dr. Karl Chiari (1849–1912), a Viennese doctor and imperial parliamentary deputy, as well as Karl Oberleithner's son Max (1868–1935).

Together with the other partners, Max Oberleithner was responsible for the further expansion and modernization of the company's production sites around the turn of the 20th century. In 1903–1906 the weaving mill was enlarged, 288 mechanical looms were installed and other machinery was upgraded. Shortly before the First World War, the mill had around 470 mechanical looms¹²¹ and 650 workers.¹²² However, the Oberleithners also continued to use hand-operated

110 *Amtlicher Bericht über die Wiener Weltausstellung im Jahre 1873*. Band I. Wien 1874, p. 535.

111 KOS, Wolfgang – GLEIS, Ralph (Hrsg.). *Experiment Metropole. 1873. Wien und die Weltausstellung*. Wien 2014, p. 467.

112 *Textilrundschaу. Mitteilungen des Allgemeinen Deutschen Textilverbandes in Reichenberg*, 17, 1935, no. 11, p. 78.

113 MYŠKA, M. et al. *Historická encyklopedie*, p. 324.

114 TURKOVÁ, H. *Vybrané objekty*, p. 24.

115 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 7245, box 841.

116 *Ibid.*, inv. no. 7225, box 840.

117 *Ibid.*, inv. no. 2622, box 286.

118 *Ibid.*, inv. no. 7225, box 840.

119 VMS, Sběrka šumperského muzea, podsběrka historická (Collection of the Šumperk museum, history subcollection), sign. H11.069, H19.832.

120 AČNB, fonds Národní banka Československá (Czechoslovak National Bank), úvěrový spis (loan documentation), sign. NBČ/3407-1.

121 BERAN, L. – VALCHAŘOVÁ, V. – ZIKMUND, J. (eds.). *Industriální topografie*, pp. 222–223.

122 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 7208, box 838.

looms.¹²³ In 1913 they had a total 555 hand weavers working for them,¹²⁴ and this situation continued during the inter-war period. According to a survey conducted at Šumperk's textile factories in 1924, Ed. Oberleithner's Söhne employed 116 hand weavers and 75 seamstresses.¹²⁵

The bleaching shop was modernized in 1886 and again in 1906–1910. In 1903 it employed 140 people,¹²⁶ and after its expansion the workforce rose to 225.¹²⁷ The mechanical spinning mills in Hanušovice and Holba were also enlarged at the turn of the 20th century.¹²⁸

The company was hampered in its continued expansion by the slump that hit the linen industry as a whole, as well as by the increasing tensions in international relations, which in 1912 led to the outbreak of armed conflict in the Balkans and ultimately culminated in the First World War. Already in 1913, the Oberleithners were forced to scale back production; shifts were reduced to just five days a week, and some employees were laid off. The workforce at the mechanical weaving mill shrank to 600; 42 hand weavers were made redundant; and the number of employees at the bleaching shop fell to 214.¹²⁹

Between the world wars, the Oberleithners' main problem was a lack of funds, which was a consequence of several factors: the continually dwindling demand for linen goods on the domestic market, strong competition from German products on foreign markets, high tax rates, and the high cost of transportation.¹³⁰

The shortage of funds prevented the family from modernizing the machinery at their production sites. During the 1920s they purchased only the most essential equipment, and the next major investments were not undertaken until the end of the 1930s, probably as part of efforts to increase the efficiency of production processes.¹³¹ The necessary funds were secured mainly via bank loans.¹³²

The dire situation of the company was particularly evident during the Great Depression of the 1930s, when both the family's companies were operating at just one-fifth of their total capacity.¹³³ There was an upturn in production in the second half of the decade, when the company was granted a direct export loan and managed to win several major contracts with American shipping lines.¹³⁴

Not much information is available about the fate of the family and the development of their businesses during the Second World War and after 1945. It is likely that the Šumperk weaving mill (and to some extent the bleaching shop) were used from 1944 by the German company Telefunken to produce machine components, and a sub-camp of the Gross-Rosen concentration camp was set up in the Hanušovice spinning mill.¹³⁵ After the war, Ed. Oberleithner's Söhne and Oberleithner & Co. were nationalized, becoming part of the Šumperk-based national corporation Moravsko-slezské lnářské závody (Moravian-Silesian Linen Mills).¹³⁶

123 Ibid., inv. no. 7328, box 863, 864.

124 Ibid., inv. no. 7208, box 838.

125 DUBSKÁ, Pavla. Šumpeřský textilní průmysl éře první Československé republiky. *Vlastivědný věstník moravský*, 69, 2017, no. 4, p. 346.

126 SOKA Šumperk, fonds AM Šumperk, inv. no. 1347, box 497.

127 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 7208, box 838.

128 BERAN, L. – VALCHAŘOVÁ, V. – ZIKMUND, J. (eds.). *Industriální topografie*, pp. 206–207, 221–222.

129 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 7208, box 838.

130 Ibid., inv. no. 7198, box 837; Ibid., inv. no. 16996, box 2030.

131 TURKOVÁ, H. Vybrané objekty, pp. 23–28.

132 AČNB, fonds NBČ, úvěrový spis (loan documentation), sign. NBČ/3407-1.

133 ZAO, Olomouc branch, fonds Oberleithner Eduard, mechanická a ruční tkalcovna, Šumperk (Oberleithner Eduard, mechanical and hand weaving mill, Šumperk), inv. no. 57, box 4.

134 AČNB, fonds NBČ, úvěrový spis (loan documentation), sign. NBČ/3407-1.

135 BERAN, L. – VALCHAŘOVÁ, V. – ZIKMUND, J. (eds.). *Industriální topografie*, pp. 206–207, 221–223.

136 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 916, sign. Sp I 6, box 42; Ibid., inv. no. 924, Sp I 58, box 44.

REGENHART & RAYMANN¹³⁷

The history of the Regenhart & Raymann company, which operated in Jeseník and Vienna, dates back to the turn of the 19th century. The founder of the business was Josef Raymann (1770–1844), a trained gingerbread-baker from an old family of burghers in Freiwaldau (now Jeseník). In 1791, in Vrbno pod Pradědem, he married Marie Weiss, the daughter of the Viennese burgher Adolf Weiss – who since around the beginning of the 1780s had been a wholesale merchant specializing in linen thread. Weiss, together with Ferdinand Rössler (originally a factor and thread merchant from the Bohemian town of Krásná Lípa), bought unprocessed linen yarn from home-based spinners at the markets in Šumperk and Albrechtice and hired home-based producers in Vrbno and outlying communities to process it into thread. They then bleached the thread at two bleaching shops they owned, after which they transported it to their store in Vienna to be sold.

Josef Raymann's marriage with Marie Weiss opened up new business opportunities for him. Around 1799, he too began buying raw yarn from home spinners and selling to the owners of large linen producers in East Bohemia (mainly in the Broumov region). In 1808 he rented land in Freiwaldau (on the banks of the Bělá River) from the Diocese of Breslau (Wrocław), and built his own bleachery there.¹³⁸

After the Napoleonic Wars, Raymann expanded his business and began trading in linen cloth. He bought the cloth from home-based weavers in the Freiwaldau (Jeseník) region, had it bleached and finished at commercial bleaching shops, and then sold it in Brno, Vienna, and to a lesser extent also at markets in Bohemia and Saxony. Before 1820 he embarked on a further expansion at his bleachery, as well as building his own beetling mill, mangle and drying house for yarn and cloth. He gradually scaled down his yarn trading activities, increasingly hiring home-based producers to process the yarn. At this time, Josef's son Adolf Raymann (1799–1883) joined the family business; he travelled widely around the Habsburg Monarchy and beyond its borders, seeking out new customers for the family firm.

While in Vienna, Adolf Raymann came to know Jacob (?–1855) and Alois (?–1862) Regenhart, who owned a trading house specializing in linen and cotton cloth. They acted as sales agents for linen producers from various provinces of the Monarchy, selling their goods on commission both on the domestic market and abroad. In the second decade of the 19th century, the Regenharths forged business contacts with various linen producers in Austrian Silesia. In Zuckmantel (now Zlaté Hory) they signed a memorandum of association with the factor Josef Münzberg, and in 1819 they also signed a memorandum with Josef and Adolf Raymann, creating the company Josef Raymann et Comp. The firm was quite a loose association of partners; the Regenharths' trading house provided funds to increase the operating capital of the Raymanns' business, thereby securing a regular supply of linen goods. The association brought great benefits to both sides. The Vienna-based Regenharths had an excellent knowledge of the needs and requirements of the linen goods market, enabling the Raymanns to respond rapidly to changes in demand for individual types of goods, while also having at their disposal enough operating capital to enable them to introduce new product lines.

In 1827, the Regenharths instigated a merger of the Raymann and Münzberg companies; it was not in their interests for both these large Silesian companies to be competitors. Again this was quite a loose association; it did not gain a firm legal basis until a memorandum of association was signed in 1833, which was retroactive from 1 December 1832. The document gave the Regenharths the exclusive right to sell the goods made by both producers.

¹³⁷ Unless stated otherwise, this part of the text is based on a study by Milan Myška – MYŠKA, M. *Slezská Inářská firma*, pp. 85–130.

¹³⁸ SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), továrna na lněné a damaškové zboží, Jeseník (Regenhart & Raymann, linen and damask goods factory, Jeseník), inv. no. 74, box 4.

In 1834 the Raymanns were granted a simple factory licence, followed in 1845 by a full provincial factory licence; this permitted them to establish sales outlets in the Monarchy's capital cities and to use the predicate "k. k. privilegierte" (signifying that they held an imperial-royal licence). The company continued to operate mainly using the factor system in its spinning and weaving activities, using its own centralized premises for bleaching and finishing.

The capital of both families became increasingly integrated. This process culminated in a new memorandum of association signed in Vienna in 1873, which represented a definitive merger between Gebrüder Regenhart et Co. and Raymann et Co. The merger created a general partnership named Regenhart und Raymann,¹³⁹ which ran a factory producing damask, herringbone twill and linen cloth in Freiwaldau as well as a shop in Vienna. The Regenharts had the final say in the company's decision-making.

The economic crisis of the 1870s highlighted the need for a greater concentration of production and capital in the Silesian linen industry, so in 1877 the company merged with Austrian Silesias second-largest linen producer, also based in Freiwaldau (a mechanical weaving mill with a finishing shop and bleaching shop) owned by the Viennese entrepreneur Augustin Küfferl. This merger made Regenhart & Raymann the largest linen producer in the province, and one of the largest in the Bohemian Crown Lands (i.e. Austria Silesia, Bohemia and Moravia).

During the 1820s, after the merger with Josef Münzbergs company, the firm shifted the focus of its production portfolio. The site in Zuckmantel mainly produced smooth cloth, while in Freiwaldau the factory made finer goods, such as tablecloths and table mats from patterned damask. These products were very popular on the domestic market, and sales were good. In 1855 the imperial court in Vienna bought a large collection of table linen from the Raymanns, and four years later the company was granted the right to describe itself as an official supplier of table linen to the imperial-royal court.

By the 1840s, the company was struggling with a shortage of high-quality yarn, as Silesian producers were unable to meet the required standards. The yarn had to be imported from either Bohemia or England. In response to this situation, in 1851–1854 the Raymanns built their own mechanical spinning mill in Freiwaldau – the first operations of its kind in Silesia. The mill operated as a separate company under the name Raymann's Flachsgarnspinnerei, and later as Adolf Raymann and Comp.; however, it only had a small number of active spindles (around 2,000), so it was still unable to cover even the demand of the Raymanns' weaving operations. By 1870 it was able to supply 45% of the company's tow yarn and just 17% of its linen yarn (line).¹⁴⁰

In 1865, during a boom period for the linen industry, the Raymanns and Regenharts built a mechanical weaving mill equipped with 15 looms that it had imported from England; this was the first factory of its type in Austrian Silesia. Three years later, the company built a second mechanized weaving mill, this time with 150 looms. It also completed work on a modern bleaching shop and finishing shop. In 1870 the company had 1,065 looms working for it, of which 900 were hand-operated (including 440 Jacquard looms) and 165 were mechanical. In 1875 the company had 264 mechanical looms and around 1,200–1,500 hand-operated looms. In 1881 the company's premises had 65% of all mechanical looms in Silesia, and 57% of the province's hand-operated looms. Its production accounted for 55% of linen cloth made in Silesia.¹⁴¹ Around 1,500 workers were employed in weaving and finishing (dressing). The large proportion of hand-operated looms was a consequence of the economic situation in the western part of Austrian Silesia, which had a

139 It became a limited partnership in 1934.

140 The mill was shut down in the mid-1870s. In its place Regenhart & Raymann built a warehouse, a packaging shop and offices.

141 MYŠKA, M. et al. *Historická encyklopedie*, p. 367.

relatively large population but few job opportunities; labour was cheap and plentiful, and the cost of buying hand-operated looms was lower than in the case of mechanical looms.

The company's product range included white handkerchiefs, Rumburg-style and Irish-style linen cloth, bed sheets and bed linen, dressed linen cloth, tablecloths and table mats, towels, table linen sets and coffee service sets. The goods were sold in almost all the provinces of the Habsburg Monarchy, as well as being exported – mainly to Italy, Russia and America. In view of the company's large number of foreign customers, it gradually expanded its production of table linen sets and scaled down the volumes of smooth linen cloth produced.

The company continued to prosper at the turn of the 20th century, when it invested substantial sums in building new factory and accommodation complexes – especially a new mechanical weaving mill with 600 looms.¹⁴² In 1906–1907 the company built a new mechanical weaving mill in Brandýs nad Orlicí (Ústí nad Orlicí district), which it ran until 1920.¹⁴³ During the First World War it appears that the Brandýs factory was used mainly to produce fabrics for the war effort.¹⁴⁴

After 1918, most investments were focused on modernizing machinery and improving the working environment. Despite the difficulties faced by Czechoslovakia's textile industry as a whole, the company nevertheless still managed to export up to one-half of its production, and throughout the inter-war period it remained financially stable. This enabled the company and its owners to establish new factories or to help financially stabilize existing factories (such as the I. Seidl & Comp. linen and cotton spinning mill in Sudkov).¹⁴⁵ During the Second World War the company supplied the military, primarily making cloth for covers, tents and bed linen. In 1942 it employed 308 men and 591 women.¹⁴⁶

In 1945 the company came under national administration, and in the following year it was incorporated into the Jeseník-based national corporation Tkalcovny a úpravny jemného lnu (Fine Linen Weaving Mills and Finishing Shops).¹⁴⁷ In 1958 the Jeseník sites became plant 04 of the national corporation Moravolen, which had its headquarters in Šumperk.¹⁴⁸

FELIX REITERER'S SÖHNE

At the beginning of the 1880s, the Viennese company Felix Reiterer's Söhne built a silk weaving mill in Šumperk. The origins of the firm date back to 1847, when Felix Reiterer opened his own workshop producing silk goods in the village of Atzgersdorf (now part of Vienna's 23rd district).¹⁴⁹ Initially he specialized in making silk cloth for waistcoats, and in the 1850s he expanded his range

142 BERAN, L. – VALCHAŘOVÁ, V. – ZIKMUND, J. (eds.). *Industriální topografie*, pp. 239–240.

143 VALCHAŘOVÁ, Vladislava (ed.). *Industriální topografie. Pardubický kraj*. Praha 2012, p. 123; ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 4496, sign. A XIII 88, box 237. The branch in Brandýs nad Orlicí was not removed from the commercial register until 1928.

144 TARABOVÁ, Ivana. *Regenhardt a Raymann (Regenhardt & Raymann), továrna na lněné a damaškové zboží, Jeseník (Regenhardt & Raymann, linen and damask goods factory, Jeseník) (1807) 1819–1946* (Inventář). Opava 2006, p. 7. In 1914 this branch of the company employed 82 people.

145 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 929, sign. Sp I 92, box no. 45.

146 ZUBER, Rudolf. Moravolen Jeseník. *Vlastivědné zajímavosti*, no. 98. Šumperk 1973, unpaginated.

147 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy, inv. no. 4496, sign. A XIII 88, box 237.

148 ZUBER, R. Moravolen Jeseník, unpaginated.

149 Felix's father Josef was a dresser of silk cloth, evidently in the Viennese suburb of Gumpendorf. Felix's firm was registered as a sole proprietorship at the Vienna Commercial Court no later than in 1863. Register of vital statistics for the parish of Gumpendorf, main diocese of Vienna. In: <https://data.maticula-online.eu/de/oesterreich/wien/06-gumpendorf/01-035/?pg=174> [retrieved 21. 6. 2021]; WStLA, fonds Handelsgericht, Handelsregister E 4, fol. 197.

of products to include silk shawls and cloth for making neck-ties.¹⁵⁰ His cloth soon won renown not only among customers in the Habsburg Monarchy, but also in Germany, England, Belgium and America. Reiterer's products also won numerous awards at several trade fairs and exhibitions (e.g. Linz in 1865, and Vienna in 1873 and 1880).¹⁵¹

In 1875 Felix Reiterer Sr. handed control of the company to his two sons, Felix Jr. (1848–1876) and Josef (1851–?). They changed the legal form of the firm to become a general partnership named Felix Reiterers Söhne, which they registered with the Vienna Commercial Court. They also opened a warehouse with a sales outlet in the city.¹⁵² However, in the following year Felix Reiterer Jr. died, and his younger brother Josef took over the management of the company.¹⁵³ His primary focus was on producing silk cloth for neck-ties, which was mainly exported to America.¹⁵⁴

In 1885 Josef Reiterer had the Šumperk branch of the company listed in the commercial register of the Olomouc Regional Court, and four years later he moved the company's headquarters to Šumperk.¹⁵⁵ Before the First World War he involved his sons in the business: Josef (II, 1881–?), Felix Rudolf (1884–1920) and Richard (1887–?).¹⁵⁶ The Reiterers remained residents of Vienna, and they generally did not run the company's Šumperk operation in person.¹⁵⁷ Instead the factory was entrusted to managers and their teams. Managers included Karl Fuchs (who held the post until 1912), his deputy Josef Hanker (1883–1913), and the manager Adolf Hauptfleisch (1874–?, manager from 1913).¹⁵⁸

Even before the outbreak of the war, the company had difficulty selling its products.¹⁵⁹ As a consequence, in 1913 the Reiterer's were forced to lay off around 100 manual workers and eight office staff, reducing the company's total workforce to 300. In 1907, the Šumperk factory had employed around 570 people.¹⁶⁰ During the war the firm was hit by a shortage of skilled workers and raw materials, especially cotton which was used to make semi-silk products. The factory remained in operation mainly thanks to army contracts, making silk bags which were used to contain gunpowder.¹⁶¹

In 1918 the company became a general partnership, with its headquarters in Šumperk and a branch in Vienna.¹⁶² However, the new political and economic situation did not prove auspicious for the firm. It gradually accumulated debts, and in 1926 it was forced to go into liquidation. The factory buildings were bought by Silvet, a joint-stock company based in Prague that made silk and velvet

150 *Die Gross-Industrie Oesterreichs*, p. 45; *Verzeichniß der Herren Seidenzeug-, Sammt- und Dünntuch-Fabrikanten in der k. k. Haupt- und Residenz-Stadt Wien*. Wien 1860, p. 25.

151 *Die Gross-Industrie Oesterreichs*, p. 45.

152 WStLA, fonds Handelsgericht, Handelsregister Ges 19, fol. 209.

153 Ibid., Handelsregister E 15, fol. 419.

154 *Die Gross-Industrie Oesterreichs*, p. 45.

155 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 2044, sign. A II 258, box 118.

156 WStLA, fonds Handelsgericht, A 11 – A – Verlassenschaften, 52/1920 (Felix Rudolf Reiterer); Ibid., Handelsregister E 33, fol. 312.

157 Richard Reiterer moved to Šumperk at some point before or during the First World War. SOKA Šumperk, fonds AM Šumperk, inv. no. 2789, box 24.

158 M. K. Die Entwicklung der Seidenweberei in Mähr. Schönberg. 50 Jahre Grenzbote (Mähr. Schönberg) 29. 6. 1924, p. 32.

159 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 7193, box 831.

160 Ibid., inv. no. 7208, box 838; Ibid., inv. no. 7328, box 863–864. Besides factory workers, the company also employed home-based workers for many years; they were used for auxiliary tasks such as winding or cloth-cleaning.

161 Ibid., inv. no. 7195, box 834.

162 Ibid., fonds KS Olomouc – firemní spisy (company documents), inv. no. 2044, sign. A II 258, box 118; WStLA, fonds Handelsgericht, Handelsregister A 38, fol. 38.

goods and had factories in Dvorce, Bílovec and Slavonice¹⁶³ (and later also in Moravská Třebová). However, by 1929 Silvet had shut down production at the Šumperk factory as it had proved to be economically unviable.¹⁶⁴

HERMANN SCHEFTER

In 1900, Hermann Schefter (1858–1949), a native of Hermsdorf in Brandenburg, bought land on the left bank of the Oborník pond from the Zábřeh-based company Wilhelm Brass & Söhne. Within a year, he had built a mechanical silk weaving mill on the site. In 1904 Schefter registered his firm with the Olomouc Regional Court.¹⁶⁵

Besides the weaving mill in Zábřeh, the company also had a branch operation in Moravská Třebová. Situated in rented premises, the workshop employed around 15 workers and two supervisors, and it carried out preparatory work for the silk weaving process, such as winding. The company also outsourced labour to just under 100 home-based weavers, working manually. In 1906 Schefter acquired a small mechanized weaving mill from the Anninger company (Julius Abeles) in Moravská Třebová.¹⁶⁶ Shortly before the First World War, there were around 200 mechanical looms in operation at both factories.¹⁶⁷

In the inter-war period, the Schefters adapted well to the new situation in the textile industry, and they expanded the company further. In 1922 it became a general partnership; the partners included both Hermann's sons, Hermann Heinrich (1895–1979) and Oscar (1899–?).¹⁶⁸ At the end of the following year, the company bought the factories of the Friedrich Déri company in Šumperk (now Šumavská Street) and Potštát (Přerov district),¹⁶⁹ and in 1925/1926 it expanded its operations in Zábřeh by building a thread shop, a dyeing shop and a finishing shop. In 1933 a cloth printing shop was built.¹⁷⁰

At the beginning of the 1930s, the company employed around 1,300 staff (manual and office workers) and specialized in producing brocade, shawls and neck-ties (production of which was launched in 1930) made from natural and artificial silk and cotton.¹⁷¹ At this time, the Schefters also

163 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 2044, sign. A II 258, box 118; SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 100.

164 SOA Praha, fonds Krajský soud obchodní Praha (Regional Commercial Court, Prague), sign. B XIII 90 (Silvet a. s.). The company was founded in 1922, and in the same year it was listed in the commercial register. The main role in its establishment was played by the Moravian Agrarian and Industrial Bank (Moravská agrární a průmyslová banka). The company was removed from the commercial register in 1942.

165 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 2469, sign. A III 216, box 137. Until 1910 Hermann Brass and Otto Brass Sr. were listed as silent partners in the company.

166 Ibid.; *Adress-Buch der Textil-Industrie Österreich-Ungarns 1904/5*. Reichenberg 1904, p. 165. The mill had around 30 mechanical looms in operation.

167 *Adress-Buch der Textil-Industrie Österreich-Ungarns 1913*. Reichenberg 1913, p. 111.

168 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 2469, sign. A III 216, box 137. In 1920 the Vienna warehouse-cum-sales outlet was transformed into a separate company: Verkaufsgesellschaft für Textilien, G. m. b. H. In 1936 its name was changed to Hermann Schefter G. m. b. H., and it was removed from the commercial register in 1940.

169 Ibid.; Ibid., inv. no. 655, sign. Jd IV 218, box 30. Shortly before the Second World War, 168 people were employed at the Šumperk factory, which had 205 mechanical looms in operation. Work was also outsourced to a further 44 home-based workers.

170 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 2469, sign. A III 216, box 137. In view of the concentration of production, in 1924 the mechanical weaving mill in Moravská Třebová was closed down (and the hand weaving shop there was closed somewhat earlier). The mechanical looms were relocated to Zábřeh and Šumperk. The branch in Potštát was closed in 1932 for the same reason.

171 Neue Freie Presse, no. 23514, 1. 3. 1930, p. 11.

built up a network of around 40 retail and wholesale outlets in Moravia and Silesia, where they sold their own goods and those of other producers, as well as special soaps for washing fine fabrics.¹⁷²

During the Second World War, the company focused mainly on producing technical fabrics and silk for use in parachutes.¹⁷³ After 1945 the company was placed under national administration, and in 1946 it was incorporated into the Prague-based national corporation Tkalcovny hedvábí (Silk Weaving Mills). In 1949 it became part of the Atlas national corporation, based in Zábřeh.¹⁷⁴

SCHMIEDER & CO. / EMANUEL FISCHMANN (EMANUEL FISCHMANN'S NEFFE)

The Vienna-based company Schmieder & Co. was founded by the entrepreneur Hermann Schmieder (1837–1905), who came from a family of silk-makers.¹⁷⁵ From 1833 his father Martin ran his own business in the suburb of Gumpendorf (now part of Vienna's 6th district) producing silk goods,¹⁷⁶ which he passed on to Hermann probably in 1866.¹⁷⁷

At the end of the 1870s, Hermann transferred part of his production to Šumperk,¹⁷⁸ and in 1880–1881 he built his own factory there (now Lidická Street).¹⁷⁹ The factory was run by the general partnership Schmieder & Co., which Hermann had founded in 1879. Its partners included him, Gustav Schmieder, and the first manager of the Šumperk factory Alois Breme.¹⁸⁰

In the second half of the 1880s the company found itself in financial difficulties (partly as a result of the worsened conditions for exporting to Romania), and Hermann Schneider decided to sell the factory premises in Šumperk and the properties in Vienna. In 1887 these were purchased by Emanuel Fischmann (1853–?), a merchant originally from Budapest – though he had no previous experience of silk production.

In the early phases of his ownership, Fischmann had to rely on the expert advice of the previous owners and managers,¹⁸¹ including the factory manager Eduard Heinsheimer (1856–1895).¹⁸² In the same year, he had the company registered as a sole proprietorship at the Regional Court in Olomouc and the Commercial Court in Vienna; the main factory site was in Šumperk, and the company also had a branch in Vienna (including a warehouse with a sales outlet).

172 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 2469, sign. A III 216, box 137.

173 Ibid.; BERAN, L. – VALCHÁŘOVÁ, V. – ZIKMUND, J. (eds.). *Industriální topografie*, pp. 179–180. a. In 1941 the company bought another production site from the Moravská Chrastová-based company Gebrüder Bader; the site was in the village of Ludwikowice Kłodzkie (now in Kłodzko, Poland).

174 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 2469, sign. A III 216, box 137.

175 Register of vital statistics for the parish of Gumpendorf, main diocese of Vienna. In: <https://data.matricula-online.eu/de/oesterreich/wien/06-gumpendorf/01-023/?pg=232> [retrieved 21. 8. 2021].

176 *Verzeichniß der Herren Seidenzeug-, Sammt- und Dünntuch-Fabrikanten in der k. k. Haupt- und Residenz-Stadt Wien*. Wien 1860, p. 17. Martin Schmieder's company was registered with the Vienna Commercial Court in 1863–1866. Cf. WStLA, fonds Handelsgericht, Handelsregister E 2, fol. 397.

177 BERAN, L. – VALCHÁŘOVÁ, V. – ZIKMUND, J. (eds.). *Industriální topografie*, p. 226; *Allgemeiner Wohnungs-Anzeiger nebst Handels- u. Gewerbe-Adressbuch für d. k.k. Reichshaupt- und Residenzstadt Wien und Umgebung*. Wien 1867, p. 546.

178 M. K. Die Entwicklung, p. 32.

179 TURKOVÁ, H. Vybrané objekty, p. 30.

180 It was registered with the Vienna Commercial Court in 1879, and it was de-registered when the company was wound up in 1887. WStLA, fonds Handelsgericht, Handelsregister Ges 23, fol. 41.

181 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 108.

182 M. K. Die Entwicklung, p. 32; SOKA Šumperk, fonds OÚ Šumperk, inv. no. 965, box 302.



Šumperk, Seidl family tomb.
Photograph by Michaela
Ryšková, 2006.

In 1912 Emanuel Fischmann passed control of the company to his nephew, Rudolf Kallai (1883–?), also a native of Budapest. Kallai continued to run the firm under the name Emanuel Fischmann's Neffe.¹⁸³

Surviving source materials are fragmentary, making it impossible to gain a more detailed understanding of the scope of the business and the technical equipment it used. We know with certainty that the company had both mechanical looms and hand-operated looms, which were located both in the Šumperk factory and in the home of workers in Šumperk and the surrounding area.¹⁸⁴

The precise number of mechanical looms used by the company is not known. There were evidently between 50 and 90 of these machines, as well as other machinery for winding, warping and so on. The factory mainly produced silk and semi-silk cloth targeted at the rural population, as well as cloth for ecclesiastical use (vestments). The goods were sold mainly on the domestic market (especially in Hungary), though there were some exports to Germany, Turkey and the Balkans.

Before the First World War, the company had an average workforce of between 150 and 250 people – somewhat under one-half of them employed as home-based weavers.¹⁸⁵ There was a sharp reduction in the workforce during the First World War, though production was never stopped entirely because the company managed to win military contracts.¹⁸⁶

During the 1920s the company found it difficult to adapt to the new economic environment. It sank increasingly into debt, and production was shut down on several occasions.¹⁸⁷ In late 1926 and early 1927 it came under administration, and it was subsequently sold.¹⁸⁸

The new owner was the general partnership Fritz Schönwälder & Co.,¹⁸⁹ which was established in 1927. Its partners were the Viennese merchant Fritz Schönwälder and the factory-owner Jacob Baenziger, from the Swiss town of St. Gallen. The company ran the Šumperk factory until June

183 ZAO, Olomouc, fonds KS Olomouc – firemní spisy (company documents), inv. no. 276, sign. Jd III 173, box 13; WStLA, fonds Handelsgericht, Handelsregister E 22, fol. 187.

184 Hand weavers were also used (to a limited extent) during the inter-war period. ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 7328, box 863, 864; SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 108; Ibid., fonds AM Šumperk, inv. no. 1368, box 561; *Adreß-Buch der Textil-Industrie Österreich-Ungarns 1904/5*. Reichenberg 1904, p. 162.

185 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 108; Ibid., fonds AM Šumperk, inv. no. 1347, box 497.

186 Ibid., fonds OÚ Šumperk, inv. no. 491, box 108.

187 Ibid., fonds AM Šumperk, inv. no. 1370, box 568.

188 ZAO, Olomouc, fonds KS Olomouc – firemní spisy (company documents), inv. no. 276, sign. Jd III 173, box 13; WStLA, fonds Handelsgericht, Handelsregister E 22, fol. 187. The company was de-listed from both commercial registers in 1932.

189 SOKA Šumperk, fonds OÚ Šumperk (Šumperk District Authority), inv. no. 491, box 108.

1933, when production ceased, and it was finally wound up two years later.¹⁹⁰ The factory site was later used by a Prague-based wholesaler.¹⁹¹

I. SEIDL & COMP.

The business activities of the Seidl family in the Šumperk region date back to the first half of the 19th century. In 1832 the founder of the family firm, Ignaz Seidl (I, 1788–1863) – a native of Červená Voda – moved to Šumperk,¹⁹² where he became a yarn merchant. Eight years later, his son Ignaz (II, 1828–1898) joined the business. He eventually took over the firm and continued to expand it; by the 1850s he was running his own bleaching shop in Víkřovice.¹⁹³

In 1863 he bought a mill (no. 49) in the village of Sudkov, including the adjacent pond, and he decided to convert it into a linen spinning mill. Construction work was completed in 1865, and at the beginning of the following year the mill was operating with 6,000 spindles,¹⁹⁴ powered partly by steam and partly by water.¹⁹⁵

However, Ignaz Seidl soon began to run out of money. In an attempt to secure the future of the spinning mill, he invited his six sisters and his brother-in-law Alois Scholz (a close associate of the Klein brothers) to join the business. In 1867 they jointly founded a general partnership named I. Seidl & Comp. to run the mill. Based in Šumperk, the company was registered with the Regional Court in Olomouc.¹⁹⁶ Shortly after the establishment of the partnership, Ignaz Seidl decided to make a number of investments at the factory. In addition to steam engines and some new buildings (including a drying house), the main investment concerned the acquisition of new spinning machines, which enabled Seidl to increase the mill's capacity to 9,500 spindles.¹⁹⁷

The company's positive trajectory was interrupted by the collapse of the Viennese stock market in 1873. In 1874–1875 the Sudkov spinning mill was forced to take 3,500 spindles out of production, lowering its capacity by more than one-third.¹⁹⁸ A year later, the company had to lay off 170 workers, reducing its workforce to 400.¹⁹⁹

However, in the second half of the 1870s the company's fortunes gradually began to revive. In 1874 it opened a warehouse and sales outlet in Vienna.²⁰⁰ It gradually took on new staff; in 1877 the Sudkov factory had 604 workers.²⁰¹ From the early 1880s the Seidls focused their attention on expanding the business. In 1882 they decided to build their own cotton spinning mill. In 1883

190 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 2699, sign. A V 49, box 148. From 1914 to 1938 Fritz Schönwälder also owned the Vienna-based trading agency B. Schönwälder & Sohn. WStLA, Handelsgericht, Handelsregister A 18, fol. 130.

191 TURKOVÁ, H. Vybrané objekty, p. 32.

192 ZAO, Olomouc branch, fonds Seidl Ignác a spol., přádělna lnu a bavlny, Sudkov (Seidl Ignaz & Co., linen and cotton spinning mill, Sudkov), inv. no. 181, box 13.

193 MZA Brno, fonds G311 Rodinný archiv Seidlů Žďánice (Seidl family archive, Žďánice), inv. no. 702, box 30.

194 ZAO, Olomouc branch, fonds Seidl Ignác a spol., přádělna lnu a bavlny, Sudkov (Seidl Ignaz & Co., linen and cotton spinning mill, Sudkov), inv. no. 181, box 13.

195 Ibid., inv. no. 51, box 4.

196 ZAO, Olomouc branch, fonds Krajský soud Olomouc – firemní spisy (Olomouc Regional Court – company documents), inv. no. 929, sign. Sp I 92, box 45.

197 Ibid., fonds Seidl Ignác a spol., přádělna lnu a bavlny, Sudkov (Seidl Ignaz & Co., linen and cotton spinning mill, Sudkov), inv. no. 181, box 3.

198 Ibid.

199 SOKA Šumperk, fonds OÚ Zábřeh – presidiální spisy (Zábřeh District Authority – Presidium document), inv. no. 17, box 1.

200 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (Olomouc Regional Court – company documents), inv. no. 929, sign. Sp I 92, box 45.

201 DOHNAL, M. *Průmyslová revoluce*, p. 102.

production was launched with the first 5,024 spindles, and two years later the mill had 16,116 spindles. In 1891 more spindles came into operation at both spinning mills; the linen mill had 11 784 spindles and the cotton mill had 19,860.²⁰²

The development of I. Seidl & Comp. was brought to a halt by the outbreak of the First World War. From 1916 onwards the Seidls had to scale down production because part of the factory was being used by the army,²⁰³ and in 1917 it had to begin producing ersatz yarn made out of paper.²⁰⁴

The inter-war years were essentially a period of fading glory for the Seidl family's business – despite the fact that the Sudkov spinning mill remained one of the most important textile factories in the Šumperk region. Overall, the 1920s and 30s were a time of stagnation for the business, whose fluctuating fortunes saw relatively small successes alternating with relatively small losses, exacerbated by the dire situation of the post-war textile industry as a whole.

Shortly after the First World War, the Seidls were forced to deal with the damage done to the firm by the events of wartime. Besides the problems caused by the shortage of raw materials (especially cotton),²⁰⁵ another particularly challenging issue was the fact that a large proportion of the company's funds (and the partners' private savings) were tied up in Viennese banks or in the form of Austrian war loans.²⁰⁶ This situation further exacerbated by the company's precarious financial condition.

During the 1920s, the company constantly had to deal with a range of mutually interconnected problems. The lack of funds prevented it from investing large sums in machinery for the spinning mill, so the existing machines became increasingly antiquated. The company only invested in the most essential repairs, maintenance and modernization projects, such as the electrification of the machinery at the cotton spinning mill, which was completed in 1924.²⁰⁷ However, the antiquated machines were only capable of producing low-grade yarn. As a result, numerous linen and cotton weaving mills complained about the quality of the yarn supplied to them from the Sudkov spinning mill. Among the most vocal critics were the Šumperk weaving mills Karl Siegl sen. and Willibald Lubich & Sohn, as well as the Regenhart & Raymann mill in Jeseník.²⁰⁸

The poor-quality yarn also did substantial damage to the company's competitiveness on European and overseas markets. Only around 40% of the firm's production was destined for export,²⁰⁹ and its low quality significantly narrowed the range of viable markets open to the company. The most important export market during the 1920s was Romania; the company entered the Romanian market in 1924 and soon carved out a strong foothold there. Yarn from Sudkov was also sold in other Balkan countries, as well as in Poland and Turkey.²¹⁰

The problems with sales created an uncertain financial situation for the company. On average, the linen and cotton spinning mills worked to only 50–70% of their full capacity.²¹¹ The firm was also

202 ZAO, Olomouc branch, fonds Seidl Ignác a spol., přádelna lnu a bavlny, Sudkov (Seidl Ignaz & Co., linen and cotton spinning mill, Sudkov), inv. no. 181, box 13.

203 Ibid., inv. no. 136, box 1.

204 Ibid., inv. no. 181, box 13.

205 Ibid.

206 Ibid., inv. no. 142, box 11.

207 Ibid., inv. no. 181, box 13.

208 Ibid., inv. no. 12, box 2.

209 Ibid., inv. no. 181, box 13.

210 Ibid., inv. no. 8, box 1.

211 Ibid., inv. no. 112, box 10. The number of spindles in the linen spinning mill remained practically unchanged from 1891 onwards; in 1928 the mill had 12,544 spindles (compared with 11,784 in 1891). In the cotton spinning mill, the number of spindles rose (as a result of ongoing purchases of new machinery) to 26,748 by the turn of the 20th century (compared with 19,860 in 1891).

wracked by internal disputes. At the end of the 1920s the management decided to address the company's dire financial situation by changing its legal form.

It was decided that the existing general partnership would be dissolved and replaced by a joint-stock company. The Seidls managed to gain support for this idea from the Šumperk-based company Karl Siegl sen., Regenhart & Raymann in Jeseník, and Norbert Langer & Söhne (which operated in Deutsch Liebau / Německá Libina and Oskau / Oskava).²¹² However, circumstances were not conducive to the creation of a joint-stock company; for several reasons (especially administrative and legal), the planned company never became a reality. With effect from 1 January 1934 it was decided that I. Seidl & Comp. would in fact remain a general partnership, and that the three other companies (Karl Siegl sen., Regenhart & Raymann, Norbert Langer & Söhne) would be silent partners.²¹³

All the company's plans for modernization were substantially complicated by the Great Depression that struck in the 1930s. The most severe impact was on the cotton spinning mill, which was shut down entirely in 1931–1933 and subsequently made yarn only in the form of outsourced production for other companies.²¹⁴ The linen spinning mill operated on a similar basis, as other companies outsourced their production of agricultural sacks to it.²¹⁵ Because the company's orders had dwindled, managers were forced to lay off staff. For example, in November 1931 redundancies affected 190 workers, and in the following month the company planned to release a further 161 staff.²¹⁶ The Seidls also sold any buildings which were not absolutely essential; for example, in 1931 they had to shut down their offices in Šumperk, laying off half the staff and relocating the firm's headquarters to Sudkov.²¹⁷

The situation only began to improve in the second half of the 1930s, when the company was finally able to invest at least some funds in modernizing production. Probably the largest investment in new machinery (including machines that processed artificial fibres) came in 1937.²¹⁸ In that year, the company employed 808 people.²¹⁹

Nevertheless, the Sudkov mill continued to face financial problems, though the Munich crisis in 1938 did alleviate these problems at least for a while. The border regions of Czechoslovakia (the Sudetenland) were annexed by the German Reich, becoming an integral part of the German economy, and the company's partners welcomed this development with some enthusiasm, as they expected it to help solve the firm's long-standing problems with sales and production.²²⁰ It was not long before the company won its first contracts to supply the army (at the end of 1938); this represented a major boost especially to the cotton spinning mill, which was operating at 16% of its

212 Ibid., inv. no. 8, box 1.

213 Ibid., fonds KS Olomouc – firemní spisy (Olomouc Regional Court – company documents), inv. no. 929, sign. Sp I 92, box 45.

214 Ibid., fonds Seidl Ignác a spol., přádelna lnu a bavlny, Sudkov (Seidl Ignaz & Co., linen and cotton spinning mill, Sudkov), inv. no. 8, box 1.

215 Ibid., inv. no. 12, box 2.

216 SOKA Šumperk, fonds OÚ Zábřeh, inv. no. 4956, box 64.

217 ZAO, Olomouc branch, fonds Seidl Ignác a spol., přádelna lnu a bavlny, Sudkov (Seidl Ignaz & Co., linen and cotton spinning mill, Sudkov), inv. no. 181, box no. 13; Ibid. fonds KS Olomouc – firemní spisy (company documents), inv. no. 929, sign. Sp I 92, box 45.

218 Ibid., fonds Seidl Ignác a spol., přádelna lnu a bavlny, Sudkov (Seidl Ignaz & Co., linen and cotton spinning mill, Sudkov), inv. no. 12, box 2.

219 SOKA Šumperk, OÚ Zábřeh, inv. no. 906, box 172.

220 ZAO, Olomouc branch, fonds Seidl Ignác a spol., přádelna lnu a bavlny, Sudkov (Seidl Ignaz & Co., linen and cotton spinning mill, Sudkov), inv. no. 12, box 2. On 1 January 1939 the general partnership I. Seidl & Comp. became a limited partnership.

capacity.²²¹ However, the queue of orders for cotton yarn actually became a pressing problem, as the Sudkov mill lacked the necessary machinery to fulfil the orders.²²²

Events soon presented a solution. In 1940 the Seidls managed to buy a cotton spinning mill and a weaving mill in Kerhartice near Ústí nad Orlicí for a discounted price, as they had belonged to the Jewish-owned F. Sobotka company (based in Prague);²²³ the newly acquired mills had 22 028 spindles and 710 looms.²²⁴ The operation in Kerhartice was run via a newly created limited partnership named I. Seidl & Comp., K. G. Kerhartice, which was listed in the commercial register at the Regional Court in Chrudim.²²⁵

The outbreak of the Second World War brought mainly positive impacts on the Seidls' spinning mills. However, in 1940 the company experienced its first major problems with the organization of supplies and a shortage of raw materials – which were also of poor quality. It proved particularly difficult to secure a reliable supply of cotton. The situation became critical after Germany attacked the Soviet Union, which had been one of the main suppliers of cotton to the German Reich. Eventually, the authorities ruled that the Sudkov spinning mill had to cease production in 1942.²²⁶

In addition to the problems with raw materials, the company also had to cope with a shortage of skilled workers (and eventually any workers at all), who were being drafted into the army or commandeered to work in other industries. In 1941 the Sudkov mill employed 920 people. A year later, this number had dropped to just 839.²²⁷ The Kerhartice operation employed 430 people in 1941 and 381 in 1942.²²⁸ Maintaining even these staffing levels proved to be a challenging task. As the cotton spinning and weaving mills became less important to the company, their workers were gradually retrained and reassigned to the linen mill. The workforce was swelled by foreigners who were sent to the mill as forced labour,²²⁹ and the local labour authority reassigned several workers from other local factories to work for the Seidls in Sudkov.

The conditions for textile production deteriorated rapidly when the German government declared a state of total economic mobilization at the beginning of 1943. In August 1943, I. Seidl & Comp. was forced to vacate the weaving mill in Kerhartice for the German company Klöckner G. m. b. H., a producer of aircraft engines, which relocated its repair centre for BMW 801 engines to Kerhartice from its branch in Brno.²³⁰ A similar situation affected the Sudkov factory, part of which was vacated for the use of the electrical engineering firm Metzenauer & Jung from Postřelmov.²³¹ At the beginning of 1945 the Šumperk-based Kaiser Wilhelm Institut (which carried out research into bast fibres) was relocated to the Sudkov site. As the importance of armaments production grew, and more workers were reassigned to the arms industry, the linen spinning mill also scaled down production; a further factor in this decision was the shortage of raw materials.²³² The mill ceased production entirely in February 1945.²³³

221 Ibid., inv. no. 12, box 2.

222 Ibid., inv. no. 8, box 1.

223 Ibid., inv. no. 12, box 2.

224 Ibid., fonds Norbert Langer a synové, továrna na lněné, bavlněné a hedvábné zboží, Libina (Norbert Langer & Söhne, linen, cotton and silk goods factory, Libina), inv. no. 11, box 1.

225 Ibid., fonds KS Olomouc – firemní spisy (company documents), inv. no. 929, sign. Sp I 92, box 45.

226 Ibid., fonds Seidl Ignác a spol., přádelna lnu a bavlny, Sudkov (Seidl Ignaz & Co., linen and cotton spinning mill, Sudkov), inv. no. 88, box 7.

227 Ibid., inv. no. 8, box 1.

228 Ibid., inv. no. 144, box 11.

229 Ibid., inv. no. 12, box 2.

230 Ibid., inv. no. 163, box 12.

231 Ibid., inv. no. 20, box 2.

232 Ibid., inv. no. 149, box 12.

233 Ibid., inv. no. 12, box 2.

In July 1945 the company was placed under national administration.²³⁴ It was nationalized on the basis of a presidential decree (no. 100/1945, issued 27 October 1945),²³⁵ and from 1 January 1946 it became part of the national corporation Moravsko-slezské lnářské závody (Moravian-Silesian Linen Mills).²³⁶ The spinning mill and weaving mill in Kerhartice were later incorporated into the Ústí nad Orlicí-based national corporation Perla.²³⁷

KARL SIEGL SEN.

Karl (Carl) Siegl (1802–1889), a native of Deutsch Liebau (Německá Libina), trained as a dyer. He began his career working for the business owned by his brother Johann (1790–1869),²³⁸ Johann Siegl & Co., which traded in yarn and later diversified to become a producer of linen and cotton goods. In 1852 Karl decided to set up his own business.²³⁹ With effect from 1 January 1853 he officially announced the creation of the Karl Siegl sen. company,²⁴⁰ in which his second-born son Robert (1834–1904) also participated.²⁴¹ In the following year, the Siegl family was granted a formal provincial factory licence,²⁴² and they also opened a warehouse and sales outlet in Vienna.²⁴³ The firm expanded its product range, launching production of damask cloth as well as smooth linen cloth.²⁴⁴

Initially, the company had a hand weaving shop in a building on what is now Krátká Street in Šumperk, but they relied heavily on home-based weavers in the town and the surrounding area.²⁴⁵ During the first half of the 1880s, the company had around 600 hand looms, producing 12,000–20,000 pieces of cloth annually.²⁴⁶ The Siegl family also owned a bleaching shop, and in 1889 they opened a mechanized weaving mill which initially had 100 looms.²⁴⁷ More looms were installed in the following years; in 1898 the mill had 180 looms,²⁴⁸ and shortly before the First World War the number had risen to 430.²⁴⁹

The company's fabrics were sold on both the domestic and foreign markets. The most important export market for many years was Italy, though the company also sold its products in other European and non-European countries, including the USA, South American countries, South Africa

234 Ibid., fonds KS Olomouc – firemní spisy (company documents), inv. no. 929, sign. Sp I 92, box 45.

235 Ibid., fonds Seidl Ignác a spol., přádělna lnu a bavlny, Sudkov (Seidl Ignaz & Co., linen and cotton spinning mill, Sudkov), inv. no. 177, box 13.

236 Ibid., fonds KS Olomouc – firemní spisy (company documents), inv. no. 929, sign. Sp I 92, box 45.

237 Ibid., fonds Seidl Ignác a spol., přádělna lnu a bavlny, Sudkov (Seidl Ignaz & Co., linen and cotton spinning mill, Sudkov), inv. no. 27, box 2.

238 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), sign. Q 1853/10, box 175. The company was probably founded in 1818. It was registered with the Olomouc Regional Court in 1853.

239 Ibid., fonds Siegl Carl senior, tkalcovna, bělidlo, úpravna lněného a bavlněného zboží, Šumperk (Siegl Carl Sr., weaving mill, bleachery, linen and cotton goods finishing shop, Šumperk), inv. no. 8, box 1.

240 Ibid., fonds KS Olomouc – firemní spisy (company documents), inv. no. 917, sign. Sp I 11, box 42. In 1864 the company became a general partnership.

241 Ibid., fonds Siegl Carl senior, tkalcovna, bělidlo, úpravna lněného a bavlněného zboží, Šumperk (Siegl Carl Sr., weaving mill, bleachery, linen and cotton goods finishing shop, Šumperk), inv. no. 9, box 1.

242 Ibid., inv. no. 7, box 1.

243 Ibid., inv. no. 10, box 1.

244 MYŠKA, M. et al. *Historická encyklopedie*, p. 433; Carl Siegl sen., Leinwand- und Tischzeug-Fabrik, Mährisch Schönberg. In *Die Gross-Industrie Oesterreichs*, p. 340.

245 SOKA Šumperk, fonds AM Šumperk, inv. no. 1368, box 561. This practice continued (to a small extent) in the first half of the 20th century. In 1924 a total 49 hand weavers worked for the Siegl family.

246 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 7225, box 840.

247 TURKOVÁ, H. *Vybrané objekty*, pp. 25–27.

248 *Die Gross-Industrie Oesterreichs*, p. 340.

249 *Adreß-Buch der Textil-Industrie Österreich-Ungarns 1913*. Reichenberg 1913, p. 167.

and China.²⁵⁰ The best sellers were linen, cloth for making ladies' blouses, fabrics for embroidery, table linen with various decorative patterns, dishcloths, handkerchiefs and towels.²⁵¹

On the eve of the First World War, the company had 1,300 employees and also outsourced some production to a further 360 home-based weavers, who were used mainly to produce finer and more luxurious fabrics.²⁵² During the war, the Siegl's were mainly occupied with orders for the military and other state institutions, such as the railways or the war ministry.²⁵³

In the period between the world wars, the company suffered from a lack of funds; this prevented the Siegl's from investing in the machinery and equipment at their mechanical weaving mill, bleaching shop and finishing shop. In consequence, the machinery at these sites had not been upgraded since the turn of the 20th century. Some of the firm's capital was also tied up in Austrian war loans.²⁵⁴ The company was hit hard by the economic crisis of the 1930s. In 1930 it had to reduce its workforce to just 590 people.²⁵⁵

In the second half of the 1930s the company managed to re-establish its export links, and it maintained permanent sales representatives in a range of cities, including Budapest, Merano, Trieste, Milan, Rome, Naples, Palermo, Bucharest, Berlin, Dresden, Bielefeld, Warsaw, Stockholm, Oslo, Paris, Zurich, Amsterdam and London. It also had overseas sales offices in Montreal, Buenos Aires and Rio de Janeiro.²⁵⁶ The product portfolio was made up primarily of damask, twill and drill fabric (which were used to make tablecloths, table mats or complete table linen sets, dishcloths, dustcloths or towels), as well as special cloths used for polishing glass, ironing and mangling. The company also sold bed linen, linen fabrics for making ladies' clothes and shirts, fabrics for embroidery, and a special decorative cloth that was designed to be hung on a wall and whose patterns could be customized to meet individual requirements.²⁵⁷

During the German occupation of the borderlands, the company prospered for quite some time; it was only in 1943 that it began to feel the negative impacts of the wartime economic situation. The Siegl's began to scale back production, and their premises were used by the German company Telefunken.²⁵⁸ After the war the company was confiscated by the Czechoslovak state, and in 1946 it was incorporated into the newly established national corporation Moravsko-slezské lnářské závody (Moravian-Silesian Linen Mills, later Moravolen).²⁵⁹

S. TREBITSCH & SOHN

The general partnership S. Trebitsch & Sohn was founded in 1850 by the Jewish merchant and industrialist Salomon Trebitsch (1800–1868) and his son Sigmund (1828–1904).²⁶⁰ At least since the 1830s, Salomon had run a business in Vienna trading in silk and cotton goods. By 1837 he had been granted a formal provincial factory licence, and he was running his own factory in the village

250 ZAO, Olomouc branch, fonds Siegl Carl senior, tkalcovna, bělidlo, úpravna lněného a bavlněného zboží, Šumperk (Siegl Carl Sr., weaving mill, bleachery, linen and cotton goods finishing shop, Šumperk), inv. no. 82, box 3.

251 Ibid., inv. no. 67.

252 MYŠKA, M. et al. *Historická encyklopedie*, p. 434; SOkA Šumperk, fonds AM Šumperk, inv. no. 1368, box 561.

253 ZAO, Olomouc branch, fonds Siegl Carl senior, tkalcovna, bělidlo, úpravna lněného a bavlněného zboží, Šumperk (Siegl Carl Sr., weaving mill, bleachery, linen and cotton goods finishing shop, Šumperk), inv. no. 51, box 2.

254 Ibid., inv. no. 57, box 2.

255 SPURNÝ, František. Moravolen 01 v Šumperku. *Vlastivědné zajímavosti*, no. 162. Šumperk 1978, unpaginated.

256 ZAO, Olomouc branch, fonds Siegl Carl senior, tkalcovna, bělidlo, úpravna lněného a bavlněného zboží, Šumperk (Siegl Carl Sr., weaving mill, bleachery, linen and cotton goods finishing shop, Šumperk), inv. no. 53, box 2.

257 Ibid., inv. no. 53, 54, box 2.

258 SPURNÝ F. (ed.). *700 let*, p. 99.

259 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 917, sign. Sp I 11, box 42.

260 WStLA, fonds Handelsgericht, Handelsregister Ges 2, fol. 208.

of Fünfhaus near Vienna (now part of the city's 15th district).²⁶¹ His main products were silk fabrics, shawls and ribbons.²⁶²

In 1857 Salomon and Sigmund Trebitsch rented a building in Šumperk and hired their first weavers. Two years later, they relocated the weaving shop to the nearby village of Dolní Temenice (now part of Šumperk itself), where they ran it until the 1870s. They also contracted work out to home-based weavers in the wider region.²⁶³

In 1874 they completed the construction of their own mechanized weaving mill in Šumperk, in what is now Lautnerova Street.²⁶⁴ At the end of the decade, the company had around 800 people working for it – not only employees of the mill, but also home weavers and staff at the company's other sites.²⁶⁵ In 1872 the Trebitsches set up a hand weaving shop in the nearby village of Bludov,²⁶⁶ which was not officially closed until 1925.²⁶⁷ They also rented premises at the former Klapperoth manufactory.²⁶⁸ In 1893 they purchased factory buildings that were used for silk production in Horní Ves near Vítkov, using the buildings as a subsidiary production site.²⁶⁹

The company's product range comprised silk and semi-silk cloth, taffeta, silk and velvet ribbons, dress fabrics, fabrics for linings and silk shawls,²⁷⁰ which were exported to Germany, England and the USA among other countries.²⁷¹

In the late 1930s and early 40s, the Nazi authorities confiscated all the assets of this Jewish-owned company, and it came under the administration of a trustee.²⁷² After the war, the Šumperk factory became part of the Prague-based national corporation Československé textilní závody (Czechoslovak Textile Factories), and in 1958 it became part of the national corporation Hedva, based in Moravská Třebová. Production at the site was finally ended in 1998.²⁷³

VINCIGUERRA & CIE.

The Viennese merchant Vincenz Vinciguerra (1842–1919), a native of the North Italian city of Trento,²⁷⁴ began trading in raw silk in 1872 or earlier. He later branched out into silk goods as

261 Ibid., fonds Merkantil- und Wechselgericht, A3 – Faszikel 3 – Firmenakten, 1. Reihe: DT/235 (Trebitsch Salomon).

262 Bericht der Handels- und Gewerbekammer für das Erzherzogthum Oesterreich unter der Enns an das k. k. Ministerium für Handel, Gewerbe und öffentliche Bauten über den Handel, die Industrie und die Verkehrsverhältnisse des Kammerbezirkes in den Jahren 1854, 1855 und 1856. Wien 1857, pp. 281–283, 286–287.

263 DOHNAL, M. *Průmyslová revoluce*, pp. 67–68.

264 TURKOVÁ, H. *Vybrané objekty*, p. 28.

265 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 109.

266 DOHNAL, M. *Průmyslová revoluce*, p. 68; *Adreß-Buch der Textil-Industrie Österreich-Ungarns 1904/5*. Reichenberg 1904, p. 22.

267 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 2.

268 Materials stored in the onion dome of a roof tower at the former Klapperoth manufactory and discovered in 2019, now held by the Šumperk town council.

269 ZAO, fonds KS Opava – firemní spisy (Opava Regional Court – company documents), inv. no. 1740, sign. HrVitA17, box 122; KŘENOVSKÁ, Věra – TARABOVÁ, Ivana. Z historie firmy S. Trebitsch a syn, tkalcovna hedvábí ve Vítkově. *Vlastivědné listy*, 33, 2007, no. 2, pp. 13–17.

270 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 2533, box 279; UMLAUFF, K. – TERSCH, F. R. von. *Chronik*, p. 185.

271 Wiener Salonblatt, no. 50, 15. 12. 1906, p. 15; TREBITSCH, Siegfried. *Chronik eines Lebens*. Zürich – Stuttgart – Wien 1951, p. 62.

272 WStLA, fonds Handelsgericht, A42 – Ges – Registerakten: Gep. 5, 166 (S. Trebitsch u. Sohn); ZAO, fonds Trebitsch S. a syn, Vítkov – Horní Ves (Trebitsch S. und Sohn, Vítkov – Horní Ves), inv. no. 5, 6, box 1.; SOA Praha, fonds KSO Praha (Regional Commercial Court, Prague), sign. A XII 283, box 1139.

273 TURKOVÁ, H. *Vybrané objekty*, pp. 28–29.

274 Register of deaths in the parish of Penzing 1917–1919. In: <https://data.matricula-online.eu/de/oesterreich/wien/14-penzing/03-29/?pg=172> [retrieved 1. 8. 2021]; SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 109.

well as silk and cotton yarn.²⁷⁵ In the 1890s his son Vincenz Martin August (also given in the form August Vinciguerra, 1872–1944) became involved in the business; in 1896 he was appointed as the firm's authorized agent,²⁷⁶ and eleven years later, when the firm became a general partnership, he became a partner.²⁷⁷

In 1907, Hans Amfaldern (1882–1955) was appointed the authorized agent for the company.²⁷⁸ Two years later he became one of the partners, and on his advice the Vinciguerras decided to expand the scope of their business.²⁷⁹ In 1910 they opened their own silk-making shop in Šumperk.²⁸⁰ It was located on a site in what is now Zábřežská Street, where a combined factory/accommodation building had stood since 1900 (no. 703; the factory was later given its own separate number, becoming no. 800).²⁸¹ In 1901–1904 a Viennese firm, J. J. Surber, produced weaving supplies at the site.²⁸² In 1905 the building was purchased by Jakob and Marie Frei. In the following three years they rented it out to Franz Rotter (1871–?), who ran a doubling mill there. The site was then purchased by the general partnership Eschmann & Comp., which produced a special type of shiny yarn known as Eisengarn (meaning “iron yarn”) and also operated a mechanical doubling mill and a dyeing shop there. After the death of the factory manager Johann Hinkelmann (1856–1916), the factory was purchased by the V. Vinciguerra company at the beginning of 1917.²⁸³

Initially, the site was apparently a small production facility which offered its services commercially to silk-makers in the town and the surrounding area.²⁸⁴ In 1913–1918 the Vinciguerras enlarged the factory, and during the inter-war period it specialized in refining and dyeing natural and artificial silk fabrics. The product portfolio was expanded to include fancy yarn that was mainly used for craft production. The factory employed an average of 220 workers.²⁸⁵

In order to facilitate future operations, at the beginning of 1924 a new general partnership was formed; Vinciguerra & Cie. was registered with the Olomouc Regional Court, and its partners were August Vinciguerra, Hans Amfaldern, and two businessmen originally from the German town of Krefeld, Jacob Beusch and Dietrich Mäsichig (1883–?).²⁸⁶

275 ÖSA Wien, ÖSA, Archiv der Republik, fonds Bundesministerium für Handel und Verkehr, Präsidium, sign. 14127/1928, box 205 (Amfaldern Hans, Vinciguerra August); WStLA, fonds Handelsgericht, Handelsregister E 11, fol. 437; Ibid., Handelsregister Ges 14, fol. 15; Ibid., Handelsregister E 26, fol. 310. In 1872 V. Vinciguerra registered his firm with the Vienna Commercial Court as a sole proprietorship. In the same year he joined forces with Giovanni Bosma to form the general partnership Vinciguerra & Bosma, which functioned until 1876. The next information about the existence of a separate firm belonging to V. Vinciguerra dates from 1892, when his company was again registered with the Commercial Court in Vienna.

276 WStLA, fonds Handelsgericht, Handelsregister E 26, fol. 310.

277 Ibid., Handelsregister A 5, fol. 222.

278 In 1920, Amfaldern built his own fine yarn spinning mill in Šumperk, which he ran under the general partnership Amfaldern & Co.

279 Ibid.; ÖSA Wien, Archiv der Republik, fonds Bundesministerium für Handel und Verkehr, Präsidium, sign. 14127/1928, box 205 (Amfaldern Hans, Vinciguerra August).

280 It was managed by Alfons Czerny (1887–?).

281 TURKOVÁ, H. *Vybrané objekty*, p. 35.

282 WStLA, fonds Handelsgericht, Handelsregister E 25, fol. 231; ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 830, sign. Jd IV 345, box 37.

283 NOVÁKOVÁ, H. *Objekty*, pp. 407–408; ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 1276, sign. A I 99, box 81. The company was founded by the merchant Eduard Bandler, the book-seller Josef Emmer, the bookbinder Eduard Eschmann and the leather merchant Ignaz Ziegler. Bandler and Ziegler left the company just a year later, and they were replaced by the braid-maker Franz Emmer and the factory manager Johann Hinkelmann.

284 NOVÁKOVÁ, H. *Objekty*, p. 408. Before the First World War, around 20 workers were employed there.

285 *Adressbuch der Textil-Industrie der Nachfolgestaaten Österreich-Ungarns, ferner von Polen und Jugoslawien*. Reichenberg 1923; JERSÁK, Jan (ed.). *Šumpersko*. Šumperk 1946, p. 46.

286 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 2543, sign. A IV 63, box 140.

During the Second World War the company adapted its production to meet the needs of the wartime economy; it specialized in making silk yarn that was then used to weave fabric for parachutes.²⁸⁷ In 1946 the firm was placed under national administration, and two years later its Šumperk operation became part of the national corporation Henap.²⁸⁸

WIESENBERGER MECHANISCHE FLACHSSPINNEREI (MECHANICAL LINEN SPINNING MILL IN WIESENBERG)

The mechanical linen spinning mill in Wiesenberg (now Loučná nad Desnou) was built near the local manor house in 1852. The owners of the Wiesenberg estate, the Klein brothers, built the mill as a joint venture with a number of leading textile entrepreneurs from Šumperk, chief among them the Seidls, Siegls and Oberleithners. Preparatory work began in 1850,²⁸⁹ and in February of the following year a memorandum of association was signed,²⁹⁰ creating the limited partnership Wiesenberger mechanische Flachsspinnerei,²⁹¹ with a registered capital of 290,000 gulden. Five years later, the company was granted a provincial licence to run a factory.²⁹² The spinning mill was built for a capacity of 5,000 spindles producing linen yarn (known as line) and tow yarn (which was made of waste fibres).²⁹³ The plan was to add a further 1,000 spindles within the following two years.²⁹⁴ However, even by the turn of the 20th century, just half of the original capacity was being used.²⁹⁵

In 1886 the limited partnership became a joint-stock company. A total 1,100 shares were issued, each with a value of 500 gulden. However, the shares were not offered for public sale; instead they were distributed among the existing partners depending on the size of their individual stakes in the firm's capital. In 1909, when the company was experiencing difficulties, the registered capital was reduced, and a year later it was decided to change its legal form to a limited liability company. The spinning mill remained in operation until the Great Depression. At the beginning of 1930 the company went into liquidation, and some of its machinery was bought up by other spinning mills nearby (e.g. in Sudkov). The company was de-listed from the commercial register of the Olomouc Regional Court in 1933.²⁹⁶

287 JERÁBEK, J. *Historie*, p. 100.

288 TURKOVÁ, H. *Vybrané objekty*, p. 35.

289 ZAO, Olomouc branch, Velkostatek Loučná nad Desnou (Loučná nad Desnou estate), inv. no. 654, box 116, SOKA Šumperk, fonds Mechanická přádelna Loučná nad Desnou (Loučná nad Desnou mechanical spinning mill), box 1 (fonds not processed).

290 The memorandum of association was signed by Franz, Albert, Hubert and Eduard Klein and Franz Klein Jr., Ignaz Seidl Sr., Ignaz Seidl Jr., Alois Scholz, Anton Hönig, Johann Siegl, Karl Siegl, Alois Geschader, Konstantin Zephyrescu, Karl and Eduard Oberleithner, and Eduard Ulrich.

291 For more information on the Loučná spinning mill see also DOHNAL, M. *Průmyslová revoluce*, p. 43. Dohnal erroneously states that it was run as a joint-stock company. In fact, the company only took this legal form in 1886 (see below).

292 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), sign. Q 1852/58, box no. 174.

293 *Bericht im Jahre 1853*, p. 29

294 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 1965, box 223.

295 K. k. priv. Flachsspinnerei Wiesenberg. In *Die Gross-Industrie Oesterreichs*, p. 314.

296 ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), sign. Q 1852/58, box no. 174; *Ibid.*, inv. no. 967, sign. Sp II 77, box 54; *Ibid.*, inv. no. 4747, sign. C I 65, box no. 285; *Ibid.*, fonds OŽK Olomouc, inv. no. 11809, box 1417; *Ibid.*, fonds Seidl Ignác a spol., přádelna lnu a bavlny, Sudkov (Seidl Ignaz & Co., linen and cotton spinning mill, Sudkov), inv. no. 12, box 2.



Šumperk, V. Vinciguerra
& Cie. / Hedva, silk thread
plying machine. Photograph
by Michaela Ryšková, 2020.

PRODUCTION METHODS AND TECHNOLOGIES

FLAX AND LINEN GOODS PRODUCTION

FLAX

In North Moravia's mountains and their foothills, the textile industry was closely associated with flax,¹ whose cultivation had a defining effect on the landscape. Fabrics made from flax (linen) made up an important part of people's wardrobes, and they were also widely used for household goods; to this day linen remains popular for its hygienic properties.² Flax was also used to produce oil (linseed oil) by crushing and pressing its seeds. Linseed oil was used in periods of fasting, as well as being prized as a year-round medicinal substance for people and livestock; it was also used in timber processing. The crushed seeds from which the oil had been extracted were used as livestock feed. Today, linseed oil is used in the production of medicines, cosmetics, paints and varnishes.³ The shives (woody waste material removed during flax processing) were used as fuel and in furniture production.

BOTANICAL CHARACTERISTICS

Flax belongs to the Linaceae family, which consists of 22 genera, mainly found in the tropics. In the temperate climate of Central Europe, the *Linum* genus was the most important (as well as some forms of the genus found in more northern regions). It comprises more than 200 species of plants, but the only one that was of practical use was common flax: *Linum usitatissimum*. Two distinct types of flax were cultivated – one for textile production and one for oil production; these were cross-bred to produce a type that served both purposes.⁴ The textile flax grown in Central Europe belongs to the group of indehiscent flaxes known as common flax (*linum vulgare*).⁵ Flax is

1 People first began using wild flax in Mesopotamia, in the area of the Euphrates and Tigris. It was domesticated approximately 10,000 years ago. It was employed for a wide range of purposes in ancient Egypt. See ZOHARY, Daniel – HOPF, Maria. *Domestication of Plants in the Old World: The Origin and Spread of Cultivated Plants in West Asia, Europa and the Nile Valley*. Oxford 2000; SMITH, B. D. *The Emergence of Agriculture*. New York 1995, pp. 11–13.

2 DOUBRAVSKÝ, Zdeněk – ŠMIROUS, Prokop. *Lnářství na Šumpersku*. Šumperk 2002, p. 3.

3 Ibid.

4 MOJŽIŠ, Bohumír et al. *Len, jeho historie, pěstování, zpracování a užití*. Trutnov – Praha 1988, p. 74.

5 ŠTAUD, Jindřich – VAŠÁK, Jan – PROCHÁZKA, Otakar. *Základy pěstování přádného a olejného lnu*. Praha 1997.

not difficult to cultivate, but it needs an even distribution of rainfall during its vegetative season. It does not require intensive fertilization.⁶

MORPHOLOGY

During its vegetative season, the flax plant undergoes several phases of development: after germination, seedlings emerge and grow rapidly until they bud, flower, form bolls (capsules) and mature.⁷ Flax has small flowers which range in colour from azure blue to violet, pink or white. The quality of flax stems was evaluated on the basis of their length, thickness, shape, the slimness of the branches, the number of leaves on the stem, their colour, and other criteria. The technical length of the stem was a key factor; this was the length of the stem measured from its cotyledons to the first branch off the main stem. Ideally, the technical length would be from 60% to 75% of the total length of the plant.

The stem consists of the outer layer (epidermis), cortex, bast (phloem), cambium, xylem (woody core) and pith. The most valuable part of the stem is the bast, in which the fibres are found. It is a sklerenchymatic tissue inside the plant, consisting of bundles of interlinked elongated cells (parafibres), which are intertwined with each other. Parafibres are among the longest cells found in plants. The most important component of flax fibres is cellulose, which makes up around 85% of their weight.⁸ Other components are pectins (0.4–4.5%) and lignin (0.8–5.5%), nitrous substances (0.4–0.7%), fats and waxes (2–4%) and ash materials (0.5–3%).⁹

SEED CULTIVATION

An essential requirement for the development of the linen industry was the import of seeds from high-quality varieties of flax; this remained the case until the beginning of the 20th century. Flax for linen production was harvested before the seeds were fully matured. At the outset of the industrialization of the linen industry, producers in the region took their cue from their Belgian counterparts and imported seeds from the Baltic countries,¹⁰ a practice supported by the Empress Maria Theresa in the second half of the 18th century when she stipulated that seeds should be imported from the regions of Riga and Memel (now Klaipėda), where they were of the highest quality.¹¹

6 Ibid.

7 BINDER, Miroslav – HORÁK, Antonín – LAHODA, Josef et al. *Nové poznatky v pěstování, technologii sklizně a skladování lnu*. České Budějovice 1986.

8 MOJŽÍŠ, B. et al. *Len*, pp. 77–83.

9 Ibid., pp. 77–83, ŠRÁMEK, Jiří. *Zušlechťování textilií*. Praha 1983, p. 52.

10 In the mid-18th century flax seeds were granted commercial concessions and were distributed free of charge to estate-owners, who supplied their subjects with the seeds. The seeds were imported by Czech wagon-drivers from Leipzig, Breslau (now Wrocław) or Frankfurt/Oder, the river ports to which they had been transported by water. Imported flax seeds produced long, high-quality flax, and they could be sown two years in a row. See SMUTNÝ, Bohumír. *Loscani a Chamaré v východočeském plátenictví: studie o hospodářské politice habsburské monarchie mezi slezskými válkami a válkou sedmiletou a edice korespondence z let 1754–1757*. Sborník prací východočeských archivů. Supplementum 2. Zámorsk 1998, p. 12.

11 This subject has been studied by B. Smutný and J. Šůla with regard to the nearby Orlice Hills (Orlické hory). See SMUTNÝ, Bohumír. *Loscani a Chamaré*, pp. 11–12; ŠŮLA, Jaroslav. *Pod horami domov můj. Pěstování a zpracování lnu a konopí v Orlických horách a v Podorlicku*. Deštné v Orlických horách 1986. J. Hurdálek also makes an interesting point: in the Kostelec area flax-growers used seeds from Riga and Pernau, which were commonly referred to using the names of their regions of origin. See HURDÁLEK, Josef. *Domácí průmysl Červeného Kostelce a okolí. Od kládkového pomezí*. Vol. I, 1923, pp. 37–42.

The Association of Austrian Flax and Linen Industry Members in Trutnov (Verband des österreichischen Flachs- und Leinen- Interessenten in Trautenau) was set up in 1891 to address issues related to flax cultivation and breeding on a scientific basis; it was the first research institution in the linen industry.¹² Due to conflicts between German and Czech speakers, in 1907 the Association of Czech Linen Producers in Bohemia, Moravia and Silesia (Svaz českých lnářů v Čechách, na Moravě a ve Slezsku) was established to support those involved in flax cultivation and processing. In 1921 the Central Association of Flax-Growers (Ústřední svaz pěstitelů lnu) was set up to help growers find markets. The association attempted to set fixed prices for flax based on grading the crop into three quality categories. In 1925 it became the Central Association of Linen Producers (Ústřední lnářský svaz), which lobbied for import duties to be imposed on flax from abroad in order to protect Czechoslovak growers. The association also supported research and promotional activities. In 1936 threshers and flax traders were also admitted to the association, which created a special division dedicated to flax growing and threshing; this division set standard prices for raw flax. The association also set up buying centres (in Hanušovice, Trutnov and Kukleny) where growers could deliver their flax.¹³

In 1942 a new research institute for bast fibres (the Kaiser Wilhelm Institut für Bastfaserforschung) moved to Šumperk from Sorau in Silesia (now Żary, Poland). After the war, it came under the control of the Ministry of Agriculture as the Linen Industry Research Institute (Výzkumný ústav lnářský). The institute focused on flax breeding and also (to a smaller extent) growing and crop protection.¹⁴

At the end of the 19th century, flax growers still relied on imported seeds from Russia, Austria, Sicily and India.¹⁵ During the Second World War (1944), high-quality seeds were imported from Russia, Lithuania, Germany, Belgium and Holland under various brand names, including Pernavské, Konkurent, Daros, Hohenheimské, Roland, Lusatina and others.¹⁶ After the war, volumes of Czechoslovak-grown flax and imports proved unable to keep up with demand.¹⁷ At the time (1946), Czechoslovakia grew several domestic varieties (e.g. Domanínský výnosný, Keřkovský Diplomat) as well as unknown varieties from the USSR and the Netherlands and other varieties that had been imported during the war (e.g. Roland, Daros, Lusatia). In order to cope with increased demand for seeds, during the 1950s new varieties were bred by the Research Institute for Textile Crops in Šumperk-Temenice: these included Šumperský, Textilák, Zdar, Rekord, Novum, Horal, and Šumperský jemný.¹⁸

FLAX CULTIVATION

For its growth and development, flax for textile production needs a lengthy period of high atmospheric humidity,¹⁹ and its growth and development phases must fall within the part of

12 *Die Versuchs-Station des Verbandes der Flachs- und Leinen-Interessenten in Trautenau*. I. Bericht. Trautenau 1895. At the end of the 19th century the association had 143 members, including both individual growers and groups of growers as well as spinning mills, weaving mills, bleacheries and also agricultural and weaving colleges. In 1894 a Šumperk branch was established (Ortsgruppe Mährisch-Schönberg).

13 BINDER, Miroslav – HELLER, Ladislav. *40 let českého lnářství*. Praha 1985, pp. 14–16.

14 DOUBRAVSKÝ, Z. – ŠMIROUS, P. *Lnářství*. Šumperk 2002. See also [www.agritec.cz](http://www.agritec.cz/cs/historie-spolecnosti). <http://www.agritec.cz/cs/historie-spolecnosti> [cit. 18. 6. 2021].

15 *Die Versuchs-Station*, p. 32.

16 HRUBÝ, František. *Len o A do Z. Len od semen po hotový výrobek*. Praha 1944, p. 8.

17 BINDER, M. – HELLER, L. *40 let českého lnářství*. Praha 1985, p. 23.

18 *Ibid.*, p. 23.

19 DOUBRAVSKÝ, Z. – ŠMIROUS, P. *Lnářství*, p. 5.

the year when the days are longest.²⁰ From the mid-18th century, growers began to use mineral fertilizers (lime or ash with bleaching agents containing potash²¹), and before ploughing in the autumn months they would use manure. In the 20th century different artificial fertilizers came into use, containing nitrogen, potash, and phosphoric acid.²²

Flax seeds were sown between mid-April and mid-July. Weeds were removed manually during the growth phase. When agricultural chemicals became widespread in the 1960s, chemical agents were used as pesticides (against flea beetles) and to combat diseases. Weedkillers were also used, removing more than 94% of weeds so it was no longer necessary to weed by hand.

Flax was most extensively cultivated in terms of surface area in the period 1874–1890, with 40–49,000 hectares in the Bohemian Crown Lands (Bohemia, Moravia and Habsburg Silesia).²³ In the last years of the 19th century the area given over to flax cultivation was around 60,000 hectares. By 1900 this had fallen to 29,000 hectares, and in 1935 just 6,000 hectares of land were used for flax. This decline was caused by the falling volumes of linen goods produced, as cotton and woollen goods proved more competitive. After the Great Depression, when the state introduced a protectionist system and launched a campaign intensively promoting linen goods, the area covered by flax cultivation rose to 19,330 hectares by 1937.²⁴ However, the Czechoslovak linen industry found it difficult to keep up with the ongoing evolution of textile production technology, so its production volumes lagged behind demand, and it was still necessary to import linen goods.

FLAX PROCESSING

Hand processing of flax was a lengthy procedure that was a typical activity in rural areas. The weavers themselves were not directly involved in the processing of the crop, but it offered economic potential for the nobility and entrepreneurial individuals. Manual methods were essentially the same in all flax-producing regions, with only small differences. Harvesting, retting, scutching and heckling (see below) remained activities that were largely done manually until the 1960s. The purpose of processing the flax stems was to obtain fibres for textile production in the form of heckled flax or a lower-grade intermediary product called tow.²⁵

HARVESTING

Flax was harvested in early August or in September, during the “yellow maturity” period, when the stems and heads took on a lemon-yellow colour. The plant usually reached this stage at 95–100 days after sowing.²⁶ The plants were pulled out of the soil including their roots. The first simple mechanical flax pullers (made by the Lindern company) were acquired by the Central Association of Linen Producers in the 1940s.²⁷ In 1948 mechanical harvesting was introduced after the area of land given over to flax cultivation increased. New machines came into use, such as the “Robot” flax puller made in Nové Dvory near Příbyslav, threshers, harvesters, machines for laying the harvested flax out, turning it during the drying process and then collecting it, and boll crushers. By 1963, just 5.1% of the crop was harvested manually.²⁸

20 BINDER, Miroslav – LAHODA, Josef. *Kvalitní rosený stonek – jakostní vlákno lnu*. Praha 1986, p. 7.

21 SMUTNÝ, B. *Loscani a Chamaré*, p. 12. An essential part of flax cultivation was seed production; different soil characteristics and growth conditions were preferred when flax was a seed crop.

22 HRUBÝ, F. *Len*, p. 8.

23 *Lnářská výroba a její přínos pro národní hospodářství*. Dvůr Králové nad Labem 1971, p. 4.

24 BINDER, M. – HELLER, L. *40 let*, p. 14.

25 MOJŽÍŠ, B. et al. *Len*, p. 89.

26 BINDER, M. – HORÁK, A. – LAHODA, J. et al. *Nové poznatky*, p. 76.

27 HRUBÝ, F. *Len*, p. 10.

28 BINDER, M. – HELLER, L. *40 let*, p. 28

DRYING

The pulled flax was laid out on the field or was stood up to dry. During the drying process, the flax was turned over in order to ensure even drying.

THRESHING

The heads with the seeds were initially removed by hand, using heckles. Threshing machines came in to use during the second half of the 20th century. They had grooved rollers that crushed the heads of the plants, causing the seeds to fall out. The first threshing machines in Czechoslovakia were made by Wichterle & Kovařík, Etrich, Binder and other manufacturers.²⁹

FIELD RETTING

After drying and threshing, the flax stalks were laid out on the fields in an even layer, where dew collected on them. In this damp environment, the action of enzymes separated out pectins, causing the woody parts of the stalks to become detached from the fibres. This process was known as field retting. During the process, the stalks were turned over two or three times. Field retting was one of the most important flax processing tasks, as it influenced the quality of the fibres obtained from the plant.³⁰ The disadvantages of the process included its long duration and the uncertainty as to whether the flax would rot and spoil. Field-retted flax produced large quantities of waste during scutching (when the straw was removed from the fibres), and this delayed the mechanization of the scutching process in the 19th century.³¹

PIT RETTING

In the mid-18th century flax producers adopted new methods originally used in Westphalia and retted flax not in the fields but in pits of water; this was a shorter process than field retting. Pit retting caused the decomposition of water-soluble pectins. The success of the method depended on the quality and temperature of the water used. Retting was sometimes done in running water and sometimes in standing water collected in pits.³² Retting in standing water became widespread at the beginning of the 19th century, but it was soon replaced by an industrial process in which the water in the pits was heated to 25–35 °C.³³ This warm retting reduced the length of the process to just 50–100 hours. Another method used hot water and steam (135–145 °C). Chemicals (acids, chlorinated lime and kerosene) were also added to the water. However, this damaged the flax fibres,³⁴ so the chemical retting method was eventually abandoned in favour of natural methods.

SCUTCHING

After retting, the flax was dried and the stems were scutched (rubbed) to remove the waste material from the fibres. Field-retted flax was originally dried in people's homes or in drying houses. It was then scutched using scrapers, separating the individual fibres from the chaff known as shives. However, home-based flax production was not able to meet the level of demand generated by commercial linen producers, and the quality of home-scutched flax fluctuated and tended to be poor. A solution came in the form of scutching mills, which were established by aristocrats on

29 HRUBÝ, F. *Len*, p. 11.

30 BINDER, M. – LAHODA, J. *Kvalitní rosený stonek*, p. 13.

31 DOHNAL, M. *Průmyslová revoluce*, p. 51.

32 SMUTNÝ, B. *Loscani a Chamaré*, p. 17.

33 DOUBRAVSKÝ, Z. – ŠMIROUS, P. *Lnářství*, p. 7.

34 HRUBÝ, F. *Len*, pp. 14–15.

their estates from the 17th century. Inside the mills, the flax was dried, clean and scutched.³⁵ To improve the quality of the product, new types of tools were introduced, and in the second half of the 18th century the commercial authorities established vocational schools and ran courses for people involved in flax processing.³⁶ In a scutching mill, the dried stalks of flax were broken up and the waste material (shives) were removed from the fibres. The fibres were then pulled through heckles (hackles), which acted like combs. This produced fibres (known as line), which could then be spun into yarn.

HAND SPINNING OF LINEN YARN

The purpose of spinning was to align the individual fibres parallel with each other and to twist (ply) them together. This produced yarn of the required strength and of even thickness. Initially, spinning (using spindles or spinning wheels) was a rural occupation, which was done during the winter months and was a regular annual social event. People also produced yarn year-round for factors (who purchased yarn from individual households). Larger and more robust spinning wheels (known locally as “stars” and used from the 14th century for wool spinning) were used to make coarse tow yarn.³⁷

The spun yarn was wound onto a niddy-noddy or reel. Niddy-noddies used in hand spinning were legally required (by legislation known as a patent, passed on 3 August 1750 and containing stipulations on yarn and linen production) to be marked with a stamp confirming that they were of the regulation size. They were to be precisely one Bohemian ell (just under 60 cm) in length. Finer yarn was to be wound onto a $\frac{3}{4}$ ell niddy-noddy held in the crook of the elbow, and another type of fine yarn (known as *Lothgarn*) used a $\frac{7}{8}$ ell niddy-noddy.³⁸ Some niddy-noddies were fixed upright and had a system for counting during the winding process.³⁹

MECHANICAL SCUTCHING

The invention of the cotton scutching machine (1797) enabled flax producers to mechanize the scutching process, using flax scutching machines or scutching turbines. Scutching machines had a pair of rollers that pulled the flax in, several pairs of grooved rollers and then a final pair of rollers at the output end. Each stem was passed through the machine once or twice to ensure that most of the shives were removed. If the flax was well retted in a field, one pass was enough. Scutching turbines were used to process flax that had not been field-retted; they used scutching knives and breakers to remove the shives. The stem was first pulled through a coarse heckle before being inserted into the turbine itself.⁴⁰ In the 1940s, scutching turbines were made by Ignác Ettrich and Valentin Jaeggler (Trutnov) and Českomoravské strojírny (Blansko) and the HELSINKA scutching machine was made by the Horák company in Lomnice nad Popelkou.⁴¹

35 These activities were subject to legislation (patent no. 2, issued in 1814, which contained stipulations for scutching mills).

36 DOHNAL, M. *Původní akumulace*, pp. 51–52, 54.

37 For more information see SUK, Rudolf. *Rukodělná textilní výroba. Muzejní a vlastivědná práce*. Vol. IV, 1986, no. 2, p. 76. Iconographic sources are given in HUSA, Václav. *Homo faber. Pracovní motivy ve starých vyobrazeních*. Praha 1976. Srovnej PÁVEK, Miroslav. *Textilní výroba v historickém přehledu*. Part II. Praha 1972, p. 257.

38 For more information see SMUTNÝ, B. *Loscaní a Chamaré*, p. 15. A Bohemian ell was 59.14 cm; $\frac{3}{4}$ of an ell was 44.35 cm and $\frac{7}{8}$ of an ell was 51.75 cm.

39 Information given in SUK, R. *Rukodělná textilní výroba*, p. 76.

40 HRUBÝ, F. *Len*, pp. 34–35.

41 *Ibid.*, p. 34.

Sudkov, I. Seidl & Comp.
mechanical linen and
cotton spinning mill /
Moravolen, heckling
machines made by James
Mackie & Sons, Belfast.
Photograph by Michaela
Ryšková, 2006.



TOW REFINING

The waste produced during the scutching process consisted of short fibres known as tow, which still contained some impurities (shives), so it was further cleaned in refining machines containing scutching turbines. The refined tow was then pressed for transport. The shives were used for heating in the scutching mills.

HECKLING

After scutching, the flax was heckled; the broken stalks were pulled through heckles (groups of long thin nails) to separate the individual fibres. The fibres were then combed to remove the tow (shorter fibres). Mechanical heckling was done by machines known as gills, with boards mounted on belts and covered with nails – which were initially thick, and then became gradually finer. The fibres were drawn successively through these heckles, creating finer and finer fibres and removing the coarse waste.

MECHANICAL SPINNING OF LINEN YARN

A major step forward in spinning technology, enabling producers to move from dry spinning to wet spinning, came when the French inventor Philippe de Girard developed machinery for various processes: wet spinning, heckling, doubling and drafting. De Girard also made improvements to mechanical tow processing. On 18 July 1810 he was granted a patent for his wet linen yarn spinning process, in which the yarn was passed through a bath of water. His invention became widespread after improvements made by the English inventor James Kay (1825) and the use of warm water in the spinning process.⁴² The first mechanical wet spinning mill in what is now the Czech Republic was built in Mladé Buky in 1835. In North Moravia, spinning became widely mechanized during the 1840s as linen producers responded to growing competition from cheap mechanically produced cotton yarn and imported linen goods made from mechanically produced yarn. Mechanical spinning consisted of several steps: sliver formation, doubling, drafting, roving and the final spinning.

42 BAINES, Patricia. *Flax and Linen*. Oxford 1985, p. 14.



SLIVER FORMATION

The heckled flax was spread into gill-boxes in a mechanical gill-frame, being drawn through the frame to create fibres known as slivers. The slivers were drawn, straightened and aligned in parallel with other. They were then pressed by rollers to create flat tapes that were placed in vessels.

DOUBLING

The flattened slivers were then placed into a doubling frame, which had the same mechanism as the gill-frame. In the doubling process, various types of materials were often combined (e.g. domestic and imported flax), or flax of different colours were combined in order to give the best possible quality.⁴³

DRAFTING

Between 4 and 8 slivers were placed together and drafted (drawn through a machine) in order to straighten the fibres and align them in parallel. Drafting frames were similar to gill-frames and doubling frames, but their spikes were finer (more like needles). During the drafting process, the slivers were drafted through up to 5 machines in order to attain the maximum possible evenness.

ROVING

Roving was carried out on machines that had two rows of spindles. The drawn slivers passed through a field of needles and were shortened by a flyer to create a roving (the precursor to spun yarn), which was wound onto a bobbin. The roving was twisted (plied) slightly to prevent it breaking in the next stage of the process – wet spinning.

43 HRUBÝ, F. *Len*, p. 46.

Sudkov, I. Seidl & Comp.
mechanical spinning mill /
Moravolen, warp winding
machine (Totex, Chrastava?).
Photograph by Viktor Mácha,
2020.

Opposite: Hanušovice,
Oberleithner & Co., mechanical
linen spinning mill / Moravolen,
roving machine made by
James Mackie & Sons, Belfast.
Photograph by Michaela
Ryšková, 2007.



SPINNING

A spinning machine processed the roving to create the final yarn (thread). The roving was unwound from the bobbins into a trough of water kept at 60 °C. This softened the fibres and dissolved the natural glue contained in them. It was thus easier to pull the rovings through the machine between two drafting rollers and two grooved rollers made of brass and pear wood. This process attenuated the roving to the required final thickness of the yarn. The thread was passed through a thread guide in the flyer to a spindle assembly and onto a bobbin fixed onto the spindle. The wound bobbins were doffed (removed) from the machine and the thread was wound off them and onto a reel. It was then unwound again to be dried.

TYPES OF YARN

Mechanical linen yarn spinning was a process comprising several steps, each of which affected the properties of the resulting product. Production methods were thus selected depending on the required properties and quality of the yarn. Yarn production evolved in two main areas: finer yarn (known as “line”) and coarser line (“tow yarn”). As cotton became increasingly popular, at the end of the 19th century producers began spinning yarn made from a linen/cotton blend. A new chapter was opened in the 1960s with the development of artificial (chemical fibres).

Several types of heckled flax were used to produce line. Parameters that were taken into consideration included the fineness, strength, flexibility, purity and colour of the fibres. It was important for the quality parameters to remain consistent for all the raw materials that were to be spun into yarn; this was achieved by mixing raw materials together.⁴⁴

Tow yarn was spun from the waste material produced by the scutching and heckling process. It was coarser than line yarn, contained some impurities, and was weaker and more uneven in thickness. The tow material was first ruffled up and then passed through a carding machine. The resulting

sliver was then drafted (though using fewer drafting machines than were used in the production of line yarn). The subsequent phases of production were the same as for line yarn: roving, spinning, winding and drying. Tow yarn could also be produced by dry spinning; this created a coarse yarn.⁴⁵

FABRIC PRODUCTION

The production of textile fabrics involved a complex of processes from the preparation of the warp and weft, the weaving itself, the inspection of the finished fabric and the rectification of any issues, and preparation for sale. This basic series of processes remained essentially the same throughout the history of linen weaving; the only changes were in the tools and machinery used and in the volumes produced.

WARP-SETTING (WARPING)

In hand production, the warp was set using a warping board, supplied with thread from the creel to create an entire length of warp. The warp was then removed from the board and attached to a warp frame. Warp-setting was a process requiring considerable skill, and not all weavers were capable of it.⁴⁶

In spinning mills, the warp was prepared in the warping shop to give the required density, length, number of threads and attachment to the frame. The thread was unwound from the creel in one of two distinct methods: belt warping (typically used in Saxony) or beam warping (typical in England, and usually employed when the warp was of a single colour). The warp could reach across the entire width of the cloth or just part of its width, using several different warp beams, from which the threads were then wound around a single weave beam.⁴⁷ The yarn was also sized to protect it against friction during the weaving process. The addition of size increased the yarn's weight by 10–20%.⁴⁸ The sized yarn was attached to the loom manually via heddles (healds), the backstop, shaft and reed. It was only in the second half of the 20th century that mechanized methods were used to pass the threads through the heddles and attach them to the loom.⁴⁹

WINDING THE WEFT ONTO BOBBINS

In manual weaving, special wheel mechanisms were used to wind the weft thread onto bobbins, which were mounted on studs inside shuttles. Mechanical looms used various types of shuttles with special mechanisms to hold the weft thread. A HACOPA machine was used to wind the weft thread onto pirns.⁵⁰ The wound pirn was then loaded into a shuttle at the loom itself. Some looms used shuttles with tubular cops which contained the weft thread and were inserted into the shuttle without a pirn.

WEAVING

Fabrics are produced by the weaving process, in which two perpendicular structures of thread (the warp and the weft) are interwoven. More complex fabrics used more than one warp and/

45 HRUBÝ, F. *Len*, pp. 53–54.

46 STÁNKOVÁ, Jitka. *České lidové tkaniny. Čechy a západní Morava*. Praha 1999, p. 28.

47 PODHAJSKÝ, Michal. *Modernizace strojového parku III. sálu tkalcovny závodu 01/1 n. p. Moravolen Šumperk*. Master's thesis. Liberec 1987, pp. 17–18.

48 Sizing agents included potato or wheat starch, cellulose derivatives or synthetic substances. See PFEIFR, Antonín. *Tkalcovství a pletářství. Základy tkalcovské technologie*. Praha 1980, p. 36.

49 *Ibid.*, pp. 39–43.

50 A pirn is a rod onto which weft thread is wound.

or weft. The basis of the weaving method is the raising of a certain number of warp threads (shedding) to create a space into which the weft threads are inserted. The resulting fabric is then rolled onto cylinders.⁵¹ Fabrics produced on looms with shuttles typically have firm edges. Shuttleless weaving was not developed until the second half of the 20th century.

MANUAL DOBBY LOOMS

In the era of guild production and manufactories, the only looms used by weavers were wooden dobby looms based on a frame structure. The looms were operated by foot, using treadles. Initially, the weft thread in the shuttle was propelled manually (manual shedding). Later, the flying shuttle was invented by John Kay (1733); the weft threads were contained in shuttles on wheels, which ran along a track on the beater just in front of the reed and entered a box. The weaver controlled the motion of the shuttle via a cord system, and replenished the weft thread in the shuttle by hand. Simple dobby looms remained in use in North Moravia up to the 1880s. Local weavers also used special looms, as in the late 16th or early 17th century weavers from Šumperk had learned how to make a fabric known locally as *tripp* (which was used in furniture-making).⁵² Tripp was made with a linen blend yarn and had a triple-warp structure. It was made on rod looms. During weaving, brass wires were inserted into the warp, helping to form eye-holes from the warp threads, into which the woollen weft threads were woven. Producing tripp required the cooperation of more than one weaver in the process.⁵³ In the 1730s and 40s tripp from the Šumperk region was exported to Prussia, Silesia, Saxony and Bavaria. During the 18th century, weavers in the region also produced plush and warp velvet fabrics using multiple-warp looms or rod looms. These were shuttle looms (like the double-shuttle looms that were used to make corduroy, another fabric in which Šumperk weavers specialized). Rod looms are associated with the beginning of manufactories in the region, especially the Šumperk corduroy manufactory established in 1785, which at the time was the only manufactory of its type in the Habsburg Monarchy.

MECHANICAL DOBBY LOOMS

The mechanization of weaving was enabled by John Kay's invention of the flying shuttle, later improved by Edmund Cartwright, who patented the steam loom in 1785. This opened up the path for the mechanization of all basic motions in the weaving process.⁵⁴ In North Moravia, a pioneering role in the replacement of hand looms by mechanical looms was played by Karl Bock, who in the 1860s had established a mechanical spinning mill in Šumperk (though it became insolvent due to poor sales).⁵⁵ At the time, the circumstances were not conducive to the widespread use of machinery in textile production; high import duties made purchasing machines problematic, entrepreneurs lacked sufficient capital, and coal (used to power steam engines) was expensive, as was the transportation of raw materials and goods.⁵⁶

51 KOLÁŘ, Jan. – NAVRÁTIL, Josef. *Textilní zbožíznalství. Vlákná. Technologie – tkaniny*. Part 1. Praha 1968, pp. 121–122.

52 According to the Theresian cadastre, the town had 159 tripp producers, 8 linen-weavers and 1 weaver of a cloth known as Feinzeug. See DOHNAL, M. *Původní akumulace*, pp. 24–26.

53 Ibid., pp. 24–26.

54 HOLÝ, Vítězslav – KNP, Miroslav. *Uspořádání a obsluha Inářských stavů. Edice Technická minima textilního průmyslu 39*. Praha 1973, p. 13.

55 The establishment of the business required substantial investments in the weaving mill's equipment, but the company experienced problems with poor sales.

56 DOHNAL, M. *Průmyslová revoluce*, p. 70.

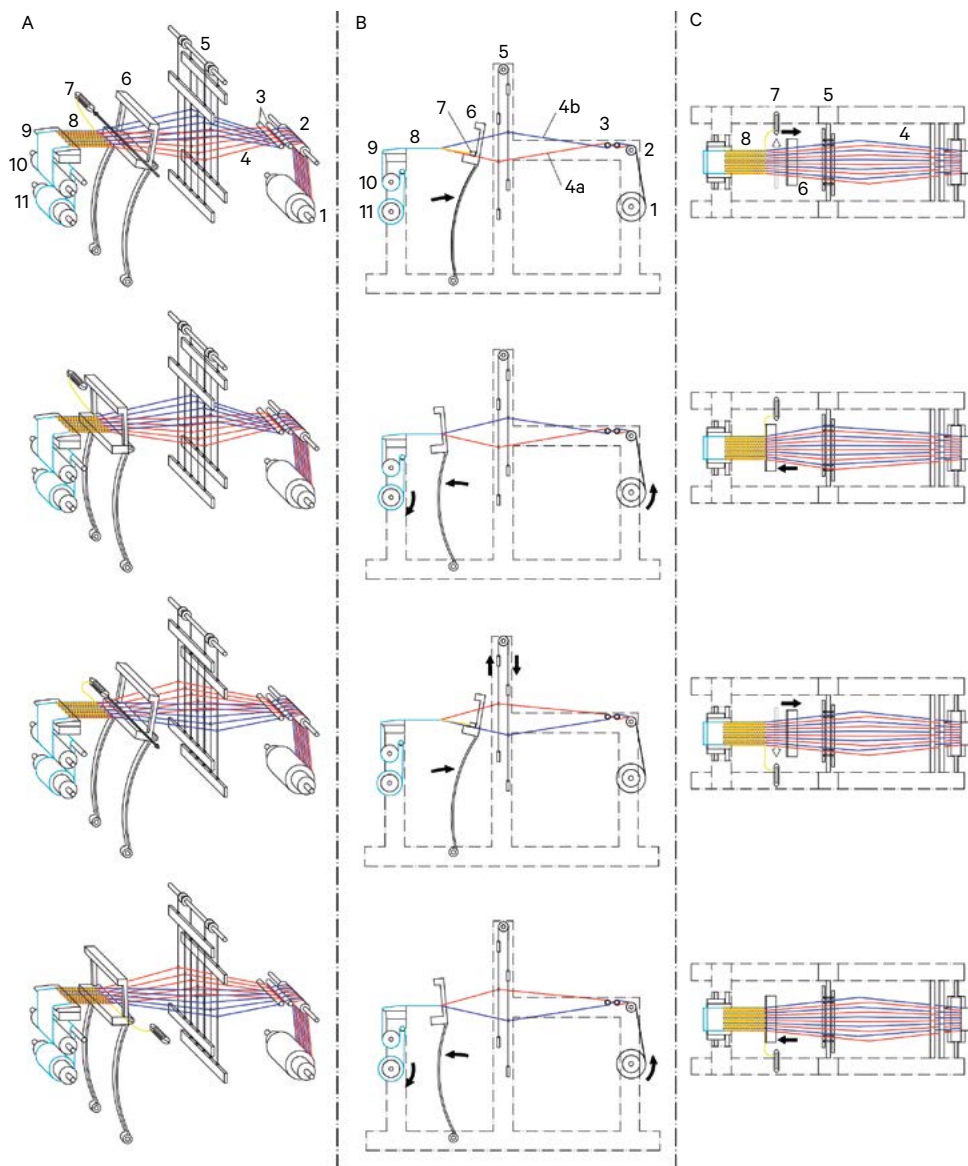


Diagram showing fabric weaving on a dobby loom. Diagram by Radek Mišanec, 2020.

Legend: column A – spatial model showing the motion of key parts of a shaft loom, warp threads and weft; B – side view of the motion of key parts of a mechanical dobby loom; C – motion of beater and shuttle during weaving; 1 – warp beam; 2 – warp guide; 3 – lease sticks; 4 – warp, 4a – upper position of warp threads, 4b – lower position of warp threads; 5 – shedding device; 6 – reed and beater; 7 – shuttle; 8 – completed fabric; 9 – outfeed; 10 – roller; 11 – fabric roll.

The beater is pulled away from the completed fabric and a shuttle containing the weft thread is propelled into the gap (shed) between the warp threads. The beater then pushes the weft onto the fabric. The position of the shafts is then changed, and a new gap is created. The beater is pulled away from the completed fabric and the shuttle containing a supply of weft thread passes through the gap (shed) created in this manner, returning to its original position. The inserted weft is again pushed onto the completed fabric by the beater.

The first automatic loom was designed in 1894 and was known as the Northrop loom after its inventor.⁵⁷

Mechanical shuttle looms can be classified on the basis of various criteria, e.g. the design of the shedding mechanism, the propulsion mechanism, the beater and shuttle mechanisms (single-weft looms, multiple-shuttle looms, looms with automatic weft replenishment), weight (heavy, light looms), size (wide, narrow), the type of backstop, and the type of material used. A typical mechanical shuttle loom was known as the English type; it had a frame, shafts and a drive mechanism, a beater (batten) to press on the weft, a propulsion system to insert the weft, a shedding system, a rolling and regulating system, a mechanism for the stretching and motion of the warp, and a safety system.⁵⁸

Linen weaving mills tended to use robust single-weft looms in which the weft was inserted from below and shuttles (most commonly containing tubular cops) were used. Manufacturers of looms used in the region included Hohlbaum and Ruthardt (made in Ružomberok) for simple fabrics. Roscher looms were Czechoslovak products that produced linen and semi-linen fabrics, and in the 1950s they were made by Kovostav in Hnátice.⁵⁹ Hohlbaum looms installed in weaving mills had a working width of 90–170 cm. Heavy goods (used for sails or technical fabrics) were produced on Ruthardt looms. Both Hohlbaum and Ruthardt looms could use shuttles either with tubular cops or with bobbins.⁶⁰

Among the first successful mechanical weaving mills in the region were Regenhart & Raymann, established in Freiwaldau (now Jeseník) in 1865 with just 15 looms. The same company opened another mechanical weaving mill in Jeseník in 1868, which had 150 looms. In the same year, August Küfferle built a mechanical weaving mill in Jeseník with 90 looms.⁶¹ The recession of the 1870s delayed the mechanization of the industry locally, but it did not stop it. Mechanization gained pace during the 1880s, when hand-operated Jacquard looms were replaced by mechanized Jacquard looms.⁶²

It became necessary to train weavers to work with these more demanding machines, so in 1880 a college for master weavers, designers and sales agents was established in Jeseník.⁶³ This sparked the emergence of a system of vocational education, and in 1885 a weaving industry vocational college was founded in Šumperk (K. k. Fachschule für Weberei in Mährisch Schönberg). After the Second World War, the college was relocated to Zábřeh.⁶⁴

Dobby looms made it possible to create fabrics with regular weaves, and it was possible to combine several different basic weave types in the same fabric. Further pattern variation was enabled by colour warping and/or wefting. This produced strips or bands of colour, or chequered patterns if

57 HOLÝ, V. – KNAP, M. *Uspořádání*, p. 13.

58 MOJŽIŠ, B. et al. *Len*, p. 405.

59 PÁVEK, Miroslav. *Československé textilní strojírenství*. Brno 1981, p. 79.

60 NOVÁK, František. *Rekonstrukce závodu 01 pro výrobní program exportu i tuzemského trhu. Tkaní ve více šířích vedle sebe. Modernizace strojního zařízení. Dopra. Zdravotní techniku. Ekonomické zhodnocení*. Master's thesis. Liberec 1967, pp. 12–13.

61 Mills in Freiwaldau (now Jeseník) also employed home-based weavers in Zuckmantel (Zlaté Hory), a situation which preserved established relationships and conserved the established product portfolio. It was advantageous for mill-owners to employ home-based workers, as they earned less than the mill-workers. Freiwaldau was internationally known for exporting semi-linen fabrics, which were considered the finest in the Habsburg Monarchy. Companies exported via Vienna, Budapest, Prague and Brno to Italy, the Danubian duchies and the Levant. See JANÁK, J. *Dějiny Moravy*, p. 105.

62 DOHNAL, M. *Průmyslová revoluce*, p. 82.

63 ČUČKA, Pavel. *Historie n. p. Komsomol v Jeseníku v letech 1945–58*. Master's thesis. Olomouc 1986, p. 12.

64 K. k. Fachschule für Weberei. *Fachschule für Weberei in M.-Schönberg: Bericht über das Schuljahr 1920/21*. Mährisch-Schönberg 1921, 4 s. SPURNÝ, František. *Odborná tkalcovská škola v Šumperku v letech 1885–1922. Severní Morava*, 2004, vol. 87, pp. 3–12.

both the warp and the weft were coloured. Rod looms and multiple-warp looms enabled weavers to create more complex patterns, though it was not until the invention of the Jacquard mechanism that highly complex patterns (including inscriptions) could be created. However, colour wefting (the use of multiple colours in the weft) remained very difficult, and it still had to be done manually. This limitation persisted until the end of the 19th century, when the invention of automatic wefting machines made it possible to use perforated cards or other mechanisms to control the insertion of coloured weft threads from shuttles. Nevertheless, the shuttles were still loaded by hand. A change came with the introduction of automatic systems for winding weft pirns incorporated into the loom itself, known as the UNIFIL pirn winder (produced by the Leesona company in the USA) in the 1950s. This system was used for colour and monochrome weaves.

JACQUARD LOOMS

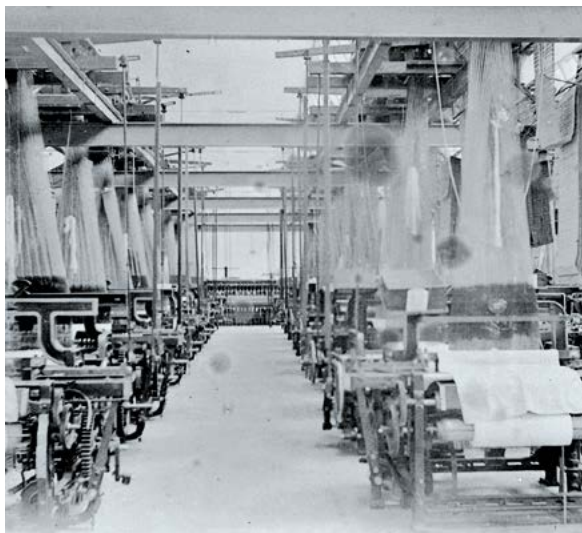
Joseph Marie Jacquard's invention of a method for pattern weaving based on a perforated card mechanism opened up almost unlimited possibilities in the textile industry. The Jacquard mechanism was patented in 1800, but it was not until the 1830s when improvements to the system made it possible to introduce Jacquard looms on a large scale. The principle of the mechanism involves the use of perforated cards and corresponding needles, which control the mechanism of the heddles and the lifting of the warp threads to allow the insertion of the weft. The warp threads are attached to weights, which prevent them from becoming entangled. The motion of the loom is combined by a frame with metal bars called knives, driven by a cam mechanism to create a regular up-and-down movement. The loom is controlled by a prism with a continuous chain of cards that program the motion. Each metal hook is controlled by a horizontal needle and a card. A perforation in the card retains the needle and the hook in its basic position, and when moving upwards the knife catches it and lifts it up. The hooks are attached to cords which pass through a guide, controlling the heddles; if a hook is raised, so is the corresponding heddle. Where the card is unperforated, the action of the card on the needle presses the hook away from the knife, and when the knife moves upward again the hook remains on its base. Because the hooks only raise the heddles, each heddle is attached to a weight which returns it to its original position. The guide maintains the order of the warp threads and the width of the warp. It is a perforated board with holes positioned in lateral and longitudinal rows. The number of holes corresponds with the number of pattern threads across the width of the fabric.⁶⁵ The system makes it possible to weave all kinds of patterns. Looms with Jacquard mechanisms were taller than other types, so in weavers' cottages in rural areas they had to be sunk into the floor. Many weavers learned about the principles of the Jacquard system at weavers' colleges, and acquired the looms for use at home. The first Jacquard loom in Bohemia was used in Liberec in 1825. The looms later spread to Moravia (Brno) and other towns. They were always used in the production of highly complex patterns, i.e. for damask and brocade goods.

Jacquard looms were classified as either basic looms or looms for special purposes (e.g. for damask production). Some used a single-lift system and others a double-lift system. Depending on the cards used, there were looms with coarse pitch, fine pitch (Vienna looms), very fine pitch (French), and extra-fine pitch (Verdol). The cords controlling the heddles could be arranged in one, two or more rows, or in special arrangements; this affected the type of pattern that was woven. The looms used either perforated cardboard or continuous rolls of paper wound around a cylinder.⁶⁶

65 ŠEBROVÁ, Helena – FULMEK, Rudolf. *Textilní technologie II. Pro 2. ročník středních průmyslových škol studijního oboru Textilní technologie*. Praha 1989, p. 80.

66 MOJŽÍŠ, B. et al. *Len*, pp. 451–454.

Šumperk, K. Siegl sen., mechanical
linen goods weaving mill with
Jacquard looms, situation around 1890.
VMŠ, inv. no. H6057.



FABRIC WEAVES

The way in which the warp and the weft are combined is known as the weave. Basic weaves include plain weave, which has a range of variants including faille weave. Another basic weave is twill, which likewise has many variants (herringbone, diamond, etc.). The last basic weave is satin.

INSPECTION

The unfinished fabric was carefully inspected for defects, which were rectified. The fabric was measured and weighed.

RECTIFICATION, NAP-RAISING

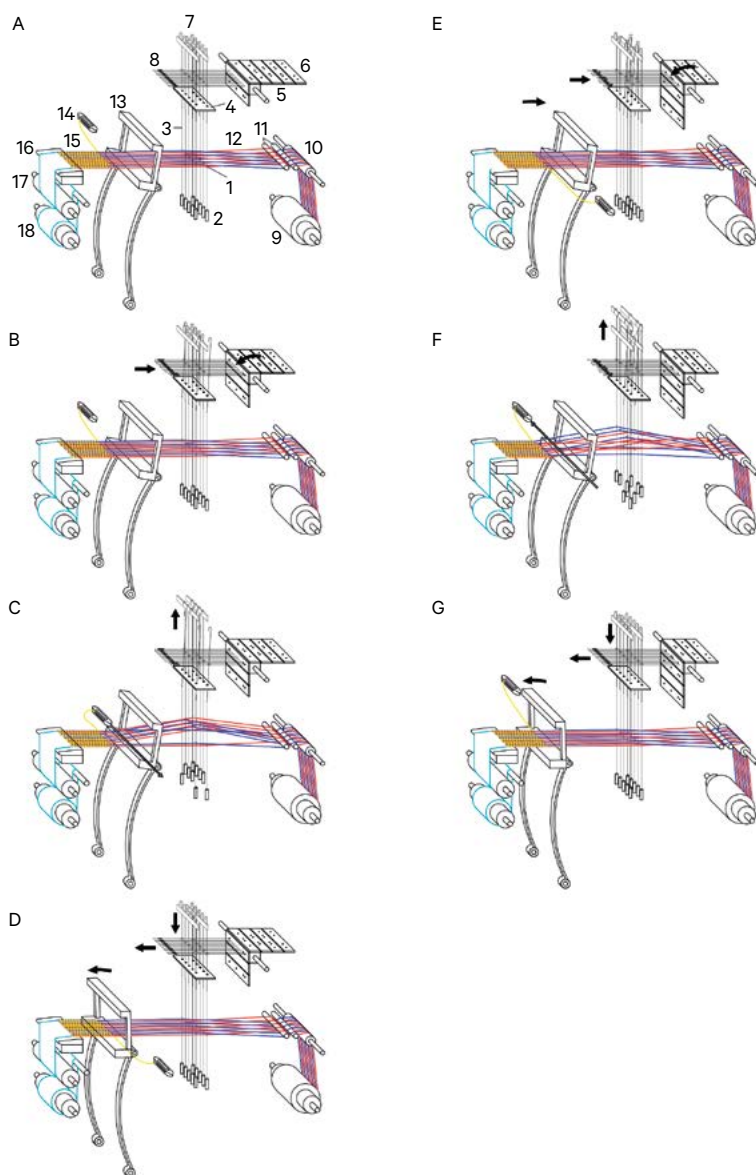
Any defects found were rectified by sewing. The nap of the fabric was raised; this process also removed any dirt or the ends of torn threads, etc.

PREPARATION FOR SALE

Before being delivered to the customer, the fabric was packed or readied for garment production. It was cut to the required shapes and sizes, and then it was sewn as necessary to create finished products (e.g. pillow-cases, quilt covers, tablecloths).

FINISHING PROCESSES

Finishing processes were used to give yarn and finished products the properties that customers demanded. Some operations removed pectins, residual sugars, lignin, grease, wax, natural pigments etc. from the flax stems; this improved the quality of the yarn and the fabric itself (e.g. its absorption, shine, feel to the touch, etc.). There were also operations that made it easier to work with the material in the spinning and weaving mills (e.g. improving its colour absorption and colour-fastness, facilitating maintenance, etc.).



Spatial diagram showing the motion of the working parts of a Jacquard loom, the warp and weft in seven steps. Diagram by Radek Mišanec, 2021.

Legend: 1 – heddle; 2 – weight; 3 – lifting cord; 4 – guide; 5 – card prism; 6 – cards; 7 – hook; 8 – needle; 9 – warp beam; 10 – warp guide; 11 – lease sticks; 12 – warp; 13 – beater and read; 14 – shuttle; 15 – completed cloth; 16 – outfeed; 17 – roller; 18 – fabric roll.

The motion begins with the tilting of the prism to place the horizontal needles in their basic position. The prism is rotated (bringing the next card into the working position) and it returns towards the horizontal needles. The needles that have a corresponding hole in the card remain in their basic position. In the next motion, the corresponding hooks and the lifting cords are pulled up. The needles without holes in the card are pushed away, deflecting the corresponding hooks. The warp is pulled into two levels, creating a gap (shed).

Zlaté Hory,
J. Adensamer & Co. /
Moravolen, weaving mill
with Jacquard looms
made by J. Horák,
Lomnice. Photograph
by Michaela Ryšková,
2006.



Among the oldest finishing processes were bleaching, mangling, dyeing and printing. The development of these processes was facilitated by the use of stainless steel in machine production; this made it unnecessary to use tools made from wood, iron, stone or lead. Today's finishing machines contain components made from titanium or plastic, which are highly resistant to the chemical agents used in finishing processes.

The introduction of chemically produced (artificial) fibres into linen production during the 1960s brought new demands on finishing processes and machinery. New groups of dyes (dispersive, reactive, pigment) expanded the options for dyeing and printing fabrics made of natural and synthetic fibres.

Many finishing processes were reliant on a good source of water, and in the second half of the 20th century it became increasingly important to minimize water consumption. The quality of waste water produced in these processes was also subject to increasing demands. However, some finishing processes (mangling, calendering) did not use water.

PRELIMINARY CLEANING OF FLAX

The purpose of the preliminary cleaning of flax was to remove all undesirable admixtures (impurities) which could have a negative impact on the production of the yarn or fabric, or on the use of the end product. A wide range of preliminary cleaning processes existed, and they were of prime importance for the resulting quality. The choice of methods depended on the requirements of the end product, which may have been thicker (e.g. table linen) or softer (garment linen). The flax was cleaned in baths (vats) containing the same chemicals that are used in the cotton industry: sodium carbonate, sodium hydroxide, water glass (sodium silicate), sodium hypochlorite (NaClO and NaClO_2), hydrogen peroxide, and acids (sulphuric and acetic).

BLEACHING

During the era of guild production, bleaching and mangling were used for pieces of cloth whose quality was judged the finest. Cloth with defects, or coarser cloth, was dyed blue or black. Initially, the method of grass bleaching was used. The fabric was left to soak in water for several days before being spread out on a meadow and left to dry in the sun. However, this produced a poorer-quality result, with less effective whitening of the fabric. Because the value of well-bleached yarn went up in the early 18th century, local estate-owners began to establish commercial bleaching shops (bleacheries) from the 1720s onwards; the first of these (e.g. in Velké Losiny) still used

the grass bleaching method. This created a distinction between home bleaching and commercial bleaching, leading to the emergence of a specialist branch of textile production. The first commercial bleaching shops used the traditional method of water and sunlight, but they also used chemical agents such as lime. The fabric was boiled with slaked lime or other admixtures (e.g. potash) before being washed in clean water. It was then soaked in hydrochloric acid and boiled in a soda solution (twice). The entire process was repeated several times depending on the level of whiteness that was required.

At the beginning of the 19th century, the grass bleaching method was replaced by new methods applying new knowledge of chemistry. The use of these methods depended on the type of goods being bleached. Chemical bleaching methods were also combined with traditional grass bleaching, e.g. at the Wagner Brothers' bleachery in Rejhotice (founded in 1812), where a technique known as the Apian method was used. Among the largest bleaching businesses in Moravia during this period was probably a bleaching shop on the River Desná, established in 1825 and belonging to Ed. Oberleithner's Söhne. The company used it to bleach its new products –such as herringbone twill and damask, whose quality later made them internationally renowned. In the 1840s, Friedrich Ulrich introduced the English method of bleaching (using steam) at his bleaching shop in Rapotín. The bleachery had a steam heating system, washing machines from England, a German beetling mill, vats for soaking in chemical solutions, and starching machines. This reduced the length of the bleaching process from 12–15 days to just 2 days. Bleachers continued to improve traditional methods of maceration bleaching, as well as trying out new methods – such as a Scottish method using potash and pearl ash, or a Dutch method using milk, whey or buttermilk and subsequent soaking in an alkaline liquid. Other chemical methods included bleaching with oxygenated hydrochloric acid, a weak solution of potassium chloride, or a weak solution of sulphuric acid with chlorinated lime in which the cloth was boiled for six to eight hours. Of particular importance in Austrian Silesia were the companies run by the Freiwaldau (Jeseník)-based entrepreneurs Adolf Raymann and Josef Wiesner, founded in the early 1850; they were the first in Silesia to use the so-called Irish method of bleaching.⁶⁷

YARN BLEACHING

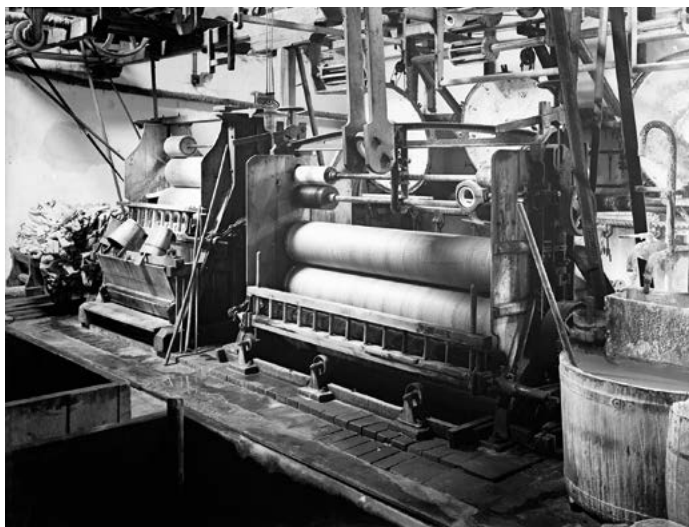
Modern methods were based on the principle of boiling yarn in water with an admixture of soda and subsequent bleaching using sodium hypochlorite (and other substances for tow yarn). The yarn was boiled in either unpressurized or pressurized boilers, and this process was repeated twice or three times. After boiling and washing in clean water, the yarn was chlorinated. The process was shortened and simplified with the introduction of a method in which yarn was bleached on reels using sodium chlorite and peroxide. The resulting quality was evaluated as either $\frac{1}{4}$, $\frac{1}{2}$ or $\frac{3}{4}$. Bleaching was essential for coarse dry-spun yarn, combed yarn, blended yarn, yarn made from chemically treated rovings, and yarn destined for dyeing.

CLOTH BLEACHING

Mechanical cloth bleaching initially involved a method known as yarn bleaching (not referring to spun yarn, but to the fact that the fabric was wound into a long strand that was known as a yarn), using boilers, washing machines, soaking vats and wagons. Newer methods involved piece bleaching (in which the cloth was not wound into a yarn but was left open in sheets). The purpose was to remove various technical and natural substances left behind by the production process (e.g. size, if it was washable, as in the case of starch). De-sizing was done using bolamylase.

67 JANÁK, J. *Dějiny Moravy*, p. 107.

Loučná nad Desnou,
municipal subdivision
Rejhotice, G. Ulrich,
linen goods bleaching
and finishing plant,
photographs from the late
19th/early 20th century.
Hammer beetling mill
(top), bleachery with
soaking vats, fabric boiler
and draining mangles
(centre), hydraulic mangle
(bottom). Photograph by
Gustav Ulrich, Rolleder
museum association,
Odry,



FINISHING PROCESSES

NAP TRIMMING

A trimming knife was used to remove any remaining shives that were still present. One or both sides of the fabric could be trimmed. This was often done prior to bleaching.

CALENDERING

If cloth was to be sold still in its unfinished state, it was pressed flat on a calender using steam. If a matte finish was required, the cloth was pressed cold.

MANGLING

Smaller pieces of cloth (such as towels, napkins, tablecloths, table mats and sheets) were mangled using box mangles or hydraulic machines. This flattened the fabric, and the action of the rollers pressed the threads closer together, giving the cloth a denser feel. Mangling also gave cloth a matte finish, and it could be used to produce moiré patterns – a wavy appearance caused by the uneven compression of the weft and warp threads that overlaid or overlapped each other when the cloth was wound into a roll.

BEETLING

Instead of mangling, cloth could also be beetled – beaten with wooden sticks (beetles) in tubs.

COTTON AND COTTON GOODS PRODUCTION

COTTON PLANTS

Cotton is one of the most important fibres for textile production. During the 18th and 19th centuries, imports of cotton and cotton goods from America and England always represented a problem for the development of linen production in North Moravia; linen producers found it difficult to compete with cheaper cotton products.

Cotton fibres, which are in fact one long cell, come from the seeds of various types of cotton plants (*Gossypium*). Healthy fibres have the appearance of ribbons; they are flat, thicker at the edges, and with spiral structures. In terms of chemical composition, they contain up to 91% cellulose, as well as water, fats, wax, protoplasm, ash and pigments.⁶⁸ Cotton was already cultivated 4,000 years BCE in India; from there it made its way to Egypt, Babylon, China, and Asia Minor, and it was then taken to Greece and other countries. Spain was among the most important cotton-growing countries in Europe.

Cotton plants belong to the mallow family of plants (Malvaceae). Crossing and breeding has produced over 40 new varieties of cotton, with various properties. Among the most important types are the West Indian cotton, Levant cotton, upland cotton, Peruvian cotton and tree cotton.⁶⁹ It can take the form of a plant, a bush or a tree.⁷⁰ Cotton is grown in moist and warm climate zones, between the latitudes of 25° S and 48° N. The important part of the plant for textile production is the flower. It has five leaves and is white – sometimes with a yellowish or pink tinge, and

68 DONDA, Albert. *Textilní zbožížnalství a technologie. I. Textilní vlákna*. Praha 1948, pp. 43, 60, 61.

69 KOLÁŘ, J. – NAVRÁTIL, J. *Textilní zbožížnalství*, p. 14.

70 POSPÍŠIL, Zdeněk et al. *Příručka textilního odborníka*. Praha – Bratislava 1981, p. 96.

sometimes with red spots. It blooms for 24 to 48 hours. The fruit of the plant (the bolls) are the size of walnuts, with 3 or 4 lobes. After 6 weeks they burst, turn brown and become dry. The fluffy tufts emerge from the bolls and mature in the air. After 2–3 weeks after the bolls burst, the fluffy material is fully mature, and can be harvested by hand or by machine. Manual harvesting produces a higher-quality crop, because the cotton contains fewer impurities. There are three harvestings, because the plant flowers over a period of time and the bolls mature gradually.⁷¹ The raw cotton is transported from the plantation to a different location, where the seeds are removed.⁷² The de-seeded cotton is pressed into bales. The bales always consist of sorted material, all of the same grade.⁷³

After de-seeding, short fibres still remain attached to the seeds; these are called linters,⁷⁴ and they were used in the production of gun cotton, artificial silk, acetate silk, cotton woll, stuffings and other goods.⁷⁵

Cotton is graded according to the length of the fibres, which may be short, medium, long or extra long. In the Czech Republic, textile producers use primarily long-grade fibres and fibres classified as “other”, i.e. those with an effective length of up to 35 mm (shorter than the “short” grade). Czech textile producers do not use fibres of a shorter grade than “other”.

Textile production in the territory of what is now the Czech Republic used long-grade cotton fibres mainly from Africa (now Egypt, Sudan and Morocco). Other sources of the raw material were what is now Uzbekistan, Syria, Iran, Afghanistan, Greece and Turkey. To a lesser extent, producers also used cotton grown in India, Australia, Peru, Pakistan, Spain, El Salvador and Yemen. For purchase, cotton is graded into types (sorts), which vary depending on the standards that are applied in different countries. In the past, Czech textile producers generally adopted Egyptian or American standards.⁷⁶ When evaluating the standard of cotton, various criteria are used: maturity, moisture levels in the fibres, staple length, colour, (im)purities, dust content, and the surface appearance of the cotton (preparation).⁷⁷

SPINNING COTTON FIBRES

Cotton spinning comprises two different technological processes: spinning carded or combed fibres.

Yarn can be spun from carded fibres according to the following processes:

- a longer process: blending – cleaning – carding – drawing (drafting) I, II and III – roving on coarse flyer frames – roving on medium flyer frames – roving on fine flyer frames – final spinning),
- a shorter process: blending – cleaning – carding – drawing (drafting) I and II – roving using medium or fine flyer frames – final spinning
- spinning from slivers (blending – cleaning – carding – drawing (drafting) I, II and III with winding onto bobbins – final high-draft spinning.

71 DONDA, A. *Textilní zbožíznalství*, p. 54.

72 The cylindrical de-seeding machine was invented by the American machinist Fones McCarthy in 1840. The cotton gin was invented in 1794 by E. Whitney in the American city of Savannah.

73 DONDA, A. *Textilní zbožíznalství*, p. 57.

74 Linters are harvested from upland cotton, which was one of the leading varieties of North American cotton. The designation “upland cotton” encompassed all local types of cotton that had resulted from the native cultivation of *Gossypium hirsutum*. See DONDA, A. *Textilní zbožíznalství*, p. 119.

75 KOLÁŘ, J. – NAVRÁTIL, J. *Textilní zbožíznalství*, p. 16.

76 Ibid., p. 18.

77 POSPÍŠIL, Z. et al. *Příručka*, pp. 93–103.

When producing yarn from combed fibres, the process is the same as with carded fibres, but the combing process is inserted after the carding.

Blending was a process in which fibres were mixed together in bale breaking machines, either working individually or in series. Bale breakers took the pressed cotton in the bales and broke it up into tufts, which were then mixed together.⁷⁸

Cleaning was done by machines that were appropriate for the particular type of fibre being used. The purpose of combing was to ensure that the fibres were as loose and separate as possible; this enabled the various impurities (such as fragments of husks) to fall to the bottom without damaging the cotton fibres.

Carding took place on a carding machine; it separated the fibres, helped remove impurities, and changed the shape of the fibres from laps to long bundles (slivers).

Drawing (drafting) was done in order to straighten the cotton fibres and distribute them evenly, combining them to create coherent slivers.

Combing was a process used when processing long-fibre material; after carding, the fibres were combed to separate out shorter fibres. In preparation for the combing process, a *lapping machine* was used, which created compact lap from the fibres produced by the carding machine and wound them onto bobbins to create rolls. These rolls were drawn out using a *roving machine* to create an even lap for the combing machine.

Combing processed the long-fibred cotton lap (wound onto bobbins) that was used to make the finest yarn. Shorter fibres and impurities were removed via this process. Combed cotton has a very fine structure, resembling that of a spider's web; it is then combined into slivers for roving.

Roving (using flyer frames) was a process that refined the slivers, twisting the strands to strengthen them in preparation for spinning; this created strands known as rovings, which were wound onto bobbins.

Traditional spinning refined the rovings, twisted them to add strength, and wound them onto cops. Originally, spinning machines consisted of three rollers; newer machines use belts. The precise structure and design of spinning machines could differ widely depending on the producer. These machines made it possible to spin short or long, natural or artificial fibres.

PRODUCTION OF COTTON FABRICS

Cotton fabrics could be produced on shuttle looms, multiphase looms or special machinery. The fabrics could be made either from pure cotton (or cotton textile waste) or from a blend of cotton with a different material. Cotton fabrics were graded according to their weight per square metre: light (up to 102 g/m²), medium-weight (120–220 g/m²), and heavy (over 220 g/m²).⁷⁹

All types of fabrics were made from cotton. Cotton fabrics are soft, washable, and can be boiled. The shape of the cotton fibres gives them good thermal properties, which can be further improved by combing. Cotton is easy to dye and iron, and it absorbs sweat. It was used to make bed sheets, tablecloths, clothes, and technical products (bandages, towels, nappies, tents, etc.). Well-known types of cotton fabrics include fustian, batiste, brocade, damask, flannel, calico (kattun), Aida cloth, molino, muslin, mul, and more.⁸⁰

78 Ibid., p. 359.

79 Ibid., p. 681.

80 KOLÁŘ, J. – NAVRÁTIL, J. *Textilní zboží*, pp. 218–229.

FINISHING PROCESSES APPLIED TO COTTON YARNS AND FABRICS

Cotton mercerizing is a process in which fibres (in the form of yarn or fabrics) are cold-soaked in a strong solution of caustic soda (sodium hydroxide, also known as lye); the fibres are subjected to tension throughout the soaking, as well as during the subsequent washing and spraying to remove all traces of the lye. When mercerizing fabrics, tension must be applied in both directions. The process gives the fibres a silk-like sheen, strengthens them and makes them better able to absorb dyes.

Nitric acid treatment was used to make cotton soft to the touch, with a similar feel to woollen yarn. After this treatment, the fibres were up to 20% stronger, shrank by around 10%, and became slightly thicker. Cotton treated in this way was easy to dye, and the colour did not fade.

The Teufer method (or Nanson method) is a now-forgotten chemical process that was used to make cotton fibres rustle in the manner of silk.⁸¹

Cotton and fine linen fabrics are finished by washing or merely rinsing (once or multiple times). They are washed in hot or boiling water, often for several hours. When appropriate detergents are used, grease is emulsified and dirt is washed away. Heavy soiling is removed by friction and wringing. Cotton goods shrink slightly along both directions of the thread when washed. Washing machines for cotton fabrics incorporated cylindrical drums. Some machines washed the cloth across its entire width (this method, known as piece washing, was used for tougher cotton or linen fabrics), while others washed the cloth in the form of a long strand (known as a yarn, hence the name yarn washing); several of these long yarns were washed at the same time.⁸²

Cotton fabrics were washed in machines known as clapots, which were also used for rinsing and treatment with chlorine or acid. Some clapots yarn-washed the strands of cloth loose, while others applied tension to the strands. A clapot was 3–4 metres wide, and could wash either one or two strands of cloth at a time. The strands were passed between the wringing and guiding rollers (fed through by 18 to 24 screw-threads). For heavily soiled fabric, several machines could be used in a series arrangement. The effectiveness of these machines was lower, so they were usually used for desizing (the removal of the size material from the yarns after weaving). Desizing agents and soda were used for this process.

Knitted cotton fabrics were piece-washed in machines that had a wooden (or also concrete or earthenware) vat divided into four sections, or four individual vats in a row. Above each of the sections was a pair of wringing rollers (made of cast iron with a rubber surface). In the first section, the fabric was usually soaked in hot water with a small quantity of soaking agent, and then after wringing it was transferred to the second section, containing detergent, where it was washed. In the fourth section it was usually treated with acid or blue-dyed.

REMOVAL OF WATER

When cotton fabrics were bleached, water was removed by wringing or centrifugal spinning in machines (either with the fabric in the form of a strand or as a full piece).

Pre-shrinkage was a mechanical process which shrank fabrics prior to use so that they would not shrink further during use, and would retain their shape.

81 DONDA, A. *Textilní zbožíznalství*, p. 78.

82 *Ibid.*, pp. 21–24.



Šumperk,
V. Vinciguerra & Cie.,
silk thread spinning
mill / Hedva, Ratti
plying and winding
machine. Photograph
by Michaela Ryšková,
2020.

CHEMICAL BLEACHING OF COTTON

Cotton is bleached using oxidizing agents which release active oxygen, thus oxidizing the pigments that are naturally present in cotton. The natural pigments become water-soluble, and the cotton loses its colour. Bleaching agents were hypochlorites (sodium or calcium). Bleaching took place at a cold temperature in an alkaline environment for 2–4 hours. If continuous bleaching was used, the process could be shortened. After bleaching, the fabric had to be thoroughly washed in clean water; it was then treated with acid and antichlor in a washing machine known as a clapot. Other bleaching agents were hydrogen peroxide or sodium chlorite, which caused the least damage to the fibres.⁸³

OPTICAL BLEACHING

An additional bleaching process was applied if the bleached fibres still had a slight yellowish tinge. It was usually blue-dyed, i.e. treated with a very small quantity of blue or purple dye (pigment).⁸⁴

DYEING AND PRINTING PROCESSES FOR COTTON FABRICS AND YARNS

The choice of dyes for cotton fabrics depended on various factors: the required colour and colour-fastness, whether the dyeing would be a wet or dry process, abrasion resistance, colour-fastness when exposed to sweat or ironing, etc. Cotton fabrics are washed frequently, so dyes must be able to withstand this process, as well as remaining colour-fast when exposed to daylight. Various types of dye were used for cotton fabrics: direct (semi-permanent) dye, sulphur dye, vat dye, insoluble azo dye, oxidative dye, pigment dye, basic dye and reactive dye.⁸⁵ Fabrics were yarn-dyed or piece-dyed, in a process that was either continuous or discontinuous (in a discontinuous dyeing machine). Cotton yarn was dyed either in hank form or loose.

83 KOLÁŘ, J. – NAVRÁTIL, J. *Textilní zboží*, p. 170.

84 Ibid., p. 171.

85 Ibid., p. 177.

Cotton fabrics were also printed. Printing was either direct (a process in which the dye was applied directly to the cloth) or negative (when a resist is applied to the cloth, and then the dye is applied; when the dye is removed, the parts of the cloth treated with the resist retain their original colour). The traditional method of “blue printing” (*Blaudruck, modrotisk*) was a popular form of negative printing in Central Europe.⁸⁶

SILK AND SILK GOODS PRODUCTION

SILK

The textile industry in North Moravia also included silk-making. Silk is the only “endless” natural textile fibre (filament). The original home of silk was east Asia, especially China, where silk has been made since the third millennium BCE.⁸⁷ Silk thread is a solidified saliva-type secretion produced when silkworms (*Bombyciformes*) spin cocoons. Natural silk is made from the secretions of the domestic silk moth *Bombyx mori* (also known as the mulberry silk moth). Other types of silk (known as wild silk) are also produced by the Chinese oak silk moth (*Antheraea pernyi*) and the tasar silk moth (*Antheraea mylitta*). Among the best-known types of wild silk are mugar, tasar and eri; they produce coarse, short filaments. All species of moth (caterpillar) from the *Bombyciformes* feed exclusively on the leaves of the mulberry.⁸⁸

When it reaches adult age, the caterpillar (silkworm) spins a cocoon by excreting a thick saliva from two glands. Both streams of the protein fibroin immediately combine with sericin to create a single, endless fibre known as raw silk. In fact, raw silk consists of two fibres wrapped in sericin, which is then removed from the fibres by boiling, in a process known as degumming. A silkworm’s cocoon consists of between 3,000 and 4,000 metres of fibre; however, it cannot be removed in a single process, and only around one-third of its entire length can be used.

Silk has a number of typical characteristics, including strength, flexibility, rustle and shine. Its properties vary slightly depending on the area where the silk is produced. Silk factories imported silk from China, Japan or Italy that was produced by forms of the silk moths bred from the original *Bombyx mori*.⁸⁹ Silk-makers in North Moravia bought in natural silk that had already been processed. The largest producer of silk was (and still is) China, followed by Japan, and the main European producers are Italy, France, Spain and Greece. Silk was also imported from Asia Minor (Turkey), Iraq and Iran. Up to 1862, Europe’s main centre of the silk trade was London, which dealt in silk imported from east Asia and the Levant. After the opening of the Suez Canal in 1869, the focus of the European silk trade shifted to Milan and Lyon. Other important centres were Zürich, Marseille and Turin.⁹⁰ Buyers ordered goods after viewing samples. Natural silk was supplied to Moravian factories in the form of grège, in packages weighing 60–100 kg. East Asian silk was sold in packages of 48–75 kg. Plied silk was supplied already wound onto bobbins or pirns.⁹¹

86 Ibid., pp. 185–186.

87 JEŘÁBEK, J. *Historie a současnost*, pp. 8–9.

88 DONDA, A. *Textilní zbožíznalství*, p. 544; PILLER, Bohumil – LIVENSKÝ, Otto. *Malá encyklopedie textilních materiálů*. Praha 1978, p. 142.

89 The original silk moth was bred to create the forms *Bombyx mori fortunatus*, *Bombyx mori textor*, *Bombyx mori croesi*, *Bombyx mori arracensis*, *Bombyx mori sinensis*, and *Bombyx mori meridionalis*. See DONDA, A. *Textilní zbožíznalství*, p. 545.

90 Ibid., p. 639.

91 ONDRÁK, František. *Přírodní hedvábí. Vlastnosti, přejímání, zkoušení a skladování*. Praha 1955, pp. 52–64.

PROCESSING OF NATURAL SILK

The first process in silk-making is the collection of the cocoons. They were collected by hand 10 or 11 days after the worms began spinning. Some of the cocoons were left intact so that the next generation of moths could emerge.⁹² During the collection, the cocoons were sorted, separating out the unreelable cocoons – which were damaged, or in which the larva had died during the spinning, or which were double cocoons, spun by two or more worms together). The reelable cocoons were then selected for further processing, and the woolly material (known as floss) was removed from the surfaces. The caterpillar wrapped in the cocoon was killed by hot air (75°C) or steam (90°C) within three days, in order to prevent the moth from biting through the filaments and thus damaging them. The cocoons were then dried, losing up to two-thirds of their original weight.⁹³ The individual filaments were reeled (wound on reels)⁹⁴ in a filatory to create grège, or they were harvested from the unreelable cocoons and the remnants of the reelable cocoons.⁹⁵ After spinning the fibres into hanks, the silk was drawn to ready it for the next operations.⁹⁶

Short filaments (broken or waste fibres) could also be spun together in a process known as floret spinning; this produced floret silk (or schappe silk). The short filaments that were combed out during floret spinning, which were the residual fibres from the shell of the cocoon (the floss), were used to produce noil yarn. The process is similar to that used to spin carded woollen or combed cotton yarn. Grège silk was graded according to its colour, shine, purity and consistent form into organzine silk, tram silk and pelo silk.⁹⁷

DEGUMMING AND REFINING OF RAW GRÈGE

Raw grège silk known as *écru* was used to make yarn and fabrics. Yarn made from twisted (plied) raw grège was easy to weave into dense fabrics without the need for sizing, as the fabrics were coated in sericin which acted as a substitute for the size. The fibres were then degummed, either fully or partially (if just one-third of the sericin was removed). Semi-degummed silk did not have the typical characteristics of degummed silk, but was easier to weight it so it regained its former mass (parity). Fully degummed silk was considered the finest material, and the weaving process was easier. Degumming took place in three detergent baths (100°C); the first contained at least 30% of detergent, the second 20% and the third 10%.⁹⁸ The silk was then washed in clean water. The detergent removed the sericin (up to 30% of the original weight of the fibres) as well as dirt and grease. Fibres destined for technical fabrics, or surgical silk (for stitching wounds), were not degummed.

92 DONDA, A. *Textilní zbožíznalství*, pp. 569–570.

93 Ibid., pp. 573–575.

94 The fibres within the cocoon itself are not identical. In the centre of the cocoon there is so-called tram silk, which varies in thickness. It is a valuable fibre that can be used to make weft yarn. The middle layer contains the most valuable material, the grège, consisting of double filaments gummed together with sericin. Grège is soft and of even size, and its strands range in length from 900 to 1,000 metres. Grège yarn is made by plying (twisting) together between 3 and 15 strands. Two grège yarns can be cross-plied together to create a single thread known as organzine, which is used for the warp in the finest-quality silk fabrics. The outer woolly layer (floss, strusa) can be easily removed from the surface. The floss is waste material, as it is not strong and coherent. It can be used to make noil yarn. The waste fibres were used to make special yarns: *sapé*, floret and noil.

95 DONDA, A. *Textilní zbožíznalství*, p. 583.

96 JERÁBEK, J. *Historie a současnost*, p. 8.

97 DONDA, A. *Textilní zbožíznalství*, p. 576.

98 The detergent was pure soap, ideally Marseille soap made with olive oil. See PILLER, B. – LIVENSKÝ, O. *Malá encyklopedie*, p. 105.

WEIGHTING

After full or partial degumming, the silk was weighted (most often with tin chloride) in order to regain the original mass.⁹⁹ After a final washing in clean water and drying, the fibres reached at least their original weight (parity), and a maximum of 20% over weight. If the procedure was repeated, the silk would reach 100–300% of its original weight. Once returned to their original weight, the fibres were known as charge. The silk could also be dyed at the same time as weighting, most frequently with black dye.¹⁰⁰

DYEING AND PRINTING

Silk fibres are ideally suitable to dyeing and printing; types of dyes used include acid, metallized, direct, basic, vat, indigo sole, azo and reactive.

WEAVING FABRICS

Before weaving, the yarn had to be prepared in a number of steps: winding (warp and weft), warping (warp preparation), wefting (weft preparation), sizing of the warp, and fastening the warp to the loom.

When preparing the warp with the degummed silk, the process of sizing was used in order to give the threads a coating that would protect them against abrasion during the weaving process. Warp made from natural silk (grège) did not have to be sized. For artificial fibres, the sizing process involved soaking the fibres in a warm bath. Sizing machines had three to five drums or chambers. Widely used sizing agents included glue, gelatin or carboxymethylcellulose with the addition of softening and greasing agents. When sized and dried, the warp was then fastened to the loom.¹⁰¹

Silk weaving shops used broad mechanical looms with one or more shuttle and weft propulsion from below. Their working width was from 110 to 135 cm. They used eccentric shedding mechanisms or dobby systems. Jacquard looms were used for weaving cloth with intricate patterns, and rod looms were used to make velvet. The type of loom chosen depended on the type of material used and the type of fabric to be produced.¹⁰² It is documented that from the second half of the 19th century, factories in the region also produced semi-silk fabrics¹⁰³ as well as cotton fabrics, enabling them to alleviate the decrease in demand for silk goods (e.g. in the 1930s).¹⁰⁴

99 KOLÁŘ, J. – NAVRÁTIL, J. *Textilní zbožíznalství*, p. 164. The degree of weighting is expressed as the percentage above the original weight. Weighting was generally to 30–60% over weight, with 100% over weight for black fabrics. In the past, the fibres were sometimes weighted to several hundred percent. However, these fibres age rapidly, break and disintegrate, complicating the task of restorers working with historical clothing. See ONDRÁK, F. *Přírodní hedvábí*, p. 91.

100 DONDA, A. *Textilní zbožíznalství*, p. 606.

101 DUCHÁČ, Antonín – ONDRÁK, František. *Příprava hedvábí ke tkaní*. Praha 1960, pp. 108–114.

102 The types of looms a weaving mill had at its disposal determined which types of products it could or could not make.

103 In 1885, silk goods production in the territory of the Olomouc Chamber of Trade and Industry had a total value of 1,232,700 gulden; of this, pure silk goods accounted for 280,000 gulden and semi-silk goods 952,700 gulden. See BUJATTI, F. *Die Geschichte*, pp. 141–142, 144–145.

104 ŠEBEK, Lumír. *Možnosti dalšího využití hedvábnického sortimentu na stávajících tryskových vodních a pneumatických tkacích strojích*. Master's thesis. Liberec, 1987, pp. 7–8.

SILK PRODUCTS

Silk fabrics are made either from natural silk or artificial (chemically produced) silk or staple fibres. The resulting fabric must have properties resembling those of natural silk.¹⁰⁵ Silk-makers in the Šumperk and Jeseník regions (and neighbouring regions) produced silk and semi-silk fabrics for home furnishings (Carl Giani Jr.), clothing and shawls, scarves, dresses, coats, suits, brocade (for the Church or for traditional folk costumes – the Flemmisch company in Rýmařov), damask, neck-ties (Felix Reiterer's Söhne, Friedrich Déri), flags and banners, garment linings, umbrellas and parachutes (e.g. Hermann Schefter and Gebrüder Schiel during the Second World War). The fabrics were single-coloured, multi-coloured and printed, and different weaving processes produced smooth cloth, dobby cloth or Jacquard cloth. The local mills produced light fabrics (up to 80 g/m²), medium-weight fabrics (80–160 g/m²), and heavy fabrics (over 160 g/m²).¹⁰⁶

Neck-ties were an important product of North Moravian weaving mills during the pre-war era. In the 1950s, tie production was concentrated at the national corporations Brokát (the Rýmařov 1 plant in Rýžoviště) and Atlas Zábřeh (the Králíky plant). With their complex patterns and weaves, the ties required special Jacquard looms and card machines.¹⁰⁷

Among the unique products made in the region were shawls known as African shawls, which the Schiel Brothers in Rýmařov began making under the registered trademark "Registrot". After the Second World War, production of these shawls continued as part of the Brokát national corporation (established on 1 October 1949), which later became Hedva (1965); the corporation made these shawls at its factories in Šumperk and Vítkov, and they were finished at the Zábřeh plant. They were large shawls featuring intricate patterns, made on Jacquard looms, and their main customer group consisted of women in Ghana.¹⁰⁸

After the Second World War, production of silk fabric for parachutes was concentrated at Spojené závody textilní (United Textile Factories) in Moravská Třebová, which later became the national corporation Hedva. The corporation continued to develop this particular type of fabric.

SURFACE FINISHING

MECHANICAL FINISHING

Smooth silk fabrics could be ironed (at low temperatures) and calendered; this created a shiny or matte surface. Crepe was made by shrinking fabric with steam on a stretching frame, giving it a characteristic grainy surface. Taffeta was produced by starching the fabric and letting it shrink naturally, then ironing it to produce a smooth, shiny surface.

CHEMICAL FINISHING

Chemical agents were used to achieve desirable properties, so the cloth would be resistant to creasing, shrinkage, stiffness or surface water. The cloqué method was used to produce a cloth with a puckered, quilted appearance.¹⁰⁹

105 PASTORKOVÁ, Martina. *Odbytová činnost v podmínkách n. p. HEDVA Moravská Třebová*. Master's thesis. Liberec 1985.

106 POSPÍŠIL, Z. et al. *Příručka*, p. 681.

107 JEŘÁBEK, J. *Historie a současnost*, pp. 58–61.

108 *Ibid.*, pp. 62–63.

109 KOLÁŘ, J. – NAVRÁTIL, J. *Textilní zbožíznalství*, pp. 254–255.

SUBSTITUTES FOR NATURAL SILK

Attempts to find an adequate substitute for expensive silk fibres date back to the 17th century, when the first chemical experiments were conducted as part of efforts to develop a fabric with similar properties to silk. However, it was not until 1887 that the French chemist Hilaire de Chardonnet developed an artificial silk made from nitrate cotton. It was produced from waste cotton using a wet process of pulp treatment, like other polymer fabrics (viscose and acetate).¹¹⁰ The fibres are very similar in appearance to natural silk.

During the 20th century, substitutes for natural silk included viscose silk, and later acetate silk. With the development of chemical fibre production, synthetic fibres such as polyamide and polyester were also used in place of silk. The production of silk substitutes grew throughout the first half of the 20th century. For example, in 1913, around 12,000 tonnes of “artificial silk” (which at the time was a designation for all silk substitutes) were produced worldwide; in 1930 the production was 200,000 tonnes, and in 1938 it was 450,000 tonnes.¹¹¹ Artificial silk production in the Šumperk region was introduced in the 1930s by Norbert Langer & Söhne.¹¹²

110 Nitrate silk is almost obsolete nowadays, as it is very impractical, being highly combustible. This is because it is made by dissolving cotton waste in nitric and sulphuric acid to produce nitrocellulose, which is then dissolved in methyl alcohol and ether to create a spinnable solution.

111 SCHLEICH, Pavel. *Umělé hedvábí a buničitá vlna. Suroviny nové textilní epochy*. Praha 1939, p. 14.

112 FEDERMANN, E. *Die Leinen*, pp. 413–414.



Šumperk, Mechanical linen
spinning mill in Šumperk /
Ed. Oberleithner's Söhne
mechanical weaving mill.
Photograph by Viktor
Mácha, 2020.

HISTORICAL DEVELOPMENT OF TEXTILE INDUSTRY BUILDINGS

WEAVERS' WORKSHOPS (MANUFACTORIES)

The first significant weaving workshop (manufactory) in Šumperk was run by Franz and Karl Wagner, who were weavers and linen merchants. In 1796 they opened a linen shop, and they later acquired buildings and a mill-race in Šumperk that had previously been used for wool production before the woollen industry entered a period of crisis. They used the site for a linen weaving and finishing shop. Although it is likely that the Klapperoth manufactory was located nearby, the only available information concerns the ground plans of the buildings. As in many other cases, we have no information about the buildings' appearance.

One manufactory that has partially survived is a site in Šumperk that was established in the mid-1880s by Johann Ernst Klapperoth to produce corduroy. The basis for the manufactory was a pair of buildings (nos. 70 and 72), plus adjacent land and allotments, located on the northern edge of the town. All stages of the production process were concentrated together at this one site: there were workshops for spinning, weaving, cutting, dyeing, finishing (dressing) and bleaching.¹

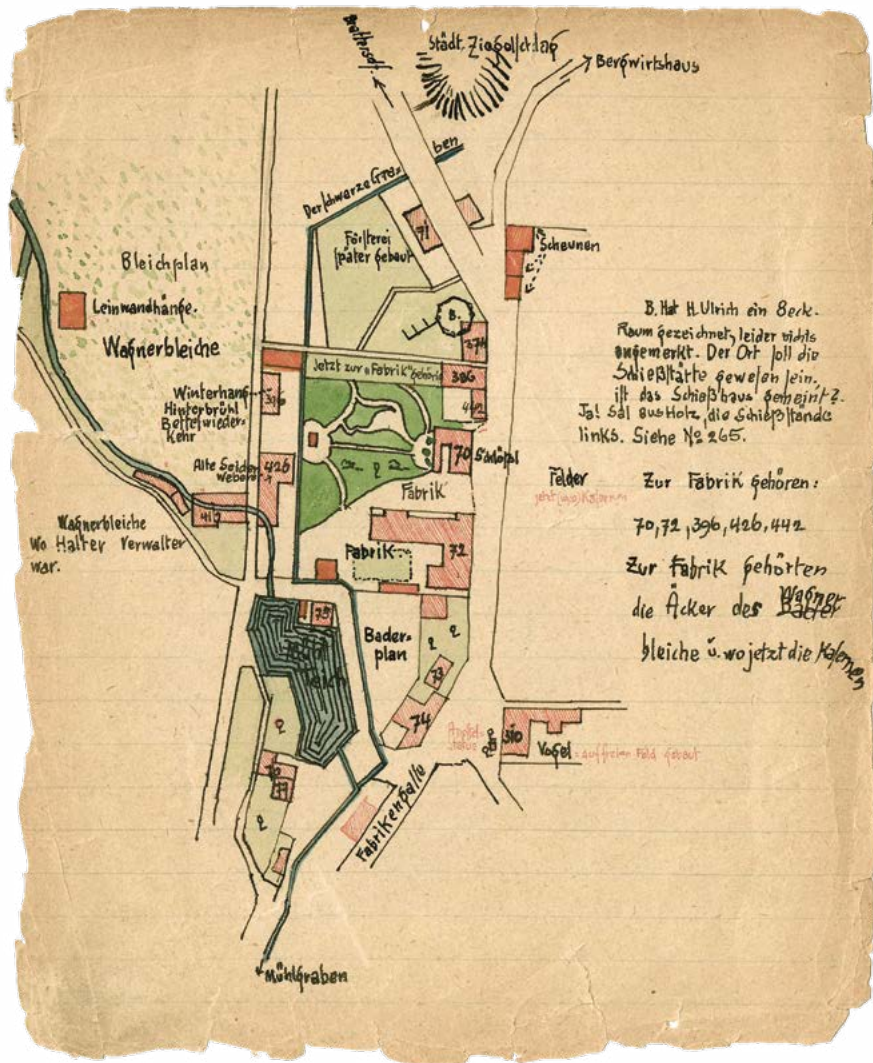
Although it is not clear what the site looked like in its earliest phase (at the end of the 18th century), plans for structural alterations and surviving photographs enable us to reconstruct its appearance during the first half of the 19th century. By that time, the two original buildings (nos. 70 and 72) were no longer used for production, but for accommodation purposes, and the rear part of the site was used by Friedrich Ulrich for producing and finishing linen cloth. Building no. 426 was converted into a mangling shop (with a horse-drawn winch, known as a gin), and building no. 396 was used as accommodation and as a drying house.² Two of the buildings from the manufactory are still standing: a Baroque building (no. 70) and the former drying house (no. 396). More information is given in the catalogue of buildings and sites, including a drawing reconstructing the former appearance.

Linen manufactories are represented by a structure built by E. Oberleithner on the site of the municipal hospital in the first half of the 19th century. The three-floor buildings with a Classicist façade contained an office, a sales outlet, and apparently also a hand weaving shop.³

1 DOHNAL, M. *Původní akumulace*, pp. 87–98.

2 SOkA Šumperk, fonds AM Šumperk, inv. no. 1241, 1226; AUGUSTINKOVÁ, Lucie. *Stavebně historický průzkum Klapperothovy manufaktury v Šumperku*. Ostrava 2018, pp. 19–20, 27–29, 33–37, 59; TEMPL, Ed. *Die Ulrich-Fabrik. Mein Heimatbote*, no. 26, 1950, pp. 11–12.

3 HARRER, Franz. *Dějiny města Šumperka*. Praha 2020, p. 308.



Šumperk, J. E. Klapperoth corduroy manufactory, plan of the manufactory and the surrounding area dating from the late 19th century. SOkA Šumperk, fonds Sbírka dokumentačního materiálu SOkA Šumperk (Collection of documentation material of the State District Archives Šumperk), Höningovy sešity (Höning notebooks).

SPINNING AND WEAVING MILLS

One of the key developments in the industrial revolution was the mechanization of the spinning process – a development which created a need for new types and configurations of industrial buildings. The transition to industrial production was thus accompanied by a fundamental shift in the types of buildings that were used to make textiles.

MULTI-STOREY FACTORY BUILDINGS

During the final decades of the 18th century, a particular type of factory building became established in common use: multi-storey buildings with brick outer walls and wooden interior structures (roof beams supported by rows of columns). However, these wooden structures were vulnerable to fire, so in the final years of the 18th century buildings were instead designed with cast iron columns supporting cast iron beams (which were more resistant to fire) and brick vaults. Later, cast iron was replaced by wrought iron, carbon steel, and rolled steel sections. Metal structural skeletons had greater load-bearing capacity, could span larger distances, and let in more light from outside as the brick walls could be lighter.⁴

Mechanized spinning mills were thus typically multi-storey buildings containing spacious halls that were able to house large numbers of identical or similar machines. They varied in the number of floors and tracts, as well as in the configuration of the systems used to distribute power to the machines.

The linen spinning mills in the Šumperk and Jeseník areas adopted these principles. They were typically multi-storey brick buildings with wooden or metal interior structures. This model was used for the mechanized linen spinning mills in Šumperk, Loučná nad Desenou, Hanušovice, Holba and Sudkov (all dating from the 1840s to the 1860s) as well as for the W. Brass cotton thread spinning mill in Zábřeh.

The same model was also used for the large mechanized weaving mill built by Regenhart & Raymann in Jeseník (1868), as well as the first silk weaving mills in Šumperk, which initially used only hand-operated looms.

The first mechanical spinning mills in the Šumperk and Jeseník regions were powered mainly by water wheels and water turbines, with the power distributed from the central source to the machines via a transmission system. It was only in the 1860s that boiler houses and engine houses were built for steam engines. Initially these engines were only used as a supplementary power source if water levels in the mill-race were low, but later (when continuous production was introduced) they became an essential component of the production process.⁵

THE MECHANICAL LINEN SPINNING MILL IN ŠUMPERK

This mechanical linen spinning mill, established at the beginning of the 1840s, was the first mill of its type to be built in Moravia. It is rare for us to have access to such a detailed description of a factory's operations as we do in this case. The articles published by B. K. Leitner in the journals *Zeitschrift des Gewerbewesen* and *Moravia* shortly after the mill was opened are primarily celebrations of this momentous entrepreneurial act. However, they also contain a detailed description of the factory, the production process, the organization of labour, and working conditions. Another source of

4 ŠENBERGER, Tomáš. Skelety industriálních budov. *Zprávy památkové péče*, 2013, no. 3, pp. 214–217.

5 DOHNAL, M. *Průmyslová revoluce*, pp. 48–49.

information can be found in the plans for the construction, which have partially survived; they are signed by the building contractor Carl Schwarz and dated 15 August 1840.⁶

The factory site measured 60 by 40 Austrian fathoms⁷ and was rectangular in shape, with its shorter side facing towards the town. The grand façade was axially symmetrical. In the centre of the site was a two-floor administrative building with offices and a yarn warehouse on the ground floor, and with apartments for the factory manager and accountant on the upper floor. This was flanked by two buildings at the corners of the site: at the left the spinning mill, and at the right an accommodation building for clerks. The site was entered via two gateways, one at either side of the central building. The gateway at the left gave access to the spinning mill and was guarded by a porter; the right gateway led to the factory yard and the accommodation facilities.

The machines for preparing and spinning the flax and hemp were concentrated in the main factory building, which was 9 Austrian fathoms in width and 60 fathoms in length. It was built of brick, with wooden internal structures and a hip roof. The façades were finished in smooth plasterwork, with cornices below and above the upper floor representing the only form of segmentation.⁸

In the centre of the main building (between the roving workshop and the fine yarn spinning workshop) was the turbine engine house. Leitner describes its contents as follows: *"The central point in the entire building is particularly noteworthy and exceptionally interesting – a huge iron drive wheel which so quickly, regularly and safely sets in motion all the beautiful machines, of which there are fifty in total, located in this tract which is 60.5 fathoms long. It is a so-called turbine or horizontal gyroscopic wheel, designed by the inventor of this concept, the ingenious French engineer Fourneyron from Paris..."*⁹ The turbine began production on 11 September 1842 with a total output of 35 horsepower, and despite the doubts that were expressed during its acquisition, it proved to be very effective. It was fed with water via a mill-race from the River Desná, and the water dropped onto the turbine from a height of 18 feet. The vertical axis of the turbine extended up to the upper floor, where it was attached to the main gear wheel of the transmission system that powered the individual machines in the spinning mill.

Above the turbine, below the roof of the building, was a large tank fed by pumps that took their power from the turbine. The water was distributed into the troughs of the fine spinning machines and to the steam boiler, and it could also be used to extinguish fires.

The steam boiler was located in a separate two-floor building in the middle of the factory yard, and it measured 14 by 7.33 fathoms. The upper floor was used for drying yarn in wet weather; in good weather the yarn was also dried outdoors. Abutting the boiler house was a gas house producing gas for the lighting systems in the working areas of the factory; the gas was distributed via a pipe concealed underground. There was also an underground pipe taking water from the tank to the boiler and then channelling the heated water back to the spinning mill for use in the spinning process.

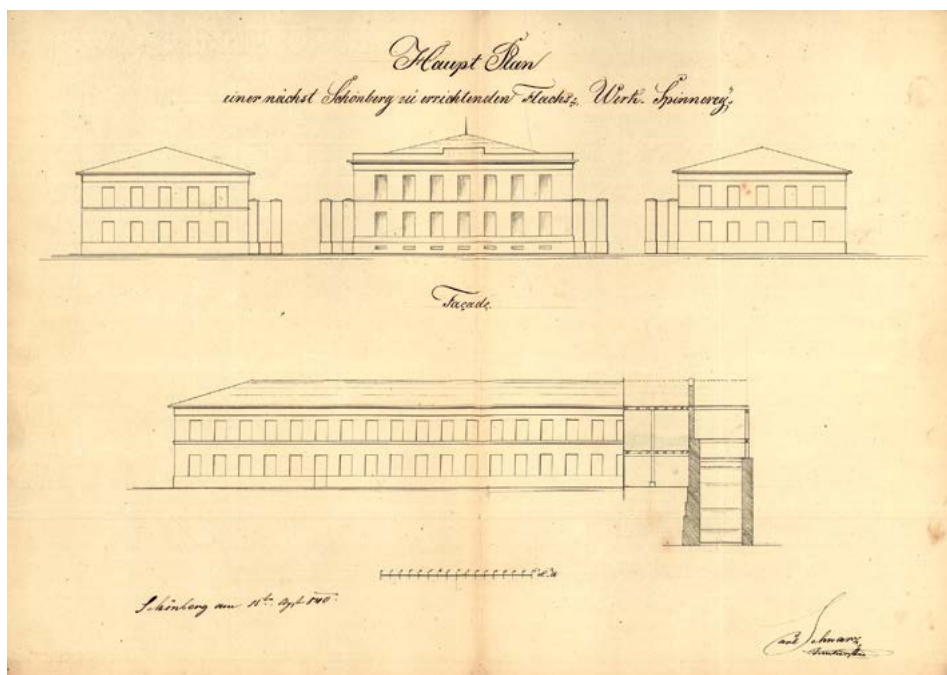
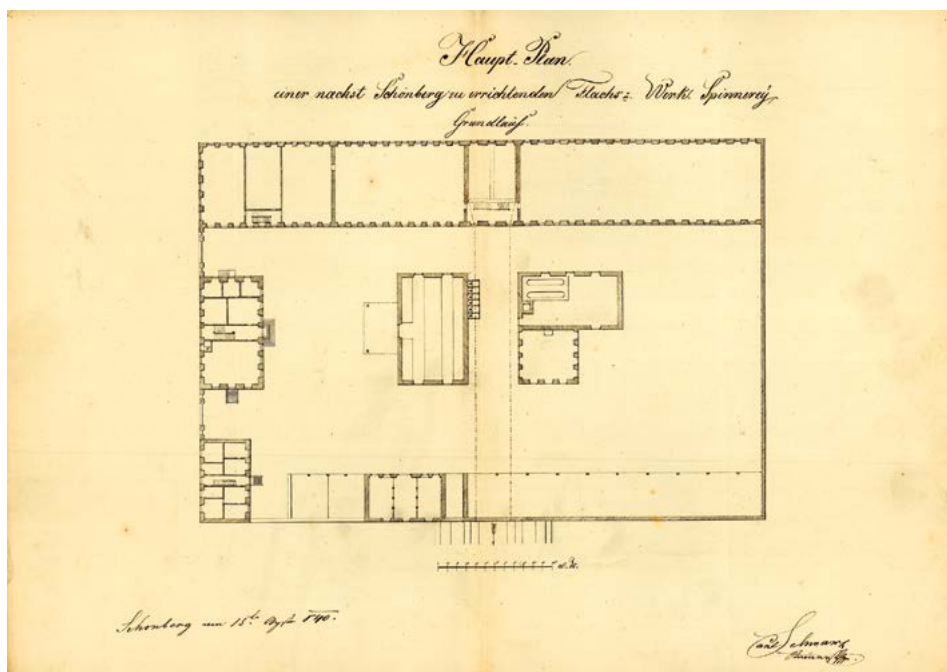
On the opposite side of the mill-race, near the administrative building and the entrance to the factory site, was a warehouse for raw flax, with iron gates and shuttered windows (in order to retain moisture inside the building); it measured 11.33 by 7.33 fathoms.

6 LEITNER, B. K. Die erste mechanische Flachsspinnerrei zu Schönberg in Mähren. *Zeitschrift des Gewerbewesen*, 1845, pp. 138–154; Ibid. LEITNER, B. R. Die erste mechanische Flachsspinnerei zu Schönberg in Mähren. *Moravia*, 6, no. 75, 18. 9. 1843, pp. 299–302; no. 76, 21. 9. 1843, pp. 303–305; no. 77, 25. 9. 1843, pp. 307–309; no. 78, 28. 9. 1843, pp. 311–312. SOKA Šumperk, fonds AM Šumperk, inv. no. 1227.

7 In German *Klafter*, a measurement of length, approx. 1.8 metres.

8 The location of the heckling shop remains unclear. – LEITNER, B. K. Die erste mechanische Flachsspinnerrei, pp. 138–154, here p. 141.

9 Ibid., pp. 138–154, here p. 146, translated from the German.



Šumperk, Mechanical linen spinning mill in Šumperk, construction plans, Carl Schwarz, 1840. SOkA Šumperk, fonds AM Šumperk, inv. č. 1227, kart. 278.



Loučná nad Desnou, mechanical linen and hemp spinning mill, situation in the 1850s, C. J. Rieden and E. W. Knippel. VMŠ (Šumperk Museum of Local History), inv. no. H22491.

There were also auxiliary buildings concentrated opposite the main factory building along the other long side of the site: abutting the clerks' accommodation block was a building containing a kitchen, a dining hall and a bunkhouse. Behind it was a locksmiths' workshop, a carpentry workshop, and an apartment for the guard.¹⁰

This detailed description has been given here in order to show which types of buildings were essential for the operation of a mechanized spinning mill, and how they were configured; more information is given in the catalogue of buildings and sites.

MECHANICAL LINEN SPINNING MILLS IN THE ŠUMPERK AND ZÁBŘEH REGIONS

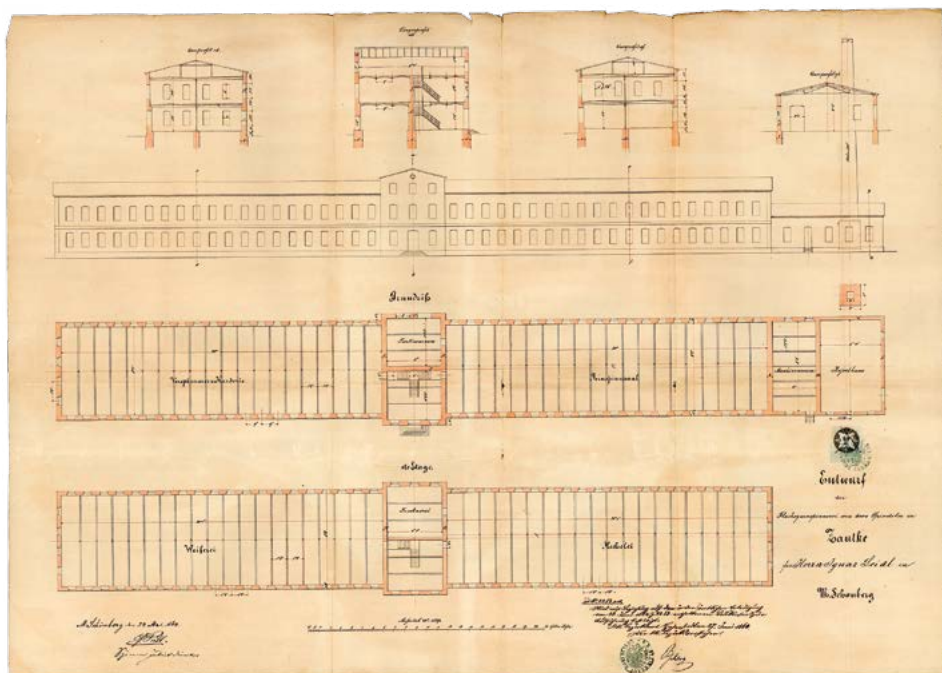
The large spinning mills in Loučná nad Desnou, Hanušovice and Sudkov applied the same principles as the mechanical spinning mill in Šumperk. Their production processes were concentrated within a single building, at the centre of which was the engine room for the turbine. The only deviation from this model was at the spinning mill in Holba, where the turbine was not positioned on the lateral axis of the building.

The spatial configuration of the buildings applied various types of axial symmetry, which were usually reflected on the main façade. While the factory yard of the first mechanized spinning mill contained the boiler house and gas house, the other spinning mills placed their boiler houses and gas houses at a greater distance from the main building, or located them away from the central factory yard, which could thus feature a park-type area abutting the administrative and accommodation buildings.

In the case of the flax and hemp spinning mill in Loučná nad Desnou (Wiesenberg), operational from 1852,¹¹ there were buildings positioned perpendicular to and protruding beyond the line of the mill building, which were used for storage and as apartments, and at the front of the site was an administrative and accommodation building. In the case of the Holba spinning mill (1866), the factory yard was directly visible, with the yard flanked by two identical buildings used for offices, apartments and storage; more information is given in the catalogue of buildings and sites.

¹⁰ Ibid.

¹¹ ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 1965, box 223; Bericht im Jahre 1853, p. 29.



Sudkov, I. Seidl & Comp. spinning mill, plans for the construction of a mechanized spinning mill, 1864. SOKA Šumperk, fonds OÚ Zábřeh (Zábřeh District Authority), inv. no. 906, box 171.

The spinning mill in Hanušovice, built in 1855–1857, underwent a more complex process of development.¹² The oldest depictions of the site show a two-floor mill building with ten window axes and single-floor wings; it was a modest predecessor to the building that was eventually constructed over several subsequent decades. A more recent oil painting (dating from 1867) shows a much longer building with a raised central risalit (avant-corps). This core element can also be easily identified in later depictions of the factory site. The spinning mill was extended prior to 1886; its length was doubled by adding an extension that was a mirror-image of the original volume, including a second risalit. Further alterations were made (including a second extension) at the beginning of the 20th century.¹³

The site of the Sudkov spinning mill (established in 1864) was configured with direct reference to the first spinning mill. The rectangular central space of the factory yard was flanked on the longer side by the main factory building and on the opposite site by an accommodation block and a flax warehouse. The frontage of the site consisted of the administrative building (in the central position), with the gable ends of the factory building and the warehouse occupying the corners of the site. The gas house formed a counterpart to the administrative building, situated on the opposite side of the yard. The boiler house abutted onto the long factory building in the rear part

¹² SPURNÝ, F. Moravolen Hanušovice, unpaginated.

¹³ VMŠ, inv. no. H17301-1, panoramic view of the factory, probably from the 1860s, Carl Thöndel, oil on canvas; MCPD (National Heritage Institute – Methodological Centre for Industrial Heritage, hereunder MCPD) archives, photographic reproduction of a panorama painted in 1867, N. (W.?) Malitzius, oil on canvas; VMŠ, inv. no. H6055, photograph from 1866; ZAO, Olomouc branch, fonds Sbírka firemních papírů (Collection of company papers), box 5; etc.



Hanušovice, the Oberleithner & Co. linen spinning mill, the oldest surviving depiction (probably from the 1860s), Carl Thöndel, oil on canvas. VMS (Šumperk Museum of Local History), inv. no. H17301.

Hanušovice, the Oberleithner & Co. linen spinning mill, panoramic view from 1867, N. (W.?) Malitzius, oil on canvas. Reproduction of a photograph from MCPD (National Heritage Institute – Methodological Centre for Industrial Heritage, hereunder MCPD) archives.



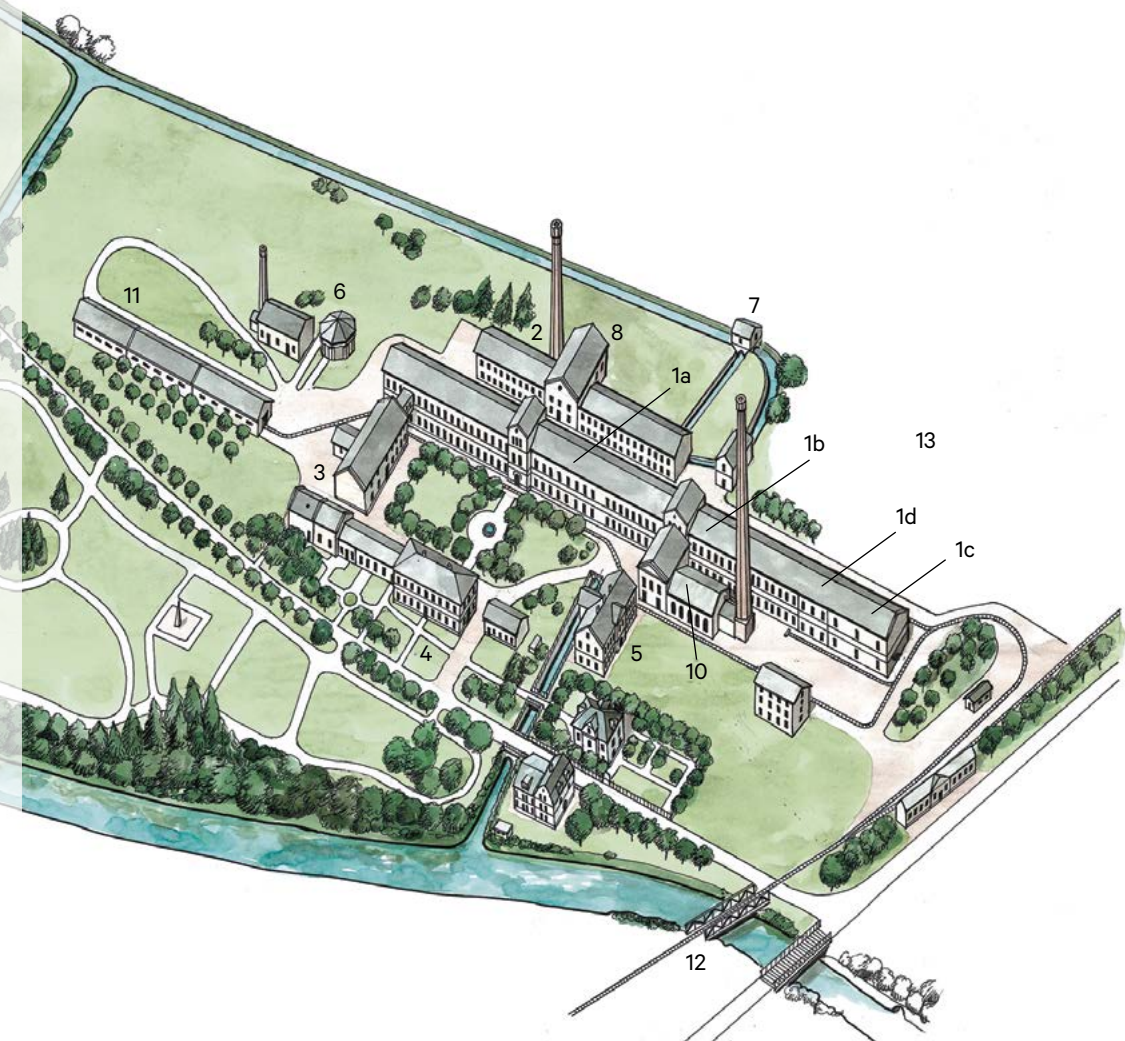
Hanušovice, the Oberleithner & Co. linen spinning mill, production continued uninterrupted until 2008. After closure, the mill was demolished. Photograph by Michaela Ryšková, 2006.





Hanušovice, the Oberleithner & Co. linen spinning mill, situation around 1910, view from the south-east; demolished. Drawing by Jaroslav Staněk, 2020.

Legend: 1 – spinning mill, 1a – original spinning mill (1855–1857; reconstructed and extended before 1867; 1909 addition of a carding shop, extended with a further 6 fields/window axes, Josef Prosinger, building contractor, Šumperk), 1b – extension of the spinning mill and roving workshop (before 1886; 1896 ceiling supports added), 1c – warehouse (before 1886), 1d – extension of the roving workshop with a further 3 fields/window axes, linking of the spinning mill and warehouse (1907); 2 – boiler house, chimney (1855–1857); 3 – warehouse, linked to the spinning mill via a bridge (1855–1857); 4 – administrative building (1855–1857); 5 – administrative building, changing rooms, evidently originally an accommodation building (1855–1857); 6 – gas house, gasometer, later a garage and oil store (before 1886); 7 – water channel, spillway, screen (before 1886); 8 – drying house (southern part before 1900, 1900 reconstruction, extension, Josef Prosinger, building contractor, Šumperk); 9 – winding shop, warehouse, workshop (before 1900; 1909 extended with a further 9 fields/window axes, Josef Prosinger, building contractor, Šumperk); 10 – new boiler house, steam engine house, chimney (before 1898); 11 – flax store; 12 – railway bridge for the factory siding (in 1902 the site was connected to the Olomouc–Glucholazy railway line); 13 – four blocks each with four apartments for mill employees (1908, F. Riesz, building contractor, Šumperk).



Jeseník, administrative and commercial centre of the Regenhart & Raymann company, located in a mechanical linen spinning mill dating from 1851–1854. The original building had a central risalit (avant-corps) on its street-facing side and a gable roof. SOKA Jeseník (Jeseník State District Archives, hereunder SOKA Jeseník), Sběrka obrazového a fotografického materiálu SOKA Jeseník (Collection of images and photographic materials of the Jeseník State District Archives), sign. 44, serial no. 111.



of the site. More information is given in the catalogue of buildings and sites, including a drawing that reconstructs the former appearance of the site.

The final site mentioned in this overview of linen spinning mills in the Šumperk region is a small mill established by Karl Bock. Unlike the mills described above, it was not built as part of a new factory complex; it used an existing building (a mill next to a pond), which later became part of the Karl Siegl sen. bleaching shop.¹⁴

The mills in Hanušovice and Sudkov underwent a more complex course of development. The buildings were extended (lengthened) and enlarged with the addition of new production areas. Especially the Sudkov site, where the mill began processing cotton as well as flax, underwent a major expansion with the construction of new buildings.¹⁵ However, these were always separate structures or smaller elements; there were no large-scale structural changes comparable with the type of work done in the 1840s–1860s.

THE MECHANICAL LINEN SPINNING MILL IN JESENÍK

A small spinning mill producing linen yarn, named “Raymann’s Flachsgarnspinnerey”, was built in Freiwalddau (Jeseník) in 1851–1854. Established by Josef and Adolf Raymann, it was the first mill of its type in Silesia. When opened, it had 2,000 spindles. Initially it was powered by a water wheel; the wheelhouse was located away from the main building.¹⁶ The mill was situated in a building that the Raymanns had bought in 1851, and it later became the administrative and commercial centre of the Regenhart & Raymann company.¹⁷ More information is given in the catalogue of buildings and sites.

14 SOKA Šumperk, fonds Sběrka dokumentačního materiálu Státního okresního archivu Šumperk (Collection of documentation material of the State District Archives Šumperk), Höningovy sešity (Höning notebooks).

15 A two-floor building from 1882 (extended in 1891) and a warehouse and powder tower dating from 1904. – SOKA Šumperk, fonds OÚ Zábřeh, inv. no. 906. More information is given in the catalogue of buildings and sites.

16 MYŠKA, M. Slezská lnářská firma, pp. 85–130, here pp. 101–102, 111; *Die Gross-Industrie Oesterreichs*, pp. 332–337, here p. 333. – The water wheel was replaced by a water turbine, and a steam engine is also mentioned.

17 SOKA Jeseník, fonds OÚ Jeseník, inv. no. 763, box 88; *Ibid.*, fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 88, box 6.

Zlaté Hory,
A. R. Heyek /
K. Kolesa thread
spinning mill, the
original factory
building with a more
recent three-floor
office building dating
from around 1919,
historical postcard.
Muzeum města Zlaté
Hory (Zlaté Hory
Municipal Museum).



THE MECHANICAL COTTON SPINNING MILL IN ZÁBŘEH

A large mill spinning cotton and linen thread was built by the Wilhelm Brass company in Zábřeh. It used steam power and had its own dyeing shop. Spinning mills nos. I–IV were built in 1878, 1879, 1883 and 1889 using similar structural principles as those used for the mechanical linen spinning mills in the Šumperk region. Mills I and II were almost identical; they were long four-floor buildings with brick outer walls. Mills III and IV had just two floors, and their layouts differed. Their structural skeletons consisted of cast iron columns with metal beams and vaulted ceilings.¹⁸ The ground plan of the spinning mill complex was roughly in the shape of a letter H: the long lines were the mills themselves, and the central connecting element was a boiler house. Between mills I and II was the engine house for the steam engine (used by both mills). Between mills III and IV there was a cleaning shop and a mixing shop; the mills each had their own engine house abutting them on the side facing the boiler house.¹⁹

THREAD SPINNING MILLS

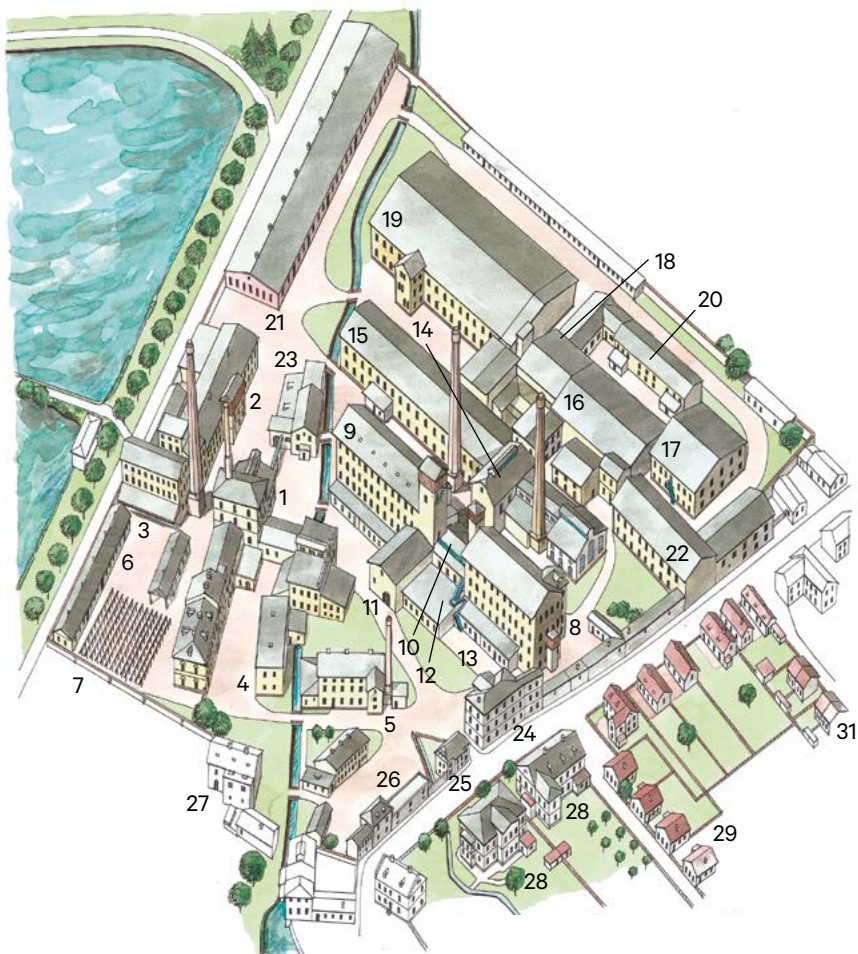
A two-floor building was also built as a thread spinning mill by A. R. Heyek in Zlaté Hory. The Heyek spinning mill (which produced linen thread) was powered by a water wheel. It was located in the northern part of a site which gradually expanded over the course of the years from its earliest phase of development in the first decades of the 20th century (see below).²⁰

Another thread spinning mill (with offices and a warehouse under the same roof) was built at the G. A. Buhl Sohn bleaching and dyeing shop in Staré Město. It had two floors and a ground plan in the shape of the letter L. It was designed by the Vodička Brothers (Bratři Vodičkové) building contractors of Uničov in 1927. Although the supporting structures were made of reinforced concrete, the main façade was loosely based on the traditionalist style of the older building of the

18 In the 1960s, the upper two floors of both spinning mills were removed, and the internal structural elements underwent substantial changes.

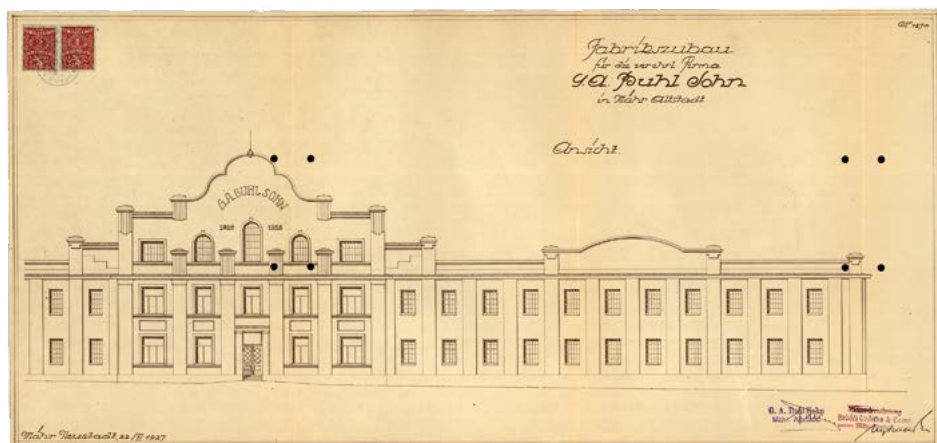
19 SOKA Šumperk, fonds OÚ Zábřeh, inv. no. 925; ZAO, Olomouc branch, fonds W. Brass, Zábřeh, inv. no. 114–116; FRANKÉ, Jaroslav. Bavlinařský závod Orban. In HUBÁLEK, Josef (ed.). *Zábřeh v minulosti i přítomnosti. Vlastivědný sborník*, Part I. Zábřeh 1959, pp. 24–31; *130 let závodu Perla 10 Zábřeh 1856–1986*. Ústí n. O. 1986.

20 The site was extended with the construction of a hall for the bleaching and dyeing shops, built to plans by Ferdinand Ulrich dated 1916. – All SOKA Jeseník, fonds OÚ Jeseník, inv. no. 764, box 99.



Zábřeh, W. Brass & Söhne, cotton dyeing shop and spinning mill, reconstruction of the situation in the 1920s/30s, view from the south-east. Drawing by Jaroslav Staněk, 2020.

Legend: DYEING SHOP (after 1961 also a plying shop, dyeing shop closed 1972, converted for production of non-woven textiles): 1 – yarn dyeing shop, drying shop, boiler house, from 1961 plying shop, winding shop; 2 – drying shop, laundry; 3 – multi-colour dyeing shop, later used for dyeing combed sliver, drying shop, after 1959 auxiliary premises; 4 – soaking shop, warehouse, laboratory, laundry; 5 – dyeing shop, finishing shop, warehouse; 6 – packing shop, warehouse; 7 – yarn drying shop; SPINNING MILL (demolished): 8 – spinning mill I (1878, 1962–1964 height reduced to two floors, reconstructed); 9 – spinning mill II (1879; 1903 water tower for fire sprinkler system; 1962–1964 height reduced to two floors, reconstructed); 10 – steam engine house, after 1918 also steam turbine hall, cleaning shop, blending shop; 11 – steam engine house; 12 – cleaning shop; 13 – cleaning shop, combing shop, roving mill; 14 – boiler hall, engine hall, chimney (1897 original boiler hall destroyed when the boiler exploded, new boiler hall built); 15 – thread mill, winding shop, later plying shop (1961–1962 reinforced concrete ceilings inserted, general reconstruction); 16 – spinning mill III (1883; 1888 structural alterations, Franz Böhm, building contractor, Zábřeh); 17 – extension of spinning mill III (1888, Franz Böhm, building contractor, Zábřeh; 1974–1977 general reconstruction); 18 – cleaning shop, blending shop (1927 extension, Karl Ilgner, building contractor, Zábřeh); 19 – spinning mill IV (1889; 1974–1977 general reconstruction); 20 – dust removal; 21 – cotton warehouse (1905 extension, Karl Ilgner, building contractor, Zábřeh); 22 – cotton warehouse (1883 extra floor added); 23 – locksmiths' shop, carpentry shop, forge; 24 – administrative and accommodation building (originally two floors); 25 – gatehouse; 26 – stables, garage; RESIDENTIAL BUILDINGS: 27 – residential building; 28 – multi-apartment clerks' accommodation blocks; 29 – six buildings for clerks/foremen; 30 – six buildings for manual workers.



Staré Město pod Sněžníkem, G. A. Buhl Sohn bleaching shop and thread spinning mill, extension of the bleaching shop to include offices, warehouses and a thread spinning mill, 1927, Bratři Vodičkové (Vodička Brothers). SOKA Šumperk, fonds OÚ Šumperk (Šumperk District Authority), inv. no. 486, box 92.

dyeing shop. The plasterwork façades were segmented by lesenes and cornices, the roofs had attics, and the gable parapet of the new building featured undulating lines.²¹

By contrast, the silk thread spinning mills built by Vinciguerra & Cie. and Amfalter in Šumperk adopted similar designs to those used for weaving mills, with their production areas concentrated in factory halls with sawtooth-type roofs (see below).²²

MECHANICAL WEAVING MILLS

The mechanization of linen spinning began to affect the Šumperk region in the early 1840s and the Jeseník region around 1850. However, mechanization of linen weaving operations did not arrive until somewhat later. The earliest mechanical weaving mills in the Jeseník region were established by the linen producer Regenhart & Raymann. No information is available on the appearance of the company's first mechanized weaving mill (1865), which had 15 looms.²³ However, a much larger weaving mill was built not long afterwards – and not only have the plans for the mill survived, so has the building itself. A two-floor brick structure with a gable roof, it has a T-shaped ground plan with its main tract positioned along a west–east axis and abutted by the perpendicular north wing. The beam ceilings were supported by cast iron columns. The machines were powered by a water wheel; the wheelhouse (and boiler room) were located in an extension to the east wing. The plans for the weaving mill (dating from 1868 and produced by the Carl A. Specker engineering company in Vienna) show not only the building itself, but also the drive system and the location of the looms and other machinery.²⁴

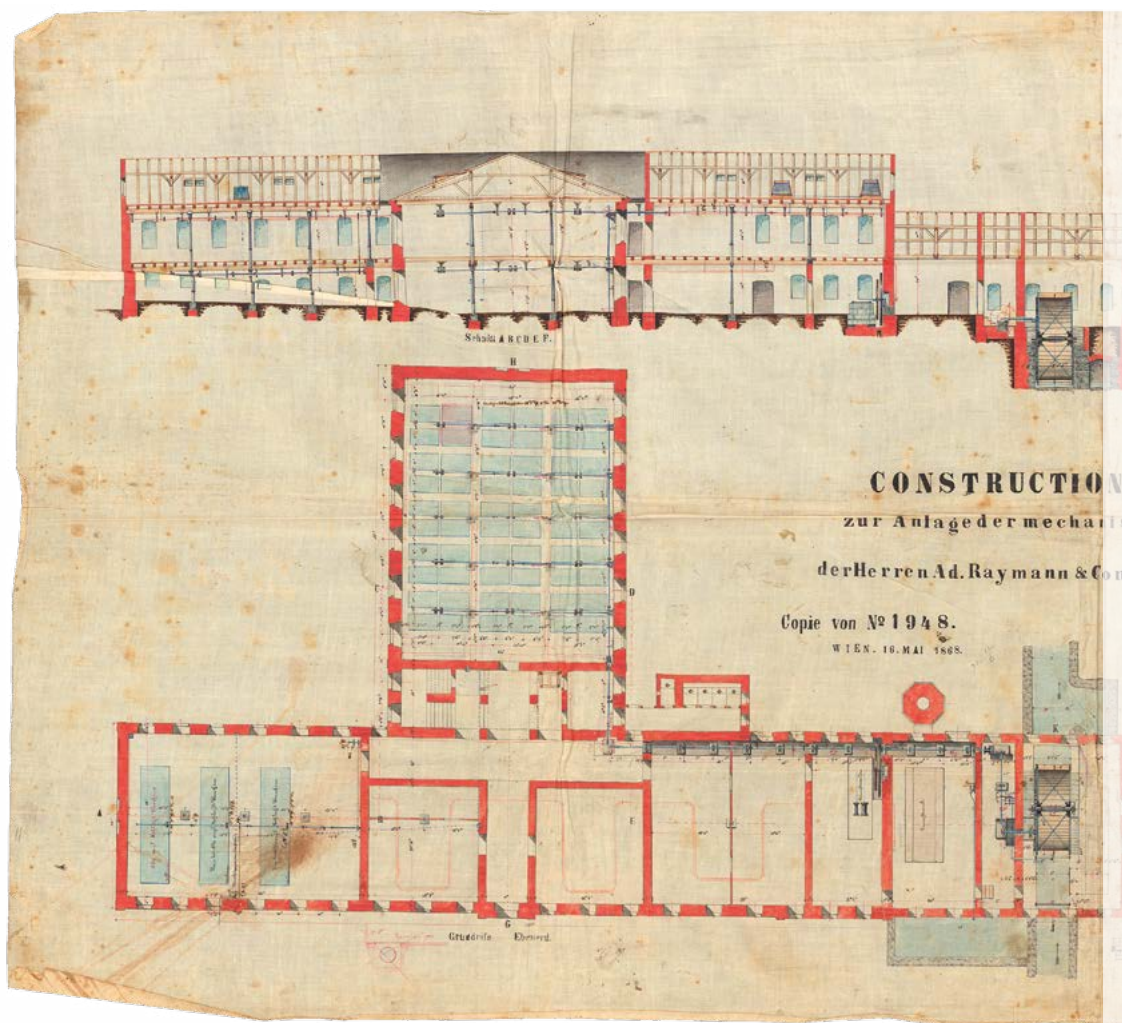
Another mechanical weaving mill, with three floors, was opened in Jeseník at the end of the 1860s and the beginning of the 1870s by the Augustin Küfferle company. It was not built for textile

²¹ SOKA Šumperk, fonds OÚ Šumperk, inv. no. 486.

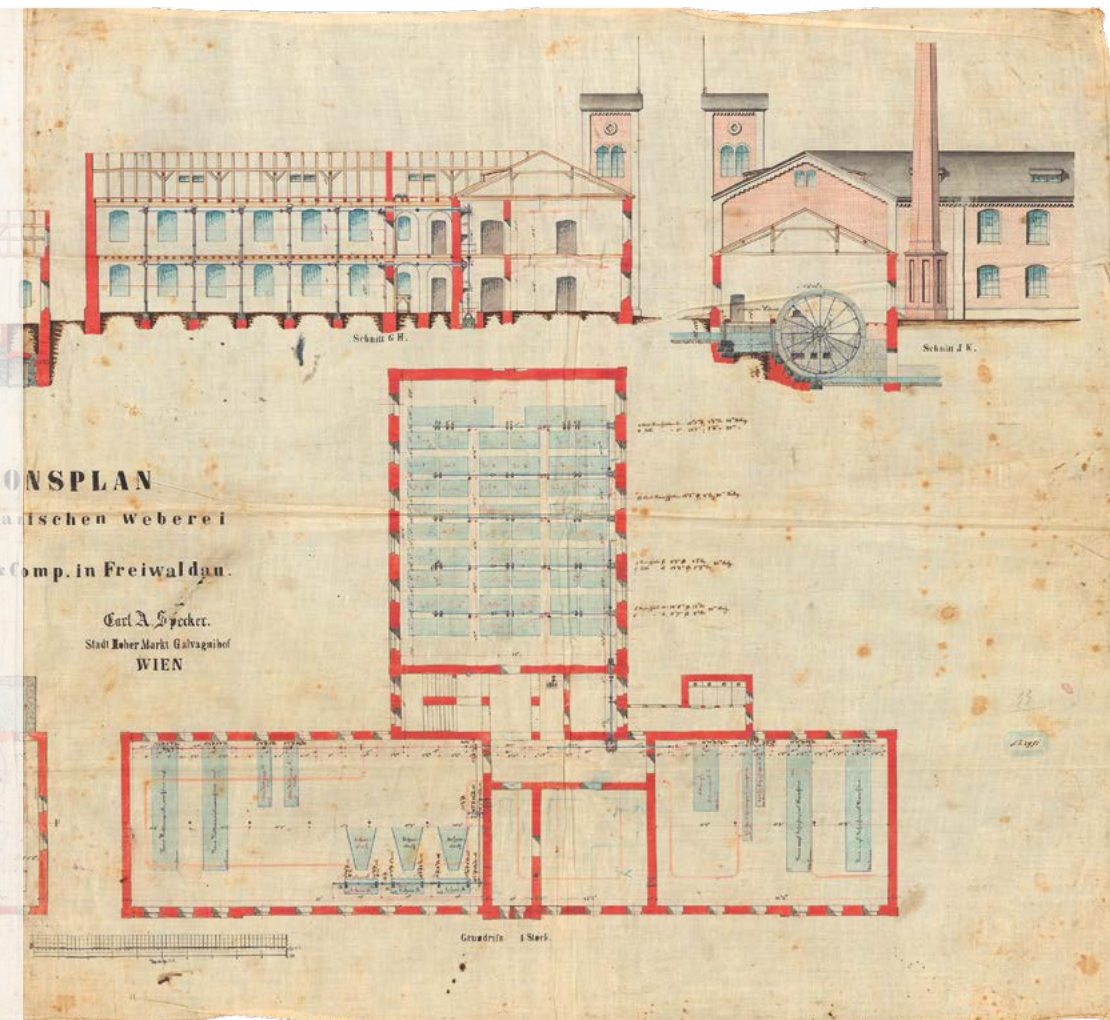
²² More information is given in the section on hall-type weaving mills.

²³ MYŠKA, M. Slezská lnářská firma, pp. 85–130, here p. 109.

²⁴ The plans were for around 120 looms. SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), Jeseník, inv. no. 217; C. A. Specker. Kraft- und Dampfmaschinen. [retrieved 1. 8. 2021]. Dampfmaschinen und Lokomotiven. Available at: http://www.albert-gieseler.de/dampf_de/firmen10/firmadet109468.shtml.



Jeseník, Regenhart & Raymann mechanical weaving mill, 1868, Carl A. Specker, Wien. SOkA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 217.



production; a former mill (belonging to Johann Putz) dating from the mid-19th century was adapted to serve its new purpose.²⁵

Another weaving mill created by converting an existing mill was the Schmeisser & Co. cotton goods weaving mill in Vitošov,²⁶ dating from 1893. The reconstruction and extensions were designed by the Zábřeh building contractor Karl Ilgner. The original mill was extended with the construction of a two-floor building with a metal structural skeleton, and this new building was also extended using the same structural design principle.²⁷

HAND WEAVING SHOPS

Weaving by hand retained an important role in the local textile industry even after the introduction of mechanical looms. Several hand weaving shops were built in the 1870s and 1880s as part of the main complex of the Regenhart & Raymann company, and the former Küfferle mechanical weaving mill (which the company acquired in 1872) was converted into a hand weaving shop. The company's hand weaving shops were two-floor structures with open brickwork façades, low gable roofs and open interior workspaces on each floor.²⁸

Hand looms were also used by linen and silk producers in Šumperk, and it was not until the beginning of the 20th century that mechanical weaving surpassed hand weaving in the region. Many Šumperk silk weaving mills began as two- or three-floor buildings, and it can be assumed that they contained mainly hand looms. It was only in the subsequent phases of development that companies built hall-type structures for mechanized weaving operations – as can be seen in the plans for the Felix Reiterer's Söhne weaving mill. At the beginning of the 1880s, the company built (in two phases) a two-floor building with a long rectangular ground plan, which had beam ceilings supported by wooden columns and contained spacious working areas on both floors. It was not until several years later (in 1886–1887) that a boiler house and a hall for a steam engine were built alongside a new factory.²⁹ Another structure that was evidently built for hand looms was the oldest building belonging to the Fr. Bujatti company – a two-floor building on the northern side of the company's site, which was later used as an office block.³⁰

Also built during the same period as the first Felix Reiterer's Söhne weaving mill was the largest multi-storey weaving mill in Šumperk, which belonged to the silk-maker Schmieder & Co. (more often known under the name of its successor company, Emanuel Fischmann's Neffe). It is a three-floor structure with a long rectangular ground plan (78 × 13 m), with ceiling beams supported by cast iron pillars; more details of both buildings are given in the catalogue of buildings and sites.³¹ Other companies that initially built two-floor mills were Carl Enzinger (1884, later Fr. Déri) and Hermann Schimetschek (later Willibald Lubich & Sohn).

AUXILIARY BUILDINGS

Although mechanical weaving mills were increasingly being built as hall-type structures (which contained not only the weaving shop, but also roving workshops and other production operations),

25 SOKA Jeseník, fonds OÚ Jeseník, inv. no. 763, box 91.

26 Now in the cadastral area of Hrabová u Dubicka.

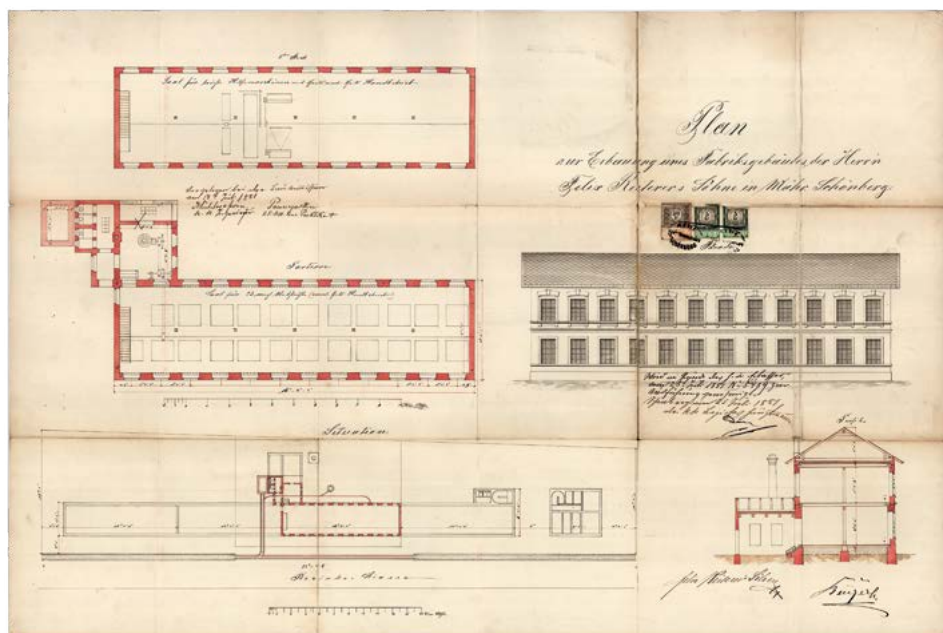
27 In 1899 a boiler house (with a steam engine room and a chimney) was built on the opposite side of the stream. – SOKA Šumperk, fonds OÚ Zábřeh, inv. no. 919, box 178.

28 SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 214; Ibid., fonds OÚ Jeseník, unprocessed additions, box 5, formerly inv. no. 973.

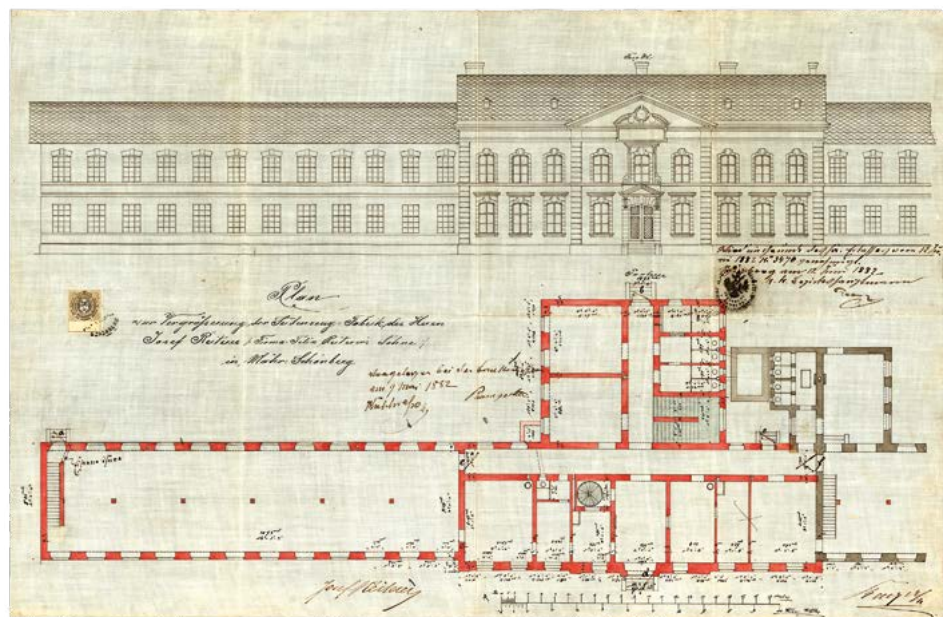
29 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 100.

30 BERAN, L. – VALCHÁŘOVÁ, V. – ZIKMUND, J. (eds.). *Industriální topografie*, p. 224.

31 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 108.



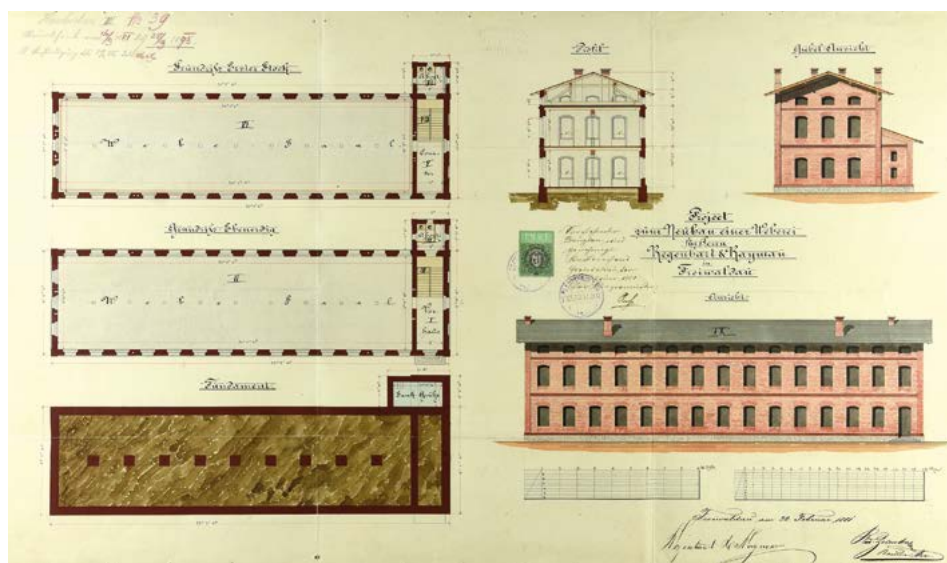
Šumperk, F. Reiterer's Söhne silk weaving mill, plans for the first factory building, 1881. SOKa Šumperk, fonds OÚ Šumperk (Šumperk District Authority), inv. no. 491, box 100.



Šumperk, F. Reiterer's Söhne silk weaving mill, plans for the extension of the first factory building, 1882. SOKa Šumperk, fonds OÚ Šumperk (Šumperk District Authority), inv. no. 491, box 100.



Jeseník, Regenhart & Raymann weaving mill, hand weaving shop no. III, later no. 39, after production was shut down the building was used as a canteen and dining hall. Photograph from the floods of 1903. SOKA Jeseník, Sbirka obrazového a fotografického materiálu (Collection of images and photographic materials), sign. 40, serial no. 5.



Jeseník, Regenhart & Raymann weaving mill, hand weaving shop no. III, later no. 39, 1881, building contractor Rudolf Zelenka, Jeseník. SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 214, box 1.

Zábřeh, H. Schefter
silk goods weaving
mill, new building with
a reinforced concrete
structural skeleton,
1930. ZAO, Olomouc
branch, fonds H.
Schefter, Zábřeh, inv.
no. 372.



in some places the various operations remained separate, and the mills were built as multi-storey structures.

Building work on a large mechanical weaving mill for the K. Siegl sen. company was launched in 1889 with the construction of a hall-type weaving mill with a two-floor building for the roving workshop. The evolution of the site culminated in 1912 with the construction of a four-floor building with a metal structural skeleton (more information is given in the catalogue of buildings and sites).

At the N. Langer weaving mill in Libina, a three-floor roving workshop was built in 1929–1930.³² It had a riveted metal structural skeleton, outer walls made of cement lime bricks, and a robust mansard roof. More information is given in the catalogue of buildings and sites.

The last weaving mill mentioned here is a three-floor building with a reinforced concrete structural skeleton, designed for the H. Schefter company by the Zábřeh building contractor Karl Ilgner in 1930. It features sober functionalist forms, representing a stark contrast with the older historicist façades of the boiler house and the weaving mill. Unfortunately a gable roof was added at a later date, and the colour scheme of the façade has been altered; these changes have detracted from the pure, elegant forms that originally characterized the building.³³

HALL-TYPE STRUCTURES

As mechanical weaving evolved, mechanized mills were increasingly built as hall-type structures on a single level, which were better able to withstand the vibrations caused by the action of the looms as the shuttles moved back and forth. The halls had sawtooth-shaped roofs with glass panels facing to the north; this also provided indirect light to the interiors.³⁴ At the beginning of the 20th century, metal structural skeletons and wooden structural elements were replaced by monolithic reinforced concrete skeletons.

32 SPURNÝ, F. Moravolen Libina, unpaginated.

33 SOKA Šumperk, fonds OÚ Zábřeh, inv. no. 925.

34 ŠTĚPÁNEK, Otakar. *Architektura průmyslových staveb*. Praha 1949, pp. 14–16.

From the 1880s onwards, the factory halls built in Šumperk, Jeseník and elsewhere mostly had sawtooth-type roofs, which (as in multi-storey buildings) had metal (sometimes wooden) beams that were supported by cast iron columns.

The first hall-type factory building in the region was probably a factory that made fezzes, located in Mikulovice near Jeseník. The original intention was to build a mechanized linen spinning mill, but these plans never became a reality and in November 1873 the site was bought by Antonio Volpini.³⁵ The plans for the fez factory were elaborated in 1874 by the Vienna engineering company V. Thumb & Co. The hall was to have a sawtooth roof with wooden ceiling beams supported by cast iron columns. The machines were to be powered by a water turbine. Adjacent to the main hall were a range of other buildings: a boiler house, a dyeing shop, a drying house, a mould-making shop, and others.³⁶

If sufficient space was available, halls represented a relatively easy way of expanding a production operation to cover a larger area. This is very clearly illustrated by the plans for the expansion of the H. Schefter company in Zábřeh, dating from the beginning of the 1930s. The site is divided into a northern part, with smaller buildings (offices, a garage/boiler house, and the engine house for the steam engine), and the remaining part of the site, which the plans show segmented into a grid pattern corresponding with the spans of the metal structural skeletons of the factory halls (each section, which corresponded with a single span, is known as a bay). The site was gradually developed starting from its northern part, at all times applying the original structural solution: a cast iron structural skeleton supporting the wooden beams of the sawtooth roofs. The development could potentially have produced a hall consisting of 24 bays (internal sections) of this type, though in reality only two-thirds of the originally planned bays were built.³⁷

MECHANICAL WEAVING MILLS PRODUCING SILK GOODS

The rise of the silk industry in Šumperk is associated with the use of mechanical looms.³⁸ The first mechanical weaving mills producing silk goods were built by the S. Trebitsch & Sohn and Fr. Bujatti companies. Both factories were similar in their layout and structural design. They were hall-type structures with metal roof girders and wooden beams supported by cast iron pillars. Whereas the Bujatti company adopted the widely used model of sawtooth-type roofs, S. Trebitsch & Sohn opted for a less common system of gable roofs. The street-facing façades were axially symmetrical and dominated by two-floor administrative or accommodation buildings protruding beyond the main factory hall (which in the case of the Bujatti mill had evidently contained hand-operated looms before the mechanical looms were installed), presenting an imposing face to the outside world.

Both sites underwent a series of developments and expansions. The Bujatti factory, built in the late 1870s and early 1880s, was enlarged twice during the 1880s. The evolution of the S.

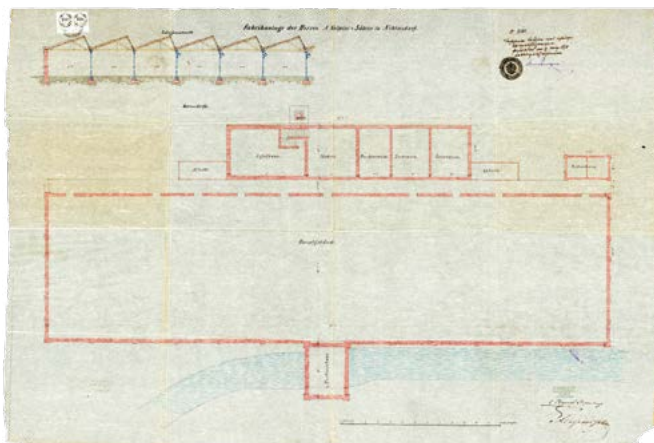
35 ZUBER, Rudolf. Lisovna nových hmot v Mikulovicích. *Vlastivědné zajímavosti*, no. 114. Šumperk 1974, unpaginated.

36 The company most frequently used the services of the building contractor Johann Gröger. The site was enlarged with the addition of new buildings and the extension of existing structures, especially in the 1880s and 90s. In 1903 a new wool store was designed. Other additions included bunkhouses for workers (designed in 1882 and 1897). The site underwent a number of alterations, and the original factory hall was reconstructed. Today it has a flat roof with a skylight along the longitudinal axis. – SOKA Jeseník, fonds OÚ Jeseník, inv. no. 764, box 97; ZAO, fonds Volpini, Mikulovice, inv. no. 1, 7–23, box 1.

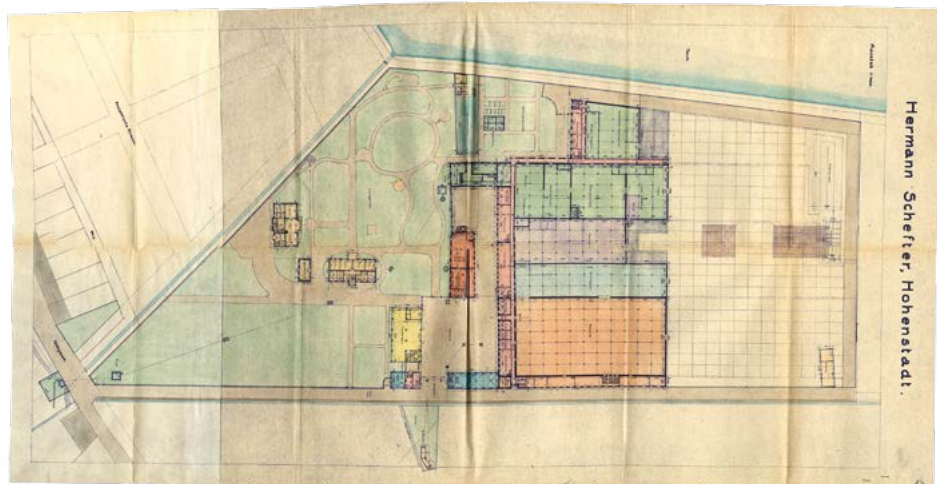
37 SOKA Šumperk, fonds OÚ Zábřeh (Zábřeh District Authority), inv. no. 925, box 186; ZAO, Olomouc branch, fonds H. Schefter, Zábřeh, inv. no. 262.

38 The rise of silk-making in the region at the end of the 1850s was associated with an economic crisis that pushed prices down, raised unemployment and worsened the position of the local hand weavers. DOHNAL, M. *Průmyslová revoluce*, pp. 66–67.

Mikulovice, Ant. Volpini de Maestri & Söhne fez factory, plans for the original factory building, 1874, Thumb & Co. engineering works, Vienna. SOKA Jeseník, fonds OÚ Jeseník (Jeseník District Authority), inv. no. 764, box 97.

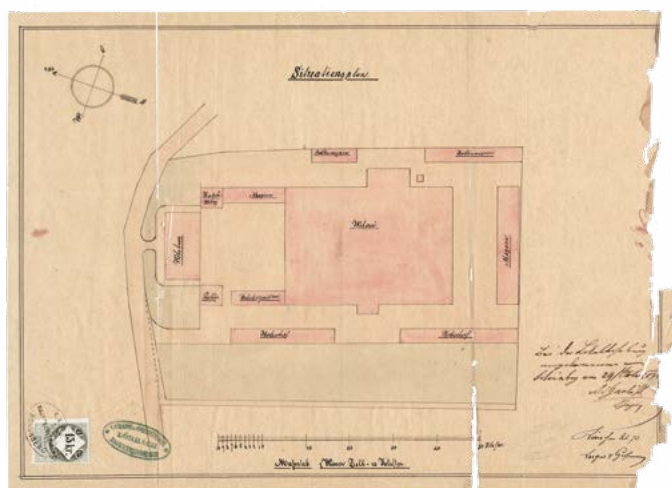


Zábřeh, H. Schefter silk goods factory, undated situation plan of the factory showing the area where the weaving mill hall could be extended, cca 1930. ZAO, Olomouc branch, fonds H. Schefter, Zábřeh, inv. no. 262.

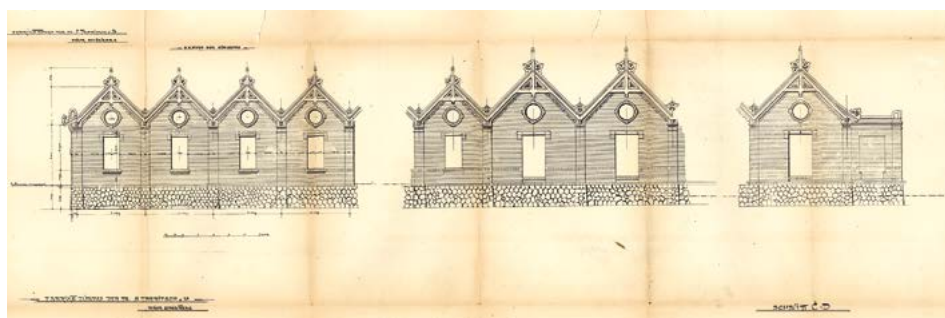
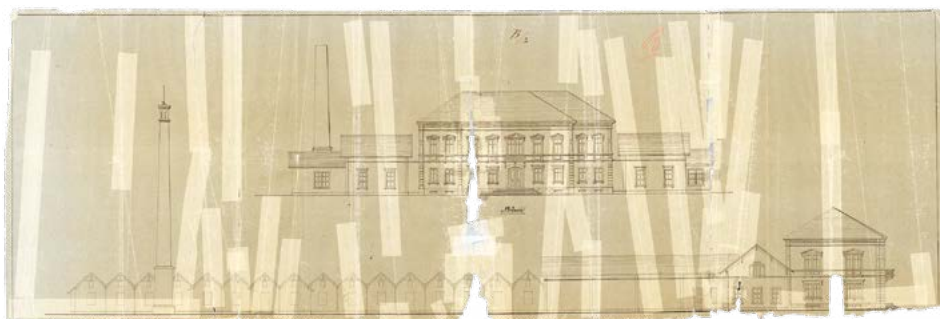


Trebitsch & Sohn site was a more complex process. The original plans (elaborated by the Largin & Grossmann building contractors from Lörrach in 1872) were only partially built: the hall covered only around one-half of the original planned area, and not all of the auxiliary structures were built. The site did not apply the original concept of an enclosed courtyard between the administrative/accommodation building and the weaving mill. The weaving mill was extended several times between 1879 and 1911. The extension of the hall on its western side during the first decade of the 20th century (planned in two phases by the Viennese architect Langhammer and the Fellner & Helmer studio) created a frontage of the hall facing onto Wichtlstrasse (today Žerotínova St.).³⁹ The façade consisted of lime sand bricks, and the roof had 25 gables; this was accentuated by a very artistic architectural style incorporating circular windows, pilasters, crenellations, sculptural wooden elements and ornamental wooden additions. In 2003, after production had ceased, the southern and eastern parts of the hall were demolished, and the destruction was completed in 2015–2018, when the remaining 15 bays (internal sections) were demolished. A building of high

³⁹ SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491.



Šumperk, S. Trebitsch & Sohn silk goods factory, plans for the first phase of construction, 1872. SOKA Šumperk, fonds OÚ Šumperk (Šumperk District Authority), inv. no. 491, box 109.



Šumperk, S. Trebitsch & Sohn silk goods factory, plans for the extension of the factory hall, 1906, Fellner & Helmer, detail of the façade. SOKA Šumperk, fonds OÚ Šumperk (Šumperk District Authority), inv. no. 491, box 108.

Šumperk, S. Trebitsch & Sohn silk goods factory, weaving mill, façade from 1906. Photograph by Michaela Ryšková, 2015.



architectural quality, and a surviving witness to the very beginnings of silk-making in Šumperk, was torn down to make way for a utilitarian supermarket. Part of the original factory site remains vacant.⁴⁰

The Felix Reiterer's Söhne company also built a mechanical weaving mill in a hall-type structure with sawtooth roofs. However, prior to this (at the beginning of the 1880s) the company had built a two-floor building with a long rectangular ground plan, which was evidently used solely for hand-operated looms. According to planning documentation, the mill was not mechanized until 1886–1887, when the new hall-type weaving mill was built. It had brick outer walls and a metal structural skeleton, and it used a design by the building contractor F. Riess (Riesz). The hall was progressively expanded between 1886 and 1902; more information is given in the catalogue of buildings and sites.

A similar approach was taken by other local silk-makers, C. Enzinger (later F. Déri) and H. Schimetschek⁴¹ (later W. Lubich & Sohn). The original two-floor factory of the C. Enzinger company was enlarged in 1890–1891 with a single-floor extension. The first steam engine house and boiler room were built (abutting the main factory) at this time; a second engine house was added at some point before 1914. In 1914 the Šumperk building contractor Anton Schwestka drew up plans for a factory hall consisting of four bays (internal sections) and a sawtooth roof.⁴² In 1895–1896, the H. Schimetschek expanded its original factory site with several new structures: a steam engine house, a boiler house, a chimney, and a factory hall with a sawtooth roof. The complex was further extended in 1915–1916 (by which time it belonged to W. Lubich & Sohn).⁴³ Another Šumperk silk-maker, A. Schimetschek,⁴⁴ built a factory hall with a five-part sawtooth roof on an approximately square ground plan to a 1901 design by the Viennese engineer Arnold Stössl and the Šumperk building contractor Franz Hloch.⁴⁵ The hall was later extended with the addition of a further two

40 One option under consideration is a residential development. See *Město od výstavby bytů v lokalitě Hedva nechce ustoupit*. Šumperk.info. Available at: <https://www.sumperk.info/zpravodajstvi/aktuality/mesto-od-vystavby-bytu-v-lokalite-hedva-nechce-ustoupit-5410/> [cit. 16. 10. 2021].

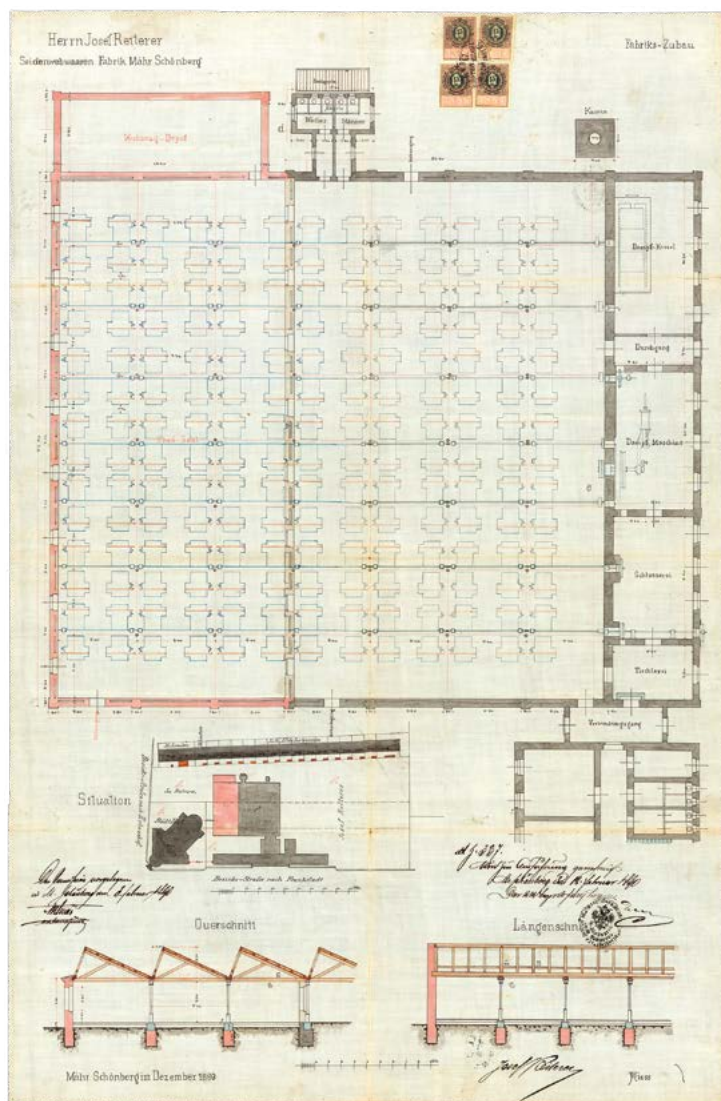
41 Šumperk, Anglická 4.

42 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 101; ZAO, Olomouc branch, fonds H. Schefter, Zábřeh, inv. no. 267–268, 308–311.

43 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 110.

44 Šumperk, Dolnostudénská 3.

45 The machines were powered by a diesel engine. A boiler house and chimney were later added. – SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 101.



Šumperk, F. Reiterer's Söhne silk weaving mill, plans for a mechanical weaving mill with an adjacent steam engine house, boiler house and chimney, F. Riess, 1886. SOkA Šumperk, fonds OÚ Šumperk (Šumperk District Authority), inv. no. 491, box 100.

bays; the project was drawn up by the Šumperk building contractors L. Prade and H. Habermann in 1929.⁴⁶

Hall-type weaving mills built around the turn of the 20th century include factories belonging to the Viennese firms H. Scheffter in Zábřeh and J. Adensamer in Zlaté Hory, which made not only silk goods, but also linen and cotton products.⁴⁷ A water-powered paper mill in Zlaté Hory was purchased by the latter company to be redeveloped into a weaving mill; it was soon expanded with the addition of a factory hall with a ten-sawtooth roof and a steam engine.⁴⁸ The H. Scheffter

46 Ibid., inv. no. 491, box 101.

47 After the First World War it focused entirely on silk, and after nationalization on linen.

48 In the second half of the 1960s the weaving mill was enlarged by the addition of a hall with a reinforced concrete structural skeleton and a flat roof. The factory was demolished in 2011. – Cadastral map, Zuckmantel, 1877.



Zlaté Hory, J. Adensamer & Co. silk goods factory, early 20th century. The left part of the site, bordering on the Zlatý Potok stream, consists of the buildings of a former paper mill. At the right is the weaving mill hall with the adjacent boiler house and chimney. Městské muzeum ve Zlatých Horách (Zlaté Hory Municipal Museum).

Zlaté Hory, J. Adensamer
& Co. silk goods factory /
Moravolen, the weaving mill
hall, demolished in 2011.
Photograph by Michaela
Ryšková, 2006.



Šumperk, E. Pohl / Giani silk goods factory, the original weaving mill building from the turn of the 20th century. VMŠ (Šumperk Museum of Local History), fotoarchiv (photo archives), serial no. 17327.



company in Zábřeh built its weaving mill on a greenfield site. The original hall, with seven bays (internal sections), was designed in 1901 by the Zábřeh-based building contractor Karl Ilgner, who also designed the subsequent extensions. As has been mentioned, the original plan was to progressively enlarge the area covered by the hall by the highly efficient concept of repeatedly building identical structures. Of a potential 24 bays, 16 were actually built, and the southern part of the complex became the site of smaller-scale auxiliary structures that did not fit into the original coherent concept.⁴⁹

One factory hall built by a silk-maker that is atypical of most other halls in the region was a small silk weaving mill built for the Elias Pohl company, whose first production site was a single-floor hall-type structure with a gable roof, built on a long rectangular ground plan in 1898 alongside an accommodation block. A year later the company built an engine house and a boiler house with a chimney, and in 1900–1901 it added a new factory hall with a sawtooth roof, which was enlarged in 1922 (by which time it belonged to the Carl Giani company).⁵⁰

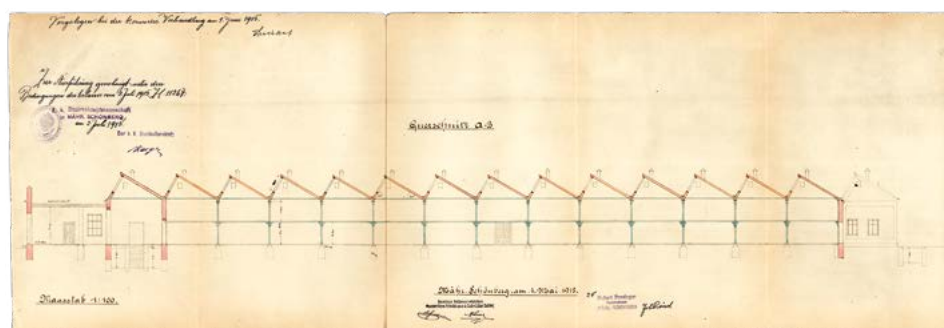
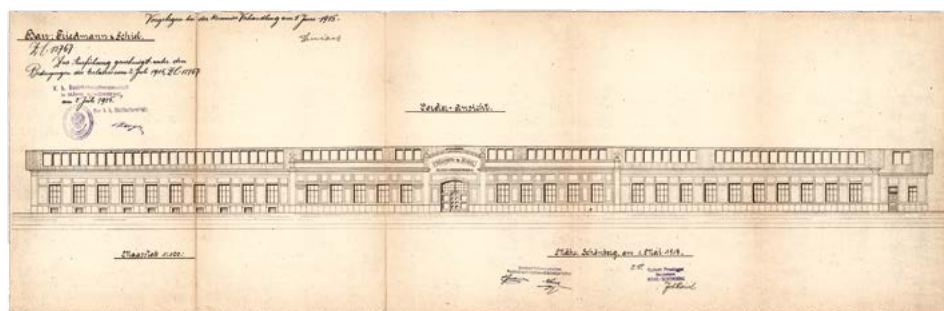
The last major building project of this type was a mechanical weaving mill built in 1915–1916 for M. Friedmann and Gebrüder Schiel on the southern side of Šumperk to a design by the building contractor Hubert Prosinger. This project revived a concept that had been used in the design of the town's first mechanized weaving mills, featuring an imposing façade and a centrally positioned administrative building. The weaving operation was housed in a factory hall with a sawtooth roof covering an area of almost 9,000 m². The impressive frontage comprised an administrative building in the central risalit (avant-corps) and the first bay (internal section) of the factory hall. There was a separate boiler house with a steam engine room and a generator producing electricity for the machines and the lighting systems. Only the manager's villa has survived from the original factory.⁵¹

Available at: https://ags.cuzk.cz/archiv/openmap.html?typ=kmevidm&idrastru=B2_a_14MS_3594-2A_17 [15. 6. 2021]; ČEP, Marian. Zlatohorská textilka. Zlaté Hory ve spirále času. Městské muzeum. Available at: <https://zlatehory.cz/zlatohorska-textilka/ms-55479/p1=55479&p3=-+46> [1. 8. 2021]; JOANIDIS, Sotiris. *Zlaté Hory v Jeseníkách. Letopisy*. Zlaté Hory 2004, p. 418.

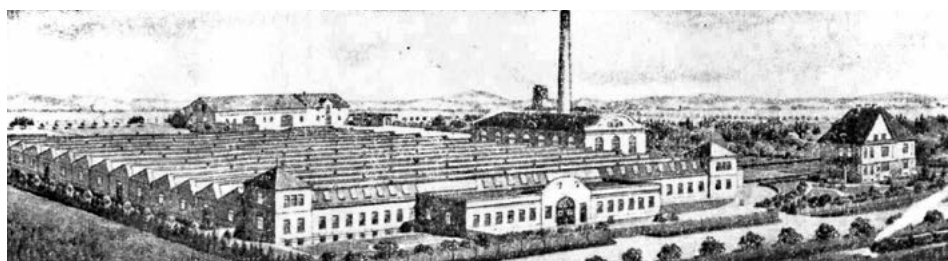
49 SOKA Šumperk, fonds OÚ Zábřeh, inv. no. 925, box 186; ZAO, Olomouc branch, fonds H. Schefter, Zábřeh, inv. no. 262.

50 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 97. The original engine house remained in use until 1910, when a new engine hall was built.

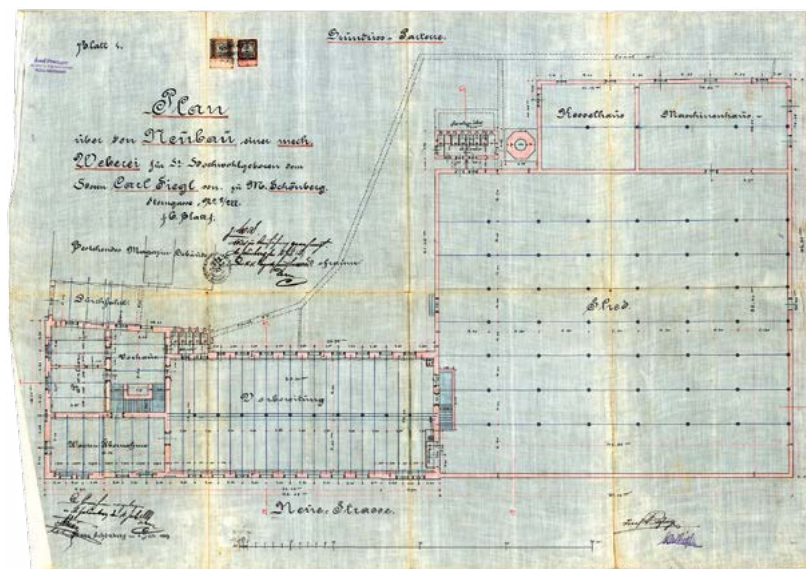
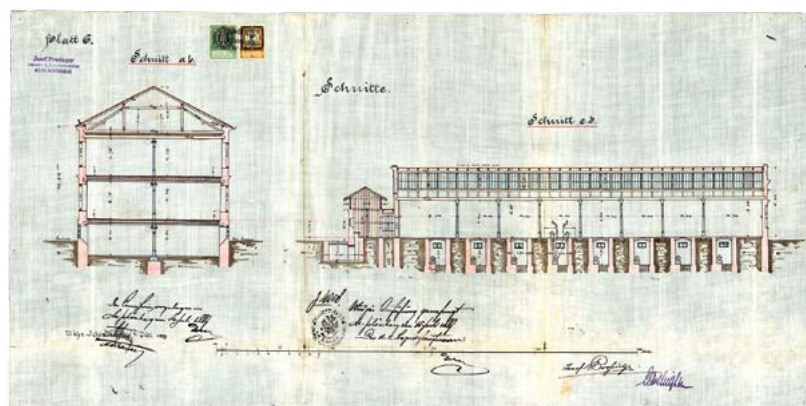
51 Ibid., inv. no. 491. The weaving mill and the boiler house/chimney were replaced with new structures for the national corporation Pramet.



Šumperk, M. Friedmann & Gebrüder Schiel mechanical weaving mill, planning documentation, façade, Hubert Prosinger, 1915. SOKA Šumperk, fonds OÚ Šumperk (Šumperk District Authority), inv. no. 491, box 104.



Šumperk, M. Friedmann and Gebrüder Schiel, mechanical silk weaving mill. This image produced for the company shows the façade accentuated with corner towers, which do not feature in the original plans. VMŠ, Textile industry various, collection of photographs, serial no. 392/80.



Šumperk, K. Siegl sen. weaving mill, plans for a mechanical weaving mill, Josef Prosinger, 1889. SOKA Šumperk, fonds OÚ Šumperk (Šumperk District Authority), inv. no. 491, box 107.

MECHANICAL WEAVING MILLS PRODUCING LINEN AND COTTON GOODS

Linen producers first used hall-type structures for their weaving mills at the end of the 1880s, when factory halls were built for Karl Siegl sen. in Šumperk (the first mechanical weaving mill in the town)⁵² and for Regenhart & Raymann in Jeseník and Norbert Langer & Söhne in Libina.

The Karl Siegl sen. factory was built to an 1889 design by the Šumperk building contractor Josef Prosinger. One building (used for preparation and other auxiliary operations) had two floors plus a basement level and a hip roof. Adjacent to this was the weaving mill itself, a hall-type structure consisting of seven bays (internal sections) and a sawtooth roof. Both buildings had metal structural skeletons. The factory hall was twice extended southwards in the direction of Franz-Josef-Strasse (today M. R. Štefánika St.), and its street-facing façade was topped with an attic with ornamental vases and punctuated with pilasters, blank windows and two blank gateways with imposing portals.

The Norbert Langer & Söhne weaving mill in Libina was mechanized in the late 1880s and early 1890s. A factory hall with a sawtooth roof was built, abutted by a boiler house and a steam engine house.⁵³

During the same period, the oldest part of the Regenhart & Raymann weaving mill was built, including an adjacent steam engine house. The mill was built as a factory hall with a metal structural skeleton and a sawtooth-type roof. It was progressively expanded during the 1890s (growing to a total area of 6,000 m²); the last extension was based on plans from 1914.⁵⁴

In the subsequent years, several smaller weaving mills were built not only in Šumperk itself, but also in the surrounding area. In 1911, a hall-type weaving mill with an eight-part sawtooth roof and an architecturally designed façade was built for the Bischof & Jeržabek linen and damask goods factory to a design by Hubert Prosinger.⁵⁵ It is still standing, though the architectural detailing has been removed from the façade. The now-defunct Schay weaving mill was built near the Fr. Bujatti silk weaving mill to plans dating from 1911; it had a nine-part sawtooth roof and attic gables.⁵⁶

The expansion of mechanical weaving mills around the turn of the 20th century enabled companies to use monolithic reinforced concrete structural skeletons; these were first employed in the Šumperk and Jeseník regions in the first decade of the 20th century.⁵⁷ A list of buildings constructed to designs by Ed. Ast & Co. (specialists in designing and building reinforced concrete structures) includes five hall-type buildings in the region under investigation dating from the period 1904–1906 alone: in 1904 for Norbert Langer & Söhne in Deutsch Liebau (Německá Libina, now Libina, 2,000 m²), and in 1905 and 1906 for Ed. Oberleithner's Söhne in Šumperk (900 m² and 2,800 m², enlarged after 1939) and the Regenhart & Raymann weaving mill⁵⁸ (1,400 m², 4,400 m²). The Regenhart & Raymann weaving mill was subsequently enlarged on two more occasions

52 The first attempt to establish a mechanized linen weaving mill in Šumperk was a small operation owned by Karl Bock in the late 1860s. Bock's business was mainly based at a mill near a pond. It went into liquidation in 1870s. The first successful linen weaving mill in the region was the Oberleithner mill (1881), which initially had 24 mechanical looms (the company also had 40 looms in Dvorce). Oberleithner did not build a new factory, but instead used buildings that had been vacated by the mechanical linen spinning mill in Šumperk (see the catalogue of buildings and sites for more details). – DOHNAL, M. *Průmyslová revoluce*, pp. 70–73.

53 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 471; Ed. Ast & Co., *Ingenieure. Unternehmung für Betonbau, Betoneisenbau und Wasserkraftanlagen*, 1906, p. 19 (overview of structures built).

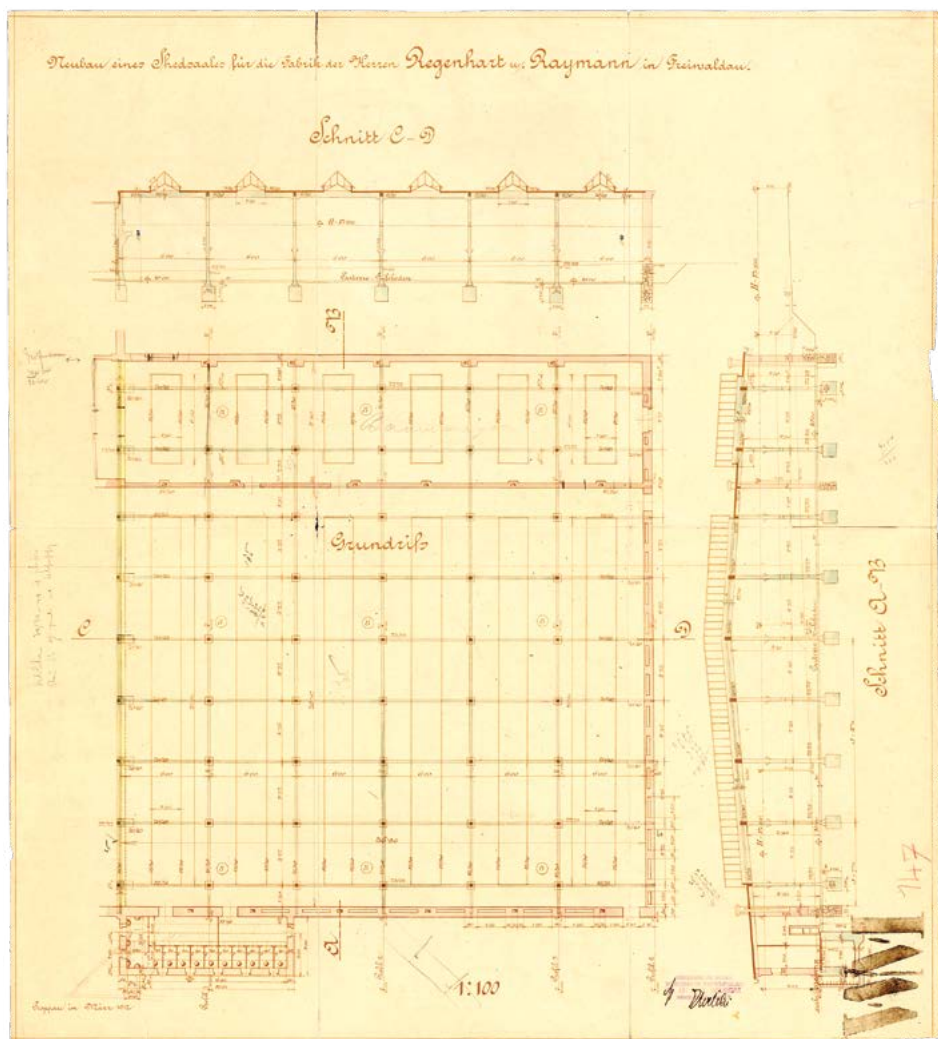
54 SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 218, 289; *Die Gross-Industrie Oesterreichs*, pp. 332–337.

55 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 96.

56 Ibid, fonds AM Šumperk.

57 ŠENBERGER, T. *Skelety industriálních budov*, pp. 214–217.

58 Ed. Ast & Co., *Ingenieure*, pp. 19–20.



Jeseník, Regenhart & Raymann weaving mill, plans for the mechanical weaving mill, Ed. Ast & Co., Wien, 1912. SOka Jeseník, fonds Regenhart & Raymann, Jeseník, inv. no. 220.

Šumperk,
Ed. Oberleithner's
Söhne weaving
mill. Photograph by
Viktor Mácha, 2020.



to designs by Ed. Ast & Co. (1907 and 1912), and the Opava (Troppau) branch of Ed. Ast & Co. also designed the central workshops at the company's weaving plant in 1910–1911. The Norbert Langer & Söhne weaving mill was expanded in 1912–1913 by the building contractor Zdenko Vodička.⁵⁹

THREAD SPINNING MILLS

Hall-type buildings with sawtooth roofs were used not only for weaving mills, but also for two silk thread spinning mills in the region: V. Vinciguerra & Cie. and Amfaldern in Šumperk. The smaller Amfaldern thread and yarn spinning mill operated in older premises until 1922, when a factory hall was built to a design by the building contractor Hubert Proisinger.⁶⁰

In 1910 V. Vinciguerra & Cie. purchased a small site in Šumperk which was later substantially enlarged to designs by the local building contractor Hubert Proisinger and the Viennese architect Bruno Bauer (1913, 1914, 1917). The final phase of the site's expansion, to a design by Bruno Bauer, included a hall with a reinforced concrete structural skeleton and a sawtooth roof as well as a new boiler house and an engine house for the steam engine; more information is given in the catalogue of buildings and sites.⁶¹

A unique example of a textile factory in the Šumperk region is a factory hall with a segmented roof and a lamellar ceiling structure built in the rear part of the V. Vinciguerra & Cie. thread spinning mill to a design by the Šumperk building contractors H. Popp and E. Ullrich (1930).⁶²

The A. R. Heyek / R. Kolesa thread spinning mill and dyeing shop in Zlaté Hory was also enlarged. The ceilings of the original two-floor factory building were replaced by reinforced concrete structures during the 1910s. The water wheel was replaced by a turbine engine house designed by

59 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 471; *Ed. Ast & Co., Ingenieure*, p. 19; SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 220, 223, 297; SOKA Šumperk, fonds OÚ Šumperk, inv. no. 471, box 80.

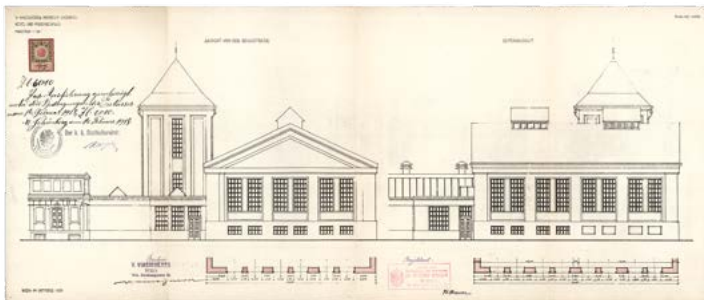
60 *Ibid.*, inv. no. 491, box 95.

61 *Ibid.*, inv. no. 491, box 97 a 109.

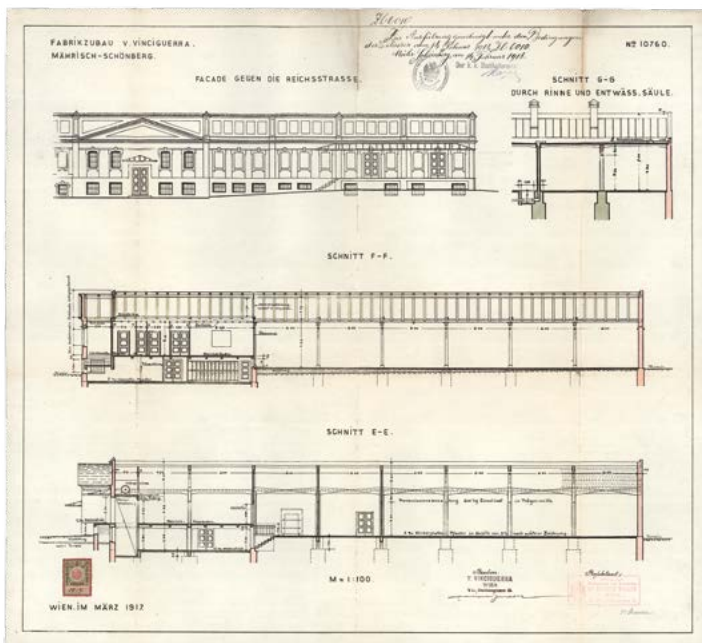
62 *Ibid.*



Šumperk,
V. Vinciguerra & Cie.
silk thread spinning
mill, the sawtooth-
roofed factory hall
from the final phase of
the site's development,
designed in 1917.
Photograph by
Michaela Ryšková,
2019.



Šumperk,
V. Vinciguerra & Cie.
silk thread spinning
mill, plans for the
extension of the hall,
the boiler house, water
tower and steam
engine house, Bruno
Bauer, 1917. SOKA
Šumperk, fonds OÚ
Šumperk (Šumperk
District Authority),
inv. no. 491, box 109.



Zábřeh, H. Schefter,
mechanical silk goods
weaving mill / Atlas.

Factory hall with a
large-span reinforced
concrete shell
structure, 1947–1950.

Photograph by
Vít Janků.



the Opava (Troppau) studio of Ed. Ast & Co. (the three-floor administrative building with a hip roof also dates from the same period), and a hall-type weaving mill with a reinforced concrete structural skeleton and a flat roof with skylights was later added, built to a 1916 design by Ferdinand Ulrich.⁶³

THE LARGE-SPAN HALL OF A SILK WEAVING MILL IN ZÁBŘEH

After the region's textile companies were nationalized following the Second World War, they mainly made do with the assets they already had. However, some modernization did occur, either in the form of new buildings or via major reconstructions of existing buildings. From the 1960s to the 1980s, projects of this type were implemented at the sites formerly owned by W. Brass in Zábřeh, J. Adensamer in Zlaté Hory, and Norbert Langer & Söhne in Oskava (where the company operated a finishing shop).

A project on a larger scale than these was the planned construction of a new hall designed in 1947 for the Zábřeh branch of the national corporation Atlas (formerly the H. Schefter silk goods factory). The factory was to be built near the existing weaving mill, using a prefabricated large-span reinforced concrete shell-type structure with two bays (internal sections) each measuring 40 × 140 metres, which would have given an internal area of 14,600 m². The plans were produced by the architectural studio ÚL, s. r. o., and the building contractor was the Josef Jelínek company (based in Prague and Beroun). The building work ran into problems, and eventually just eight rows of prefabricated shells were built, which were subsequently reinforced with a structure made of conjoined reinforced concrete girders on additional pillars. In 1950 construction work was halted, and the uncompleted building was used for warehouses and workshops.⁶⁴

63 The site was extended with the addition of a hall for a bleaching and dyeing shop, built to plans by Ferdinand Ulrich dating from 1916. – All SOKA Jeseník, fonds OÚ Jeseník, inv. no. 764, box 99.

64 The information given here consists of research findings by Vít Janků, which are presented in an unpublished study investigating the history and construction of the hall.



Leština, J. Drtíl's weaving shop in house no. 155. VMŠ (Šumperk Museum of Local History), inv. no. H35284.

SMALL-SCALE WEAVING WORKSHOPS

Besides the large factories built in the region, smaller-scale weaving shops were also built. These were both mechanical and hand weaving workshops, and often they were established in private residences. Usually, these operations were set up in relatively large rooms that offered adequate lighting. For example, in 1907–1908 a small mechanical weaving shop was set up at house no. 313 in Velké Losiny by the Viennese industrialist Edwin Godai. Its looms were powered by a 6-horsepower petrol engine. In 1926, Josef Drtíl of Leština set up a workshop producing linen and cotton goods, having relocated his business from Janoslavice. He initially worked in rented premises, but soon moved to his own newly built house (no. 155), where he had a workshop measuring 7 × 6.4 metres containing 6 mechanical looms powered by electrical motors.⁶⁵ Another weaving shop (with two looms) was run by Rudolf Wiesner at house no. 41 in Kamenná.⁶⁶ In the village of Plechy (now part of Nový Malín), house no. 17 (belonging to Adolf Berka) contained a hand weaving shop making silk goods, which operated as a branch of the Bludov-based company Rabl & Singer.⁶⁷ In Zábřeh, Josef Sláma ran a small weaving shop with twenty looms, which in the 1920s was located in a former granary at the Liechtenstein estate farm.⁶⁸

WEAVERS' HOUSING SCHEMES

Weaving by hand was an important segment of the local textile industry; hand weavers produced both linen and silk goods. For many years, the Regenhart & Raymann company in particular continued to use hand-operated looms to produce complex Jacquard patterns. There were several reasons for the persistence of hand weaving: cheap labour, a shortage of high-quality mechanically produced yarn (which was essential for mechanical weaving), and a lack of high-quality mechanical looms that could be used in weavers' homes. Hand weavers mainly produced table linen; in 1880 these goods made up one-third of Regenhart & Raymann's total sales, and the company opened an apprentice workshop to train new weavers. The company also had a large

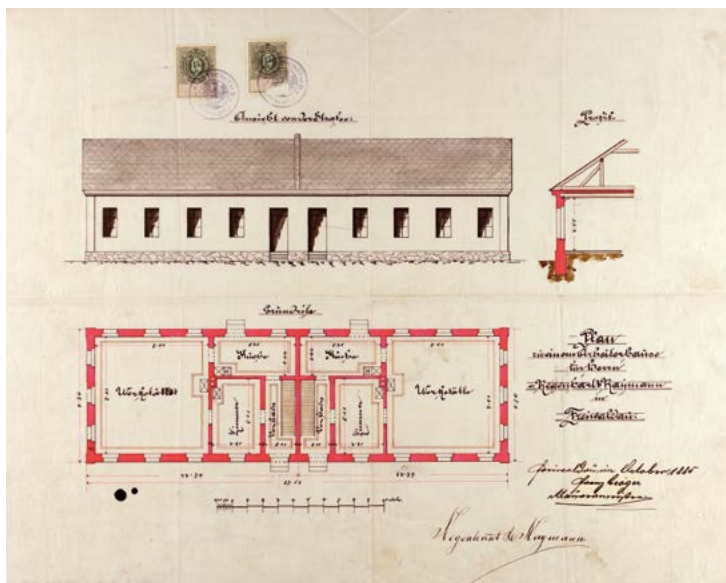
65 SOkA Šumperk, fonds OÚ Šumperk, inv. no. 872.

66 Ibid., inv. no. 858.

67 Ibid., inv. no. 443.

68 Ibid., fonds OÚ Zábřeh, inv. no. 925.

Jeseník, a house at the weavers' housing scheme including a workshop, an entrance hall and a living room, 1885, master builder Franz Gröger, 1885. inv. no. 249.



Jeseník, the Regenhart & Raymann hand weaving shop (previously the Augustin Küfferle mechanical weaving mill) and weavers' housing scheme, photograph probably from around 1920. SOKa Jeseník, Sbíрка obrazového a fotografického materiálu (Collection of images and photographic materials), sign. 44, serial no. 113.



number of hand-operated looms in rented apartments in Jeseník and the surrounding villages. Weavers were supplied with between two and four looms, and they had to recruit assistants to do journeywork. Because conditions were not ideal, the company built hand weaving shops and a weavers' housing scheme.⁶⁹ The scheme was apparently inspired by the linen production that was scattered across various locations on the Janovice estate, where in 1747–1756 several dozen cottages were built (partly of brick and partly of timber); these grew into separate communities around the village of Janovice, though most of them no longer exist.⁷⁰

69 *Die Gross-Industrie Oesterreichs*, pp. 332–337, here pp. 336–337. A detailed analysis of the persistence of hand weaving is given in MYŠKA, M. *Slezská Inářská firma*, pp. 85–130, here p. 105.

70 MAINUŠ, František. Janovické harrachovské plátenické podnikání v letech 1746–1756. Příspěvek k otázce charakteru našich manufaktur. *Slezský sborník*, 1956, 54, no. 4, pp. 468–495.

Along the road from Jeseník to Česká Ves (and the new road that had been built parallel to it), Regenhart & Raymann built nine single-floor houses each containing two apartments, and eight single-floor houses each with four apartments. The apartments were separate from each other by a fireproof wall, and they consisted of a spacious weaving shop and a smaller part where people lived. Each of the houses also had its own garden. More information is given in the catalogue of buildings and sites.⁷¹

BLEACHING SHOPS AND FINISHING SHOPS

The production of yarn and linen (whether at home, in manufactories or ultimately at industrial premises) was associated with the operations of bleaching shops, dyeing shops and finishing (dressing) shops. The first documented mention of bleaching shops (bleacheries) in Šumperk dates from 1601; there was one bleaching shop next to the River Desná and another in a suburb of the town. During the 17th and 18th centuries, local lords established bleacheries on their states: Velké Losiny, Wiesenberg (now Loučná nad Desnou), Kolštejn (Branná), and Ruda. At the beginning of the 19th century, new bleaching shops were opened by merchants, factors, and cloth producers.⁷²

The basis of early bleaching operations was a meadow on which the cloth or yarn was laid out, sprinkled with bleach and then dried in the sun (a process known as grass bleaching). The bleaching shop run by the Šumperk manufacturer Karl Wagner (built at Rapotín in conjunction with the lord of the Velké Losiny estate in 1802) is described by Miloň Dohnal on the basis of archive sources as follows: *“bleachery buildings were constructed; in one there were two furnaces, several boilers, a tower for drying cloth, a wooden shed and a soaking vat with three troughs.”*⁷³

More information on these “bleachery buildings” is provided by more recent plans for a bleachery (now defunct) on the Wiesenberg (Loučná nad Desnou) estate; the plans date from 1839 and were drawn up by Ludwig Partl. They show two structures: the bleaching shop itself, described as “highly professional” (*“Hochobrigkeitliches Bleichhaus”*), and an accommodation building with a store and a kitchen. The bleaching shop had two brick furnaces with chimneys protruding through the building’s roof. Two heated vats (known as boiler vats) were placed directly on the furnaces. A further five larger vats were positioned in a ring arrangement around the perimeter of the furnaces, mounted on a wooden platform. There were wooden boxes next to each furnace where firewood and other materials could be stored. In the middle of the building, between the furnaces, was a long wooden rack for yarn, and along the longer side of the building there was an unheated trough where yarn was washed. The building had an elongated ground plan, though it was not an entirely regular shape. The supporting structures were brick pillars, and the outer walls were timber-clad. The open hall-type space inside the building was open up to the roof, and the rising steam escaped via two open ventilation slots at the ridge of the hip roof directly above the furnaces. The situation plan also shows the land on which the bleaching shop was located. The buildings were positioned at the edge of a meadow which was segmented by parallel rows of vats. Water was channelled to the vats (and to the bleachery building) via a wooden pipe.⁷⁴

The bleaching shop in Víkýřovice had a very similar layout, structures and equipment; it was originally run as part of the local lord’s estate before being purchased and reconstructed by Ignaz

71 SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), Jeseník, inv. no. 249 – plans for mid-sized and large double-apartment buildings, 1884, 1885. – When production ceased, the workshops were divided into two smaller rooms and one apartment became two.

72 DOHNAL, M. *Průmyslová revoluce*, p. 29.

73 Ibid., p. 29.

74 ZAO, Olomouc branch, fonds Velkostatek Vízemberk (Wiesenberg estate), maps.



Šumperk, the Ed. Oberleithner's Söhne bleaching shop, photograph from 1886. VMŠ (Šumperk Museum of Local History), inv. no. H6055.

Seidl. It later became the site for the Frank Lane linen and damask goods factory. Plans from 1855 show both the meadow with the bleaching vats and the ground plans of the buildings: a brick house and the bleaching shop itself, with brick pillars and wooden outer walls. The bleachery had three brick furnaces with a ring of 12 boilers placed around their circumference, four unheated vats and a trough for soaking.⁷⁵

Other bleaching operations followed similar principles. For example, brick pillars and timber cladding were used at Anton Walters' small "quick bleachery" in Dolní Domašov (house no. 17), built in 1858. Another "quick bleachery" in Domašov, run by Josef Stein, was constructed entirely of wood.⁷⁶

The Josef Neupert & Co. bleachery and finishing shop in Bukovice (now part of Jeseník) was designed in 1852 as a pair of brick hall-type buildings with similar volumes and hip roofs; the bleaching shop building was identifiable from its ventilation slots at the top of the roof.⁷⁷

The bleaching shops on the Wiesenberg estate, as well as the bleacheries run by Ignaz Seidl (and others), operated using a combination of natural materials and chemicals, which began to be used from the 1810s onwards. However, grass bleaching remained the dominant method for many years. Even at the end of the 19th century, artists' depictions (and photographs) of bleacheries continued to show sheets of cloth laid out in the sun to bleach.

Most of the bleaching and finishing shops built in the Šumperk and Jeseník regions in the 19th century appear to have been practical, utilitarian structures without any architectural ambitions. The only case in which a bleaching shop appears to have been considered just as important as weaving manufactories and the first industrial factories is the bleachery belonging to Eduard Oberleithner in Šumperk. It was built in 1825–1827 as a modern facility using the latest methods, and even later it remained one of the company's most important buildings. Situated on a greenfield site to the south of the town, next to the mill-race and near the River Desná, the building features in numerous artists' depictions and photographs. It was a long structure of varying heights based on axial symmetry, with its main façade facing towards the town. The central part (with three floors) was evidently used as a drying house. It was flanked by two single-floor wings leading to taller buildings at the corners of the site, which were used for accommodation purposes (and probably also for drying). The production areas were located in the single-floor wings: on one side there was a water-powered mangle, and on the other side the bleaching shop itself (with a small

75 MZA, fonds Rodinný archiv rodiny Seidlový, Žďánice (Seidl family archive, Žďánice), inv. no. 702.

76 SOKA Jeseník, fonds OÚ Jeseník, inv. no. 763, box 91 and 94.

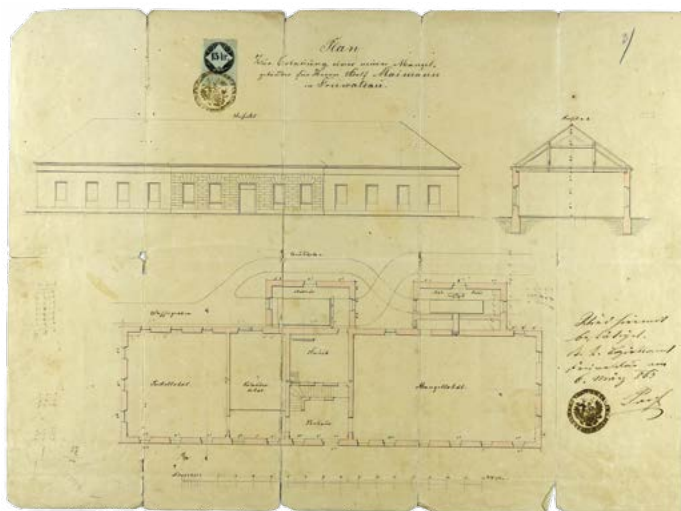
77 Ibid., inv. no. 763, box 92.



Jeseník, panorama of the town dating from 1830 and showing the original Josef Raymann bleachery which was built on the edge of the town, near a paper mill next to the Bělá River. It consisted of a three-floor building and a single-floor structure, a boiler house with a chimney and a wooden drying shop (in the left part of the foreground). Behind this, within the settlement of Dittrichstein, the image shows a mill which later became the basis for the Regenhart & Raymann bleaching shop no. II. VMJ (Jeseník Regional History Museum), panorama of the town, 1830, Titze, inv. no. H/JE5.300, accession no. 356/64.



Jeseník, Regenhart & Raymann bleaching shop no. I on a photograph of Jeseník taken at the beginning of the 20th century. VMJ (Jeseník Regional History Museum), inv. no. H/JE14.546, accession no. 20/02.



Jeseník, Adolf Raymann's bleaching shop, later bleaching shop no. I of Regenhart & Raymann, plans (1863) for a mangle powered by a water wheel, on the site of a former paper mill. SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 225.

dyeing shop), whose equipment was similar to the bleaching on the Wiesenberg estate. More information is given in the catalogue of buildings and sites.⁷⁸

Besides depicting cloth laid out in the sun to dry, 19th-century images of bleacheries also show the drying houses that were used when the weather was wet. A “tower for drying cloth” is mentioned in the above-cited description of the Loučná bleaching shop. The inside of the drying houses was open, with fixtures from which the cloth could be suspended. Summer drying houses were made of wood, winter drying houses were brick-built and heated. For example, Josef Raymann's first bleaching shop (founded in 1808) included a wooden drying house with four floors; it is depicted on a panorama of the town dating from 1830.⁷⁹ Another drying house was built in Oskava in 1860 for the Norbert Langer & Söhne bleachery. It is one of the few buildings related to the Šumperk region's textile industry that was listed as a heritage site, but in the 1960s it was demolished due to its poor technical condition; more information is given in the catalogue of buildings and sites.

During the second half of the 19th century, entrepreneurs ran bleaching shops rented from local lords as well as building their own bleaching operations. The bleaching shop built by Ed. Oberleithner's Söhne in Šumperk (which was enlarged and modernized progressively) remained an important part of the company's operations. There was also an older bleachery in Rapotín, the successor to the Wagner bleaching shop (1802), and a bleachery in Rejhotice (founded in 1812). Other important examples in the region included new bleacheries built by large local companies – K. Siegl sen. in Šumperk (established in the 1840s by converting a former paper mill) and Norbert Langer & Söhne in Oskava (the successor to an older bleaching shop run by the local estate). There were also large bleacheries operated by the F. Ulrich company in Rejhotice (part of Loučná nad Desnou), J. Ospald in Oskava, and G. Buhl in Staré Město.⁸⁰

The buildings at the bleaching shops remained sober and utilitarian. They took various forms as the sites evolved, mainly consisting of single-floor brick-built hall-type structures. The roofs

78 ZAO, Olomouc branch, fonds Ed. Oberleithner, Šumperk, inv. no. 160, undated plans for a bleachery. A more detailed description of the equipment at the bleaching shop is given in the catalogue of buildings and sites.

79 VMJ, panoramic view of the town, 1830, Titze, H8220b.

80 MZA, fonds Rodinný archiv rodiny Seidlový, Žďánice (Seidl family archive, Žďánice), inv. no. 702.



Oskava, the N. Langer & Söhne bleaching shop. The buildings were located in a valley along the banks of the River Oskava. The central feature in the postcard is the pair of drying towers: a heated winter drying tower and a wooden one used in summer. At the far right is the administrative and accommodation building with its hip roof, built in the mid-19th century. From the 1870s onwards, the site was developed further north, near the church. Historical photograph, Collection of Michaela Ryšková.

of the bleaching or dyeing shops typically featured ventilation slots at the top of the roof (or chimneys) which enabled steam to escape and ensured regular air flow. Other characteristic features included the tall summer and winter drying houses, as well as the chimneys. The steam boilers of the bleaching shops were used for heating, to supply hot water that was needed for the bleaching process, and to power steam engines.

We have a very detailed knowledge of the Ulrich bleachery in Rejhotice at the end of the 19th century, as the site was depicted in numerous photographs taken by the owner Gustav Ulrich (who was a keen amateur photographer). These include general views, photographs of the bleaching operation, as well as genre photographs showing everyday scenes that offer an insight not only into the bleaching shop itself, but also the lives and work of people there and in the vicinity. The bleachery was a cluster of single-floor brick buildings, some of them with sawtooth-type roofs, dominated by the winter drying tower and the chimney of the boiler house which abutted the tower. Some distance away was a separate summer drying house, accommodation buildings, and the owner's villa.⁸¹ Another bleachery for which we have photographic evidence is the Norbert Langer & Söhne bleaching shop in Oskava, which is depicted in photographs dating from the mid-1930s. More information is given in the catalogue of buildings and sites.⁸²

Adolf Raymann's original bleaching shop in Jeseník continued to operate as part of the Regenhart & Raymann company (bleaching shop no. I). During the 19th century it was expanded to include a

81 A set of glass negatives created by Gustav Ulrich at the turn of the 20th century. In the collection of the Rolleder museum association (Muzejní spolek Rolleder), Odry; ZAO, fonds J. Ospald, kniha 3 (book 3) – valuation of bleachery equipment), 1926.

82 Ibid., fonds N. Langer, Libina, inv. no. 37 – insurance of factory buildings in Oskava, 1935.



Oskava, N. Langer & Söhne
bleaching and finishing
shop, summer drying house,
situation in 1935. ZAO,
Olomouc branch, fonds
N. Langer, Libina, inv. no. 37.



Loučná nad Desnou, Rejhotice, G. Ulrich bleaching shop, turn of the 20th century. From the left the mangle, beetling mill and calender shop (in the building with the sawtooth roof), in the foreground the single-floor starching shop with a gable roof, in the background the winter drying house and an administrative building. Photograph by Gustav Ulrich, collection of the Rolleder museum association (Muzejní spolek Rolleder), Odry.

water-powered mangle, a finishing shop and a drying house. It was run in parallel with the company's new yarn bleachery in Dittrichstein (bleaching shop no. II), which was acquired in the 1870s and expanded with the construction of a cloth bleachery in 1901–1905. This was a masonry structure with a U-shaped ground plan. The presence of an administrative building in the gap between the two ends, creating an enclosed courtyard space, is an atypical layout for a bleaching shop. Unlike bleacheries which evolved gradually over the course of the years, it reflects a coherent design concept with an impressive façade (though this was probably not built as originally intended) and all the operations concentrated under a single roof.⁸³ More information is given in the catalogue of buildings and sites.

A similar attempt to create a grand, impressive site can be seen in the reconstruction of the G. A. Buhl Sohn bleaching shop in Staré Město pod Sněžníkem, which had been severely damaged by a fire. In 1912 Rudolf Winter elaborated plans for the reconstruction, which comprised not only the addition of an upper floor, but also details of the segmentation of the façades, using a scheme that was later applied to the company's other buildings (including a thread spinning mill).⁸⁴

In the early years of the 20th century, reinforced concrete structures became increasingly common. At the Ed. Oberleithner's Söhne bleaching shop in Šumperk, Pittel & Brausewetter designed a new calender shop, a mangle-cum-workshop, and a folding shop with offices (1906–1907). The K. Siegl sen. company enlarged its finishing shop to 1907 plans by the building contractor Josef Proisinger.⁸⁵ The Regenhart & Raymann bleachery was enlarged by the construction of a new finishing shop with a reinforced concrete structural skeleton, designed and built in 1906 by the Opava (Troppau) branch of Ed. Ast & Co.⁸⁶ In Zlaté Hory, a new bleaching shop and dyeing shop was built for the Karl Kolesa thread spinning mill. It was a hall-type building with a reinforced concrete structural skeleton, designed in 1916 by the Vrbno-based building contractor Ferdinand Ulrich.⁸⁷

In Staré Město a new hall-type bleaching shop was built to a design by the civil engineering firm Rudolf Pilnáček, which specialized in concrete and reinforced concrete structures.⁸⁸

Some of the bleaching shops described above ceased their operations in the 1910s and 1920s, and were either converted for new use or demolished. Regenhart & Raymann's bleaching shop no. I in Jeseník (founded in 1808) was demolished in stages during the 1910s and 1920s as the bleaching operation was relocated to the newer bleaching shop no. II. Many bleacheries ceased to operate at this time. The bleachery in Rapotín (which since 1910 had been run by the company Rapotínské společenstevní bělidlo s. r. o.) was converted for residential purposes in the 1920s under the name Červený Dvůr. The conversion project was drawn up by the building contractor Hubert Proisinger in 1926; it divided up the volume of the building and opened up a covered arcade-type space. A power plant was built on the former bleaching shop's watercourse; it had two Francis turbines produced by Voith of St. Pölten with asynchronous generators supplied by Českomoravská-Kolben-Daněk, plus a third Francis turbine added in a separate engine house (still operational).⁸⁹

83 SOKA Jeseník, fonds OÚ Jeseník, inv. no. 764, box 98.

84 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 486.

85 Ibid., fonds OÚ Šumperk, inv. no. 491.

86 SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), Jeseník, inv. no. 233–234, 243; Ed. Ast & Co., *Ingenieure*, p. 20.

87 SOKA Jeseník, fonds OÚ Jeseník, inv. no. 764, box 99.

88 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 486, box 92.

89 Ibid., inv. no. 481; BERAN, L. – VALCHÁŘOVÁ, V. – ZIKMUND, J. (eds.). *Industriální topografie*.

Jeseník, Regenhart &
Raymann bleaching
shop no. II, finishing
shop, 1906. Photograph
by Michaela Ryšková,
2020.



The Ulrich bleaching shop in Rejhotice was shut down during the Second World War, and the buildings were converted into a timber processing plant.⁹⁰

After the post-war nationalizations, the national corporation Moravolen continued to operate the former K. Siegl sen. and Ed. Oberleithner's Söhne bleaching shops in Šumperk, the Ospald and Norbert Langer & Söhne bleaching shops in Oskava, the G. A. Buhl Sohn bleaching shop in Staré Město and the Regenhart & Raymann bleaching shop no. II in Jeseník; all these remained in operation until the end of the 20th century. Structural alterations undertaken as part of reconstruction and modernization projects during the second half of the 20th century did not improve the quality of these sites, and the original buildings gradually lost their distinctive character as a consequence of uniform alterations and the application of utilitarian rendering materials to the outer walls.

90 ZAO, Olomouc branch, fonds J. Ospald, Oskava, inv. no. 19.



Hanušovice, Holba,
Oberleithner & Co.
linen spinning mill.
Photograph by Viktor
Mácha, 2021.

CATALOGUE OF SELECTED BUILDINGS AND SITES

HANUŠOVICE, MUNICIPAL SUBDIVISION HOLBA, OBERLEITHNER & CO., LINEN SPINNING MILL

The linen spinning mill in Holba was built as a subsidiary operation of the Hanušovice spinning mill in 1866. It is not known how many spindles were in operation when the mill opened; in the 1870s the mill had around 4,000 spindles in operation.¹

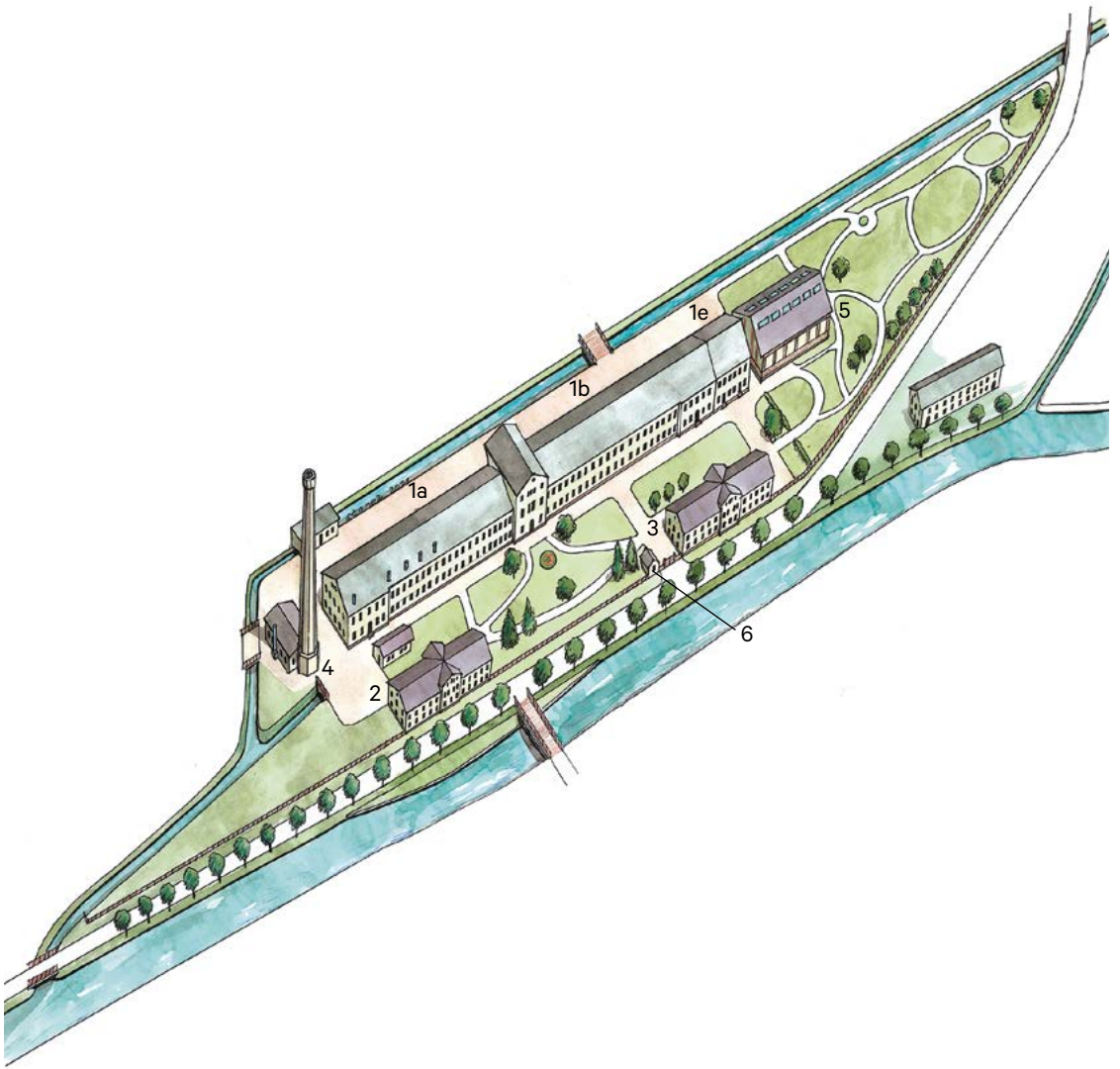
Unlike the Hanušovice spinning mill, which grew and evolved over the course of time, the mill in Holba appears to have been built in a single phase. Its basis consisted of three buildings: a long two-floor spinning mill building with a raised central risalit (avant-corps), flanked by two protruding buildings of very similar volume and architectural design, in a symmetrical arrangement: the warehouse and bunkhouse on one side, and the administrative and accommodation building on the other side. The spinning mill was built of brick, with vaulted ceilings and girders resting on cast iron columns. An unusual feature was the asymmetrical position of the turbines at the sides, rather than in the central risalit in the lateral axis of the building. The boiler house and chimney were separate from the main building. The spinning mill was extended on two occasions on its north-east side, adding eight window axes (the plans date from 1899 and 1912), but in comparison with the evolution of the Hanušovice mill these were only minor changes.

In 1931 the machinery was powered by three Girard turbines supplied by H. Qewea Erfurt (nos. I and II, producing 120 hp, located in a separate engine house abutting the spinning mill; no. III, producing 146 hp, in the spinning mill building, in an engine hall that housed both this turbine and a steam engine) and a horizontal steam engine made by the Prague-based Ruston company in 1906, which produced 260 hp and was supplied with steam by two Tischbein boilers made by the Brno-based firm Brand & Lhuillier in 1899 and 1908. The machinery in the mill was supplied by engineering works in Leeds and Belfast.²

To the north of the site, near the road to Hanušovice (today Zábřežská St., nos. 240–242), the company built an accommodation block for its workers (containing eight apartments) to a 1904 design by the building contractor Josef Proisinger (this was one of a planned six such blocks) and a set of three workers' housing blocks (each containing four apartments) to a 1907 plan by the building contractor F. Riess (Riesz).

1 SOKA Šumperk, fonds AO Holba, inv. no. 22, box 3; ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 2317, box 155.

2 ZAO, Olomouc branch, fonds Oberleithner, inv. no. 31 – valuation of spinning mill machinery in Holba, 1931.

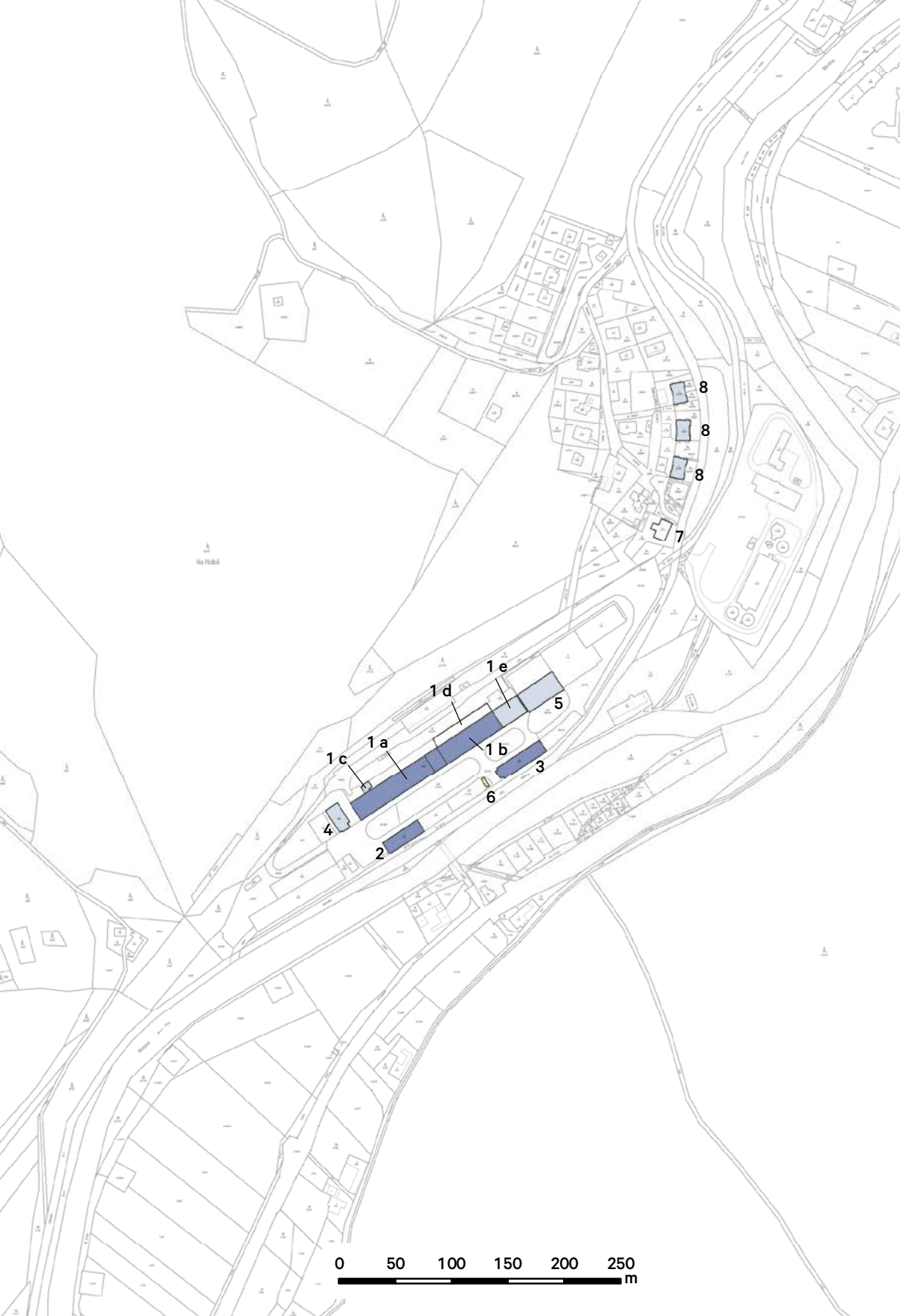


Hanušovice-Holba, Oberleithner & Co. linen spinning mill, view from the south, situation around 1910.
Drawing by Jaroslav Staněk, 2021.

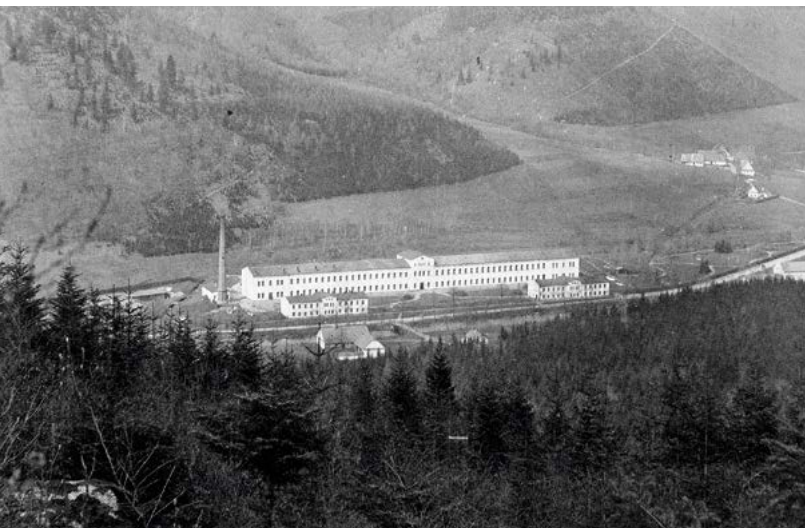
Opposite: Hanušovice-Holba, Oberleithner & Co. linen spinning mill, current situation, scale 1 : 5,000, Pavel Maren, 2021. Map data © Czech Land Surveying and Cadastral Authority.

■ cultural monument ■ proposed legal heritage protection ■ area of heritage interest ■ demolition

Legend: SPINNING MILL: 1 – spinning mill, 1a – fine yarn spinning mill, steam engine hall, extension of the turbine engine hall, 1b – heckling shop, roving workshop (1899, extended by adding 2 bays/window axes, Wilhelm Lux, building contractor, Šumperk; 1912 extended by adding 6 bays/window axes); 2 – warehouse, bunkhouse; 3 – administrative and accommodation building; 4 – boiler house, later a workshop, chimney (1893 extension); 5 – flax warehouse (1911, Josef Strohal), 6 – gatehouse (1899, Wilhelm Lux, building contractor, Šumperk); RESIDENTIAL BUILDINGS: 7 – apartment building (1904, only on map); 8 – three blocks, each with four apartments for mill employees (1906, only on map).



0 50 100 150 200 250 m



Hanušovice-Holba,
the Oberleithner &
Co. linen spinning mill,
photograph from 1886.
VMŠ (Šumperk Museum
of Local History), inv. no.
H6055.

Hanušovice-Holba,
Oberleithner & Co.
linen spinning mill.
Photograph by
Michaela Ryšková, 2021.



The mill ceased production in 1956, and the building was later used for machine production.

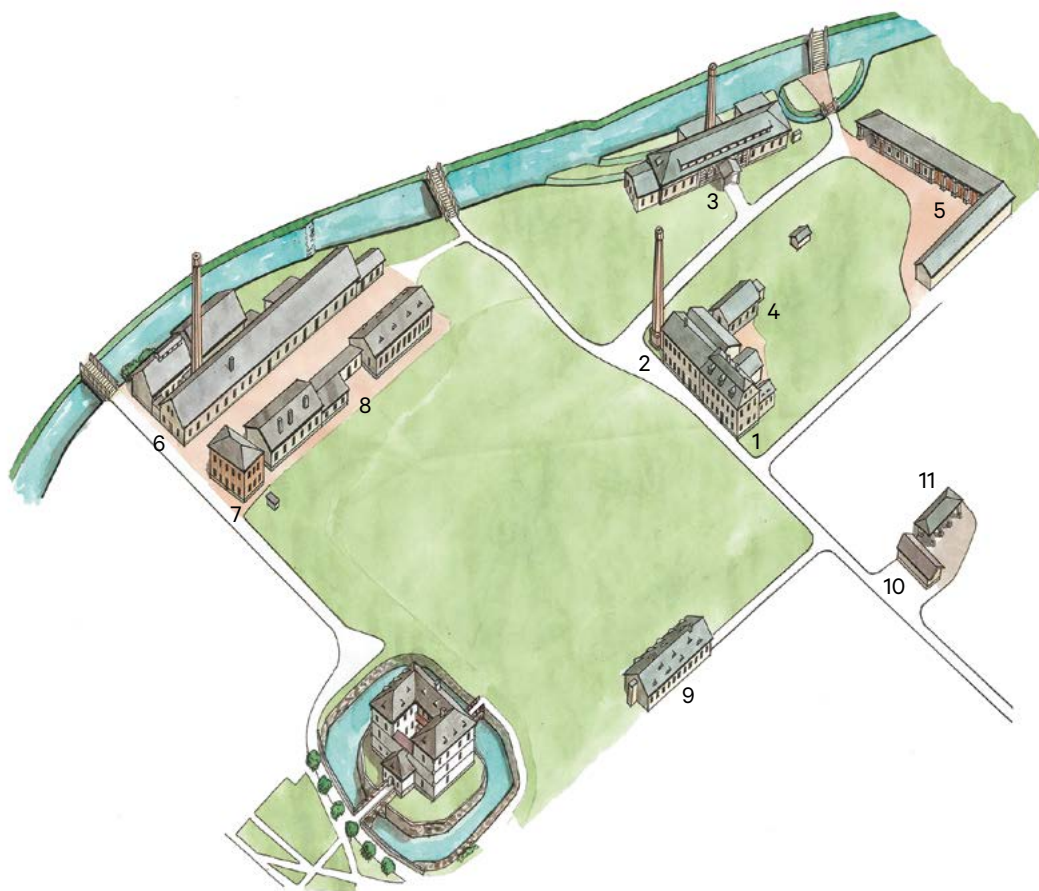
The Holba spinning mill was the last of the five large linen spinning mills built in the Šumperk region from the 1840s to the 1860s. The configuration of the site and the structural design of the spinning mill have been preserved in their original form (with the exception of the partial reinforcement of the ceilings by the insertion of reinforced concrete structures and alterations to a staircase).

JESENÍK, JOSEF RAYMANN / REGENHART & RAYMANN, BLEACHING AND FINISHING SHOPS FOR LINEN YARN AND GOODS

In 1808 the yarn merchant Josef Raymann rented land (4 Bohemian *Striche*, i.e. around 4 acres) from the diocese of Breslau (now Wrocław), on which he built his first bleachery. Although the literature states that the bleachery was located in the municipal subdivision of Dittrichstein³ (and this information is also given in the contract of lease), the description of the land (along with other sources) point to a location south of the local fortress, on the banks of the River Bělá and in the vicinity of a paper mill.⁴ In the second decade of its existence, the bleaching shop was substantially enlarged with the addition of a beetling mill, a mangle, and a drying house for yarn and cloth.⁵ The bleaching shop is depicted on a panoramic view of the town dating from 1830: besides the meadow where the bleaching was done, it consisted of a two-floor building with a mansard roof,⁶ a low building with a chimney, and a tall wooden drying house. Of these buildings, the only one that survived into the final years of the bleachery's existence was the first (with an extra floor added); it was used for storing goods, and evidently also as an office. The adjacent structures underwent several alterations and reconstructions. On the site of the paper mill, a new building (to plans from 1863) was constructed; it contained a mangle, which was powered by a water wheel.⁷ The beetling mill to the north, which featured on a contemporary map of Freiwaldau (Jeseník), was evidently rebuilt to 1855 plans by Johann Gröger, and it became the basis for the later construction of a finishing shop, drying house and warehouse.⁸ The bleaching shop (designated by the company as no. I) ceased its operations in the first decades of the 20th century, and the buildings were progressively demolished. The mangle building was converted into a cinema, but it too was eventually demolished.

In addition to bleaching shop no. I, the company also operated bleacheries and finishing shops in the municipal subdivisions of Dittrichstein and Bukovice, which it had purchased and enlarged.⁹

- 3 The first researcher to mention this information was evidently Milan Myška. See MYŠKA, M. Slezská Inářská firma, pp. 85–130, here p. 88.
- 4 SOkA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), Jeseník, inv. no. 74, box 4. The following information is given regarding the lease of the land: "... on the land of the lords' estate, which was in past years used as the site of ... the settlement of Dittrichstein ... next to the paper mill there are several temporarily rented plots of land which, due to their low value and in view of the vicinity of the River Bělá, can most easily be used as the site of a yarn bleachery ... His Majesty the Prince graciously permits the above-mentioned Joseph Raymann to use 4 Striche of this land, and permits him to establish a yarn bleachery ... on a site delineated from the boundary-line of the paper mill from the River Bělá upwards to the municipal allotments, over the footpath and the stream ...".
- 5 MYŠKA, M. Slezská Inářská firma, pp. 85–130, here p. 90.
- 6 In *Die Gross-Industrie Oesterreichs* the depiction is described as "Erstes Bleichhaus (1826)", i.e. the first bleaching shop. – *Die Gross-Industrie Oesterreichs*, pp. 332–337, here p. 334.
- 7 SOkA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), Jeseník, inv. no. 84 – contract of sale to Adolf Raymann for paper mill no. 8, 1862–1893; *Ibid.*, inv. no. 225 – plans for mangle building, 1863.
- 8 Indicative sketch, Silesia, 1075-2 Jeseník, formerly Freywaldau. ZAO. Available at: <https://ags.cuzk.cz/archiv/openmap.html?typ=skicis&idrastru=SI109>; SOkA Jeseník, fonds OÚ Jeseník (Jeseník District Authority), inv. no. 763, box 89; Tarabová states that in the second half of the 1860s the bleachery had a ironing shop, a mangling shop (with a mechanical mangle), a drying house and a laboratory. See TARABOVÁ, Ivana. Regenhart a Raymann (Regenhart & Raymann), továrna na Iněné a damaškové zboží, Jeseník (Regenhart & Raymann, linen and damask goods factory, Jeseník). In *XVII. Svatováclavské setkání v Jeseníku*. Jeseník 2017, pp. 68–74.
- 9 At the end of the 19th century the company acquired a bleaching shop with a mangle, beetling mill and drying house in the municipal subdivision of Bukovice, originally established in the mid-19th century and belonging to Josef Neupert. SOkA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), Jeseník, inv. no. 91–92 – purchase of bleachery etc., 1899–1933.



Jeseník, Josef Raymann's original bleaching shop, later bleaching shop no. I of Regenhart & Raymann, reconstruction of the situation at the beginning of the 20th century (before demolition), view from the north-west. Drawing by Jaroslav Staněk, 2020.

Legend: 1 – original building (before 1830); 2 – drying house, boiling room, boiler house, chimney; 3 – finishing shop (mangle, on the site of a paper mill, powered by a water wheel; 1863, I. Gröger?); 4 – coal shed; 5 – sheds, material stores (west wing – before 1883; south wing – 1883, Rudolf Zelenka, building contractor, Jeseník); 6 – finishing shop – boiling room, boiler house, chimney, office, laboratory (on the site of a former beetling mill); 7 – summer drying house (wooden); 8 – drying house, goods warehouse (goods warehouse – 1881, Rudolf Zelenka, building contractor, Jeseník); 9 – workers' housing block; 10 – workers' bunkhouse; 11 – garage (1888, Franz Gröger, master builder, Jeseník).

Jeseník, Regenhart & Raymann bleaching shop no. II, finishing shop, 1906, photograph by Viktor Mácha, 2020.



The basis for bleaching shop no. II was a bleachery run by Josef Wiesner (house no. 39), purchased by the company at an auction in 1876.¹⁰ It was located in Dittrichstein next to the River Staříč, which supplied water to the bleachery via a mill-race. The building was later extended southwards to create new bleaching premises, warehouses, workshops, a drying house and a boiler room. Separate yarn warehouses and a bunkhouse-cum-dining hall were also built.¹¹

In 1901–1905, a cloth bleaching shop was built on the opposite side of the River Staříč. The main building was constructed of masonry on a U-shaped ground plan, and its outer walls have survived without any substantial later alterations. It had vaulted ceilings and girders resting on cast iron columns. The courtyard area was enclosed by a separate administrative and accommodation building; it was originally designed to have a grandly impressive façade, but this plan evidently never became a reality. As the operation was gradually expanded, a roof was built over the central courtyard area, and extensions were added to the bleaching shop building. Besides a cloth bleachery, other new buildings included a separate engine house for a steam engine, a boiler house with a chimney, and a warehouse (plus other technical premises). The plans bear the stamp of the Trutnov engineering firm and foundry Augustin Jaeggle.¹²

The last major step in the development of the site was the construction of a new hall for a finishing shop, with an adjacent two-floor building containing a sewing shop and a drying house (4,400 m²). This featured a monolithic reinforced concrete structure (a hall with 6 × 9 bays and a two-floor building with two tracts), and it was designed by the Opava (Troppau) office of Ed. Ast & Co. in 1906.¹³

10 Ibid., inv. no. 86 – contract of purchase etc., 1876–1943. *Die Gross-Industrie Oesterreichs*, p. 332–337, here p. 335; Tarabová states 1891. See TARABOVÁ, I. Regenhart a Raymann, pp. 68–74.

11 Indicative sketch, Jeseník, formerly Freywaldau, 1836 [online]. Archive. [retrieved 6. 4. 2021]. Available at: <https://ags.cuzk.cz/archiv/openmap.html?typ=skicis&idrastru=SI109>; Vlastivědné muzeum Jesenicka (Jeseník Regional History Museum), panoramic view of the town, 1830, H8220b; SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), Jeseník, inv. no. 227–228, 232.

12 Ibid., fonds OÚ Jeseník (Jeseník District Authority), inv. no. 764, box 98.

13 Ibid., fonds Regenhart a Raymann (Regenhart & Raymann), Jeseník, inv. no. 233–234, 243; *Ed. Ast & Co., Ingenieure*, p. 20.



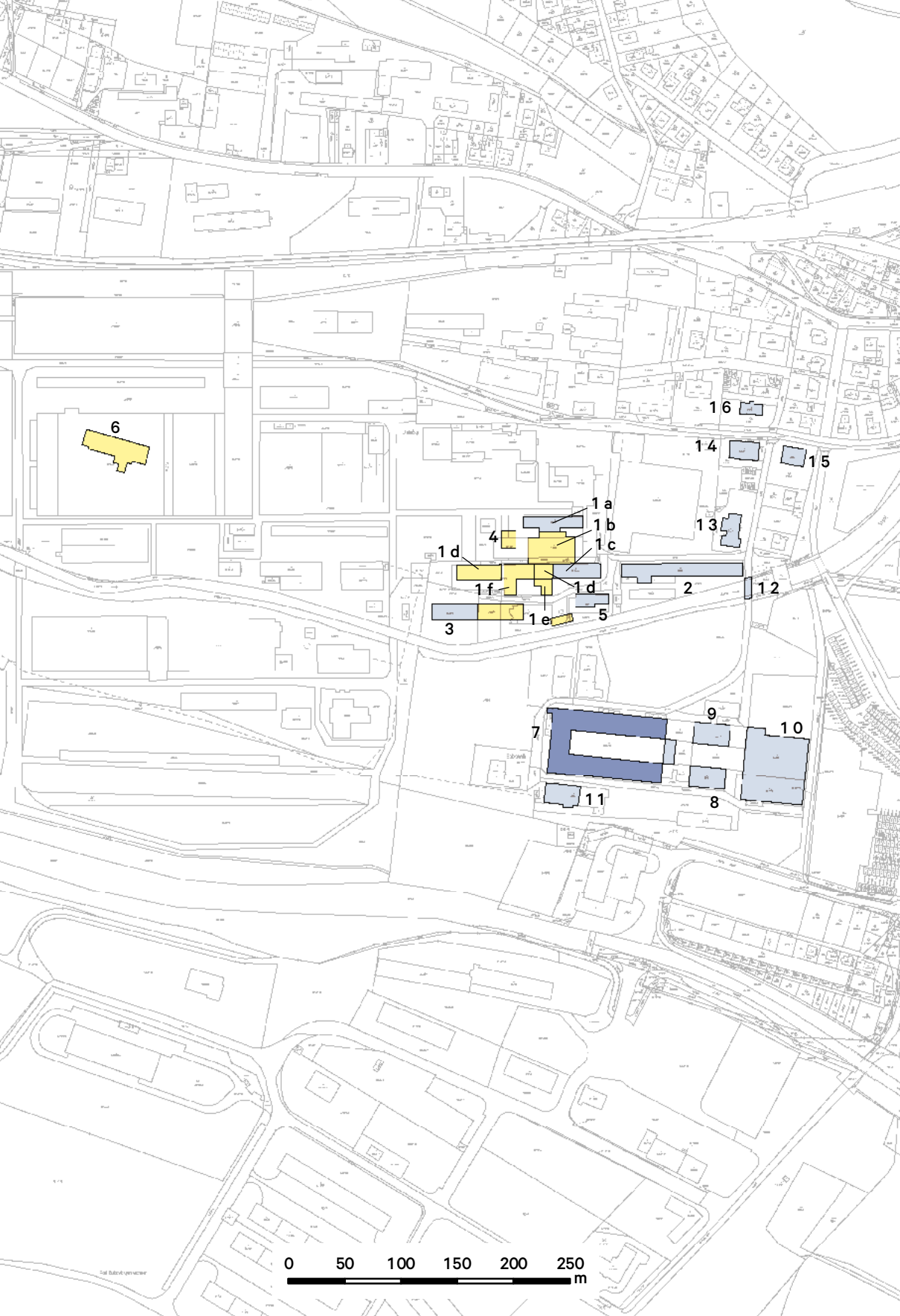
Opposite: Jeseník, Regenhart & Raymann bleaching shop no. II, current situation, scale 1 : 5,000, Pavel Maren, 2021. Map data © Czech Land Surveying and Cadastral Authority.

- cultural monument
- proposed legal heritage protection
- area of heritage interest
- demolition

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Jeseník, Regenhart & Raymann bleaching shop no. II, cloth bleaching shop, 1901–1905. Photograph by Viktor Mácha, 2020.



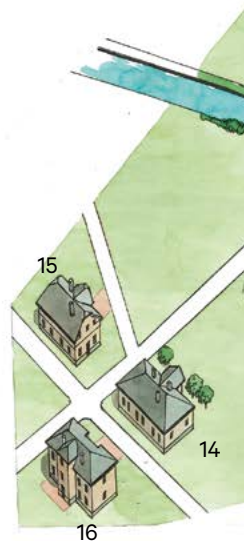


Jeseník, Regenhart & Raymann bleaching shop no. II, reconstruction of the situation in the 1920s–30s, view from the north-west. Drawing by Jaroslav Staněk, 2020.

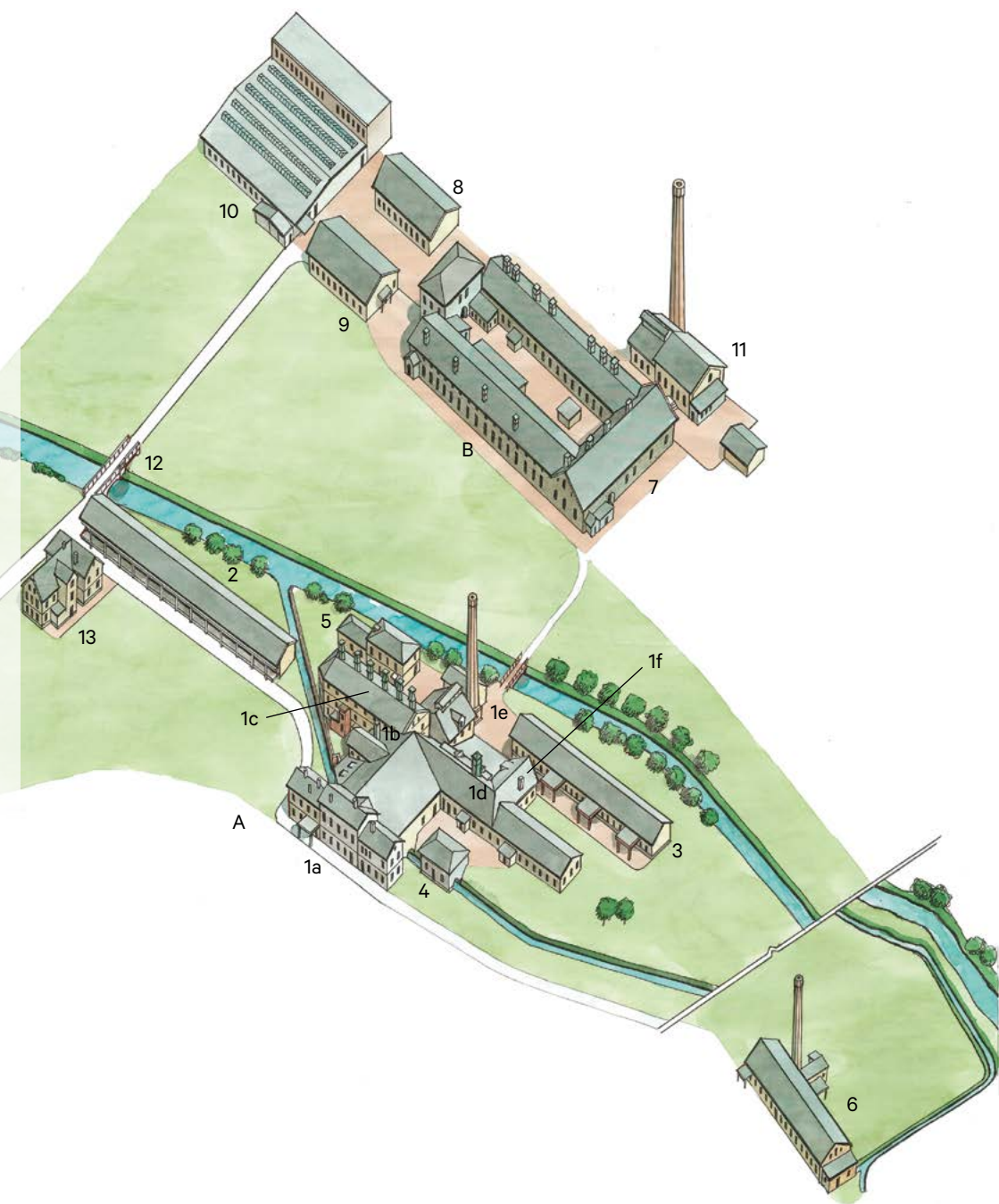
Legend: A – YARN BLEACHING SHOP: 1 – yarn bleaching shop no. 39 (originally a mill, later Josef Wiesner's bleachery, reconstructed, expanded), 1a – originally a mill, later warehouses, offices, apartment, 1b – bleaching shop, dyeing shop, 1c – drying house (before 1891; 1891 extended, Gustav Gröger, building contractor, Jeseník; 1904 extra (third) floor added, Franz Gröger, building contractor, Jeseník), 1d – 1904 fixing shop with drying area in the attic (1904, Franz Gröger, building contractor, Jeseník; 1919–1921 reconstruction as part of a general modernization of operations), 1e – boiler house, chimney, 1f – workshops, warehouses; 2 – yarn warehouse no. 46 (before 1897; 1897 extension, Rudolf Zelenka, building contractor, Jeseník; 1911 reconstruction); 3 – bindery, yarn warehouse no. 60 (before 1906 bindery; 1906 addition of three new sections of the yarn warehouse, Franz Gröger, building contractor, Jeseník); 4 – turbine engine house, later warehouse; 5 – kitchen, dining room, bunkhouse; 6 – finishing shop?; B – CLOTH BLEACHING SHOP: 7 – cloth bleaching shop (laundry, beetling mill, boiling room, bleaching shop, drying house; 1901–1905, Valentin Jaeggler, Erste Trautenauer Maschinenfabrik u. Eisengiesserei; Alexander Nitsche, building contractor, Jeseník); 8 – warehouse for unfinished goods (1900, Valentin Jaeggler, Trutnov); 9 – warehouse (1906, Alexander Nitsche, building contractor, Jeseník); 10 – finishing shop, drying house, sewing shop (1906, Ed. Ast & Co., Opava); 11 – boiler house, steam engine house, chimney; 12 – bridge; RESIDENTIAL BUILDINGS: 13 – apartment building; 14 – clerks' accommodation block; 15 – clerks' accommodation block (1903); 16 – apartment building.

In 1940 the cloth bleaching shop had a steam engine producing 120 hp and two Tischbein steam boilers. The yarn bleaching shop had a water turbine and two Tischbein boilers, as well as a separate Francis turbine producing 50 hp.¹⁴

The northern part of the former yarn bleaching shop has been substantially altered and rebuilt. The southern part consists of an architecturally valuable masonry building (originally the cloth bleaching shop) dating from the beginning of the 20th century; its outer walls and part of the inner structural elements have been preserved in a relatively authentic condition. The slightly more recent building of the finishing shop (with a reinforced concrete structural skeleton) was built at the same time as the factory halls of the weaving shop, and it is one of the first examples of this type of structural design in the region.



14 SOkA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 187 – valuation of company machinery, 1940.



JESENÍK, REGENHART & RAYMANN, MECHANICAL LINEN SPINNING MILL AND LINEN GOODS WEAVING MILL

To the north of Raymann's original bleaching shop (later the Regenhart & Raymann bleaching shop no. 1), on the banks of the River Bělá, a mechanical spinning mill and weaving mill was established in the 1850s and 60s.

The first part of the site to be developed was the mechanical spinning mill. It was located in house no. 17 on the right bank of the River Bělá, next to the road leading to Česká Ves; Adolf and Moritz Raymann purchased the house in 1851 from Dorothea Sponner.¹⁵ The building originally had two wings, with a main section oriented parallel to the road and a perpendicular wing defining the courtyard area. The street-facing façade was accentuated with a shallow central risalit (avant-corps). The wheelhouse (for the water wheel) was situated separately from the main building, near its south-west corner. An underground channel (with brick vaulting) was built to supply the water wheel from the River Bělá.¹⁶ Later, when the main building was extended, the wheelhouse was incorporated into the building. The spinning mill became the basis for the company's administrative and commercial offices (its headquarters). Because the central risalit still remains, the original size of the building is still visible on the façade. Later extensions included the addition of wings to create an enclosed courtyard with the shape of a trapezoid. The last extension to the site involved the construction of a goods warehouse with three floors, to plans dating from 1884.¹⁷ The water wheel was replaced by a turbine.

On the opposite bank of the River Bělá, on an area of land delineated by the confluence of the Bělá and the Staříč, the company built a mechanical weaving mill. The first 15 mechanical looms came into operation in 1865, but we have no information on their precise location (or on the appearance of the building).¹⁸ However, it seems that they met the owners' expectations, as a new weaving mill was built not long afterwards, this time to contain 150 looms.¹⁹ This two-floor brick building had a T-shaped ground plan and ceiling beams supported by cast iron columns. Plans for the building dated 18 May 1868 (which also included plans for the machinery) were drawn up by the Viennese engineering company Carl A. Specker.²⁰ The longitudinal tract (oriented from east to west) was used for auxiliary operations. To the east it was abutted by a boiler house and the wheelhouse; the water wheel drove the machinery in the weaving mill. The looms were concentrated in the perpendicular north wing, which was wider. The south façade, which faced the town, was simple and axially symmetrical (as can be seen on a later panoramic view). The mill had its own gas house producing gas for the lamps inside the mill.

The weaving mill is still standing, though its original façade has not been preserved; a connecting link with a staircase has been added in the central part of the façade, giving access to the more recently built factory hall (built in stages and progressively expanded from the 1880s to the First World War).

The north part of the mill, closest to the original mill building, consisted of factory halls with sawtooth roofs, built in 1889–1890 (and extended in 1891–1892), 1896 (and extended in 1898–1899), and 1914. Abutting the halls was an engine house with a steam engine and a dynamo. This meant

15 SOKA Jeseník, fonds OÚ Jeseník, inv. no. 88, box 6.

16 Ibid., inf. no. 763, box 88.

17 Ibid., fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 244.

18 MYŠKA, M. Slezská lnářská firma, pp. 85–130, here p. 109.

19 Ibid., p. 109; *Die Gross-Industrie Oesterreichs*, pp. 332–337, here p. 334.

20 The plans are for approx. 120 looms. SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), Jeseník, inv. no. 217; C. A. Specker. Kraft- und Dampfmaschinen. [retrieved 1. 8. 2021]. Dampfmaschinen und Lokomotiven. Available at: http://www.albert-gieseler.de/dampf_de/firmen10/firmadet109468.shtml.



Jeseník, Regenhart & Raymann weaving mill, spiral staircase in the connecting link between the mechanical weaving mills and mechanical weaving mill (1868), north wing. Photograph by Michaela Ryšková, 2020.



Jeseník, Regenhart & Raymann weaving mill, mechanical weaving mill (1868), north and west wings, view from the north-west. Photograph by Viktor Mácha, 2020.



Jeseník, Regenhart
& Raymann weaving mill,
mechanical weaving mill.
Photograph by Viktor
Mácha, 2020



Jeseník, Regenhart
& Raymann weaving mill,
hand weaving shops nos.
35 and 38. Photograph by
Viktor Mácha, 2020.



Jeseník, Regenhart
& Raymann administrative
and commercial building
(headquarters), converted
from a water-powered
mechanical weaving mill
which operated from the
1850s and was owned by
Adolf and Moritz Raymann.
Photograph by Viktor
Mácha, 2020.

that in 1896–1897 the company could cease production in the original weaving mill building, which dated from the 1860s. By the end of the 19th century the new factory hall complex covered an area of 6,000 m², providing space for 600 looms which were powered by a steam engine producing 250 hp. The weaving mill was enlarged again during the first two decades of the 20th century with the addition of factory halls based on a reinforced concrete structural skeleton; these were built in 1905–1906, 1907–1908 and 1912–1913 to a design by Ed. Ast & Co., which at the same time also designed the new finishing shop for the company's bleaching shop no. II.²¹ In 1914 the original sawtooth-roofed factory halls (dating from the end of the 19th century) were extended with the addition of a warping shop using an identical structural design. This was the last addition to the factory hall complex at the weaving mill.²²

The company also built structures for hand-operated looms at the weaving mill. These buildings all have an elongated rectangular ground plan, two floors, and low gable roofs.²³ There is also an accommodation building (no. 32), with a hip roof; it is one of the oldest structures at the site. It was evidently used as accommodation for workers and supervisors at the weaving mill. Its position is shown in a situation plan of the weaving mill dating from 1873.²⁴

The mill complex eventually spilled over beyond the original boundaries of the site, delineated by rivers. On the opposite bank of the River Bělá, a workers' bunkhouse was built; it had a kitchen, a dining room, and beds for 60 people.²⁵ To the west of the main site, on the left bank of the River Staříč, the company bought the Bartsch mill, and in the second decade of the 20th century it built its central workshops on this site.²⁶

In 1940 the weaving mill had a Francis turbine (originally installed in 1868) producing 37 hp and a horizontal steam engine producing 200 hp. The engine house near the factory hall had a horizontal steam engine (300 hp) with a dynamo. The weaving mill used looms made by Hartmann, Schleicher, Hohlbaum, Rütli and other companies. The building of the company's headquarters also housed a Francis turbine (62.5 hp), and there was a further turbine (20 hp) in the central workshops.²⁷

The members of the Regenhart and Raymann families built their own houses near the factory. On the opposite bank of the River Bělá is a residential complex (no. 192), which belonged to the Raymann family from 1864 and was later owned by the Regenharts. A bust of Josef Raymann (1943) by the sculptor Josef Obeth has been installed in a small park above the house.

In 1898–1899, a neo-Baroque villa was built on land above the factory for Ernst Regenhart. It was known as the Bergvilla (now J. Hory St., house no. 673). In 1910–1912 a new villa (house no. 339) was built for Erwin Regenhart in a park formerly known as the Josefsgarten (now Smetanovy sady).²⁸ In 1901–1903, not far from Ernst Regenhart's house, a villa was built for Erwin Weiss, the

21 SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 220; *Ed. Ast & Co., Ingenieure*, p. 20; *Die Gross-Industrie Oesterreichs*, pp. 332–337, here p. 337.

22 SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 218, 219–222, 289; *Die Gross-Industrie Oesterreichs*, pp. 332–337.

23 SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 214; *Ibid.*, fonds OÚ Jeseník, unprocessed additions, box 5, previously inv. no. 973.

24 *Ibid.*, fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 325.

25 Information about the construction of a bunkhouse with 60 beds is given in *Die Gross-Industrie Oesterreichs*, pp. 332–337, here p. 336.

26 SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 224.

27 *Ibid.*, inv. no. 187 – valuation of company machinery, 1940.

28 Ernst Regenhart's villa was designed by the Viennese architects Karl and Julius Mayreder. Erwin Regenhart's villa was designed by Karl Mayreder. – *Ibid.*, inv. no. 251; Vila Ernsta Regenharta. In ZATLOUKAL, Pavel (ed.). *Slavné vily Olomouckého kraje*. Olomouc 2007, pp. 32–34.



Jeseník, residential complex (no. 192), owned by the Raymann and Regenhart families from the 1860s. Photograph by Viktor Mácha, 2020.



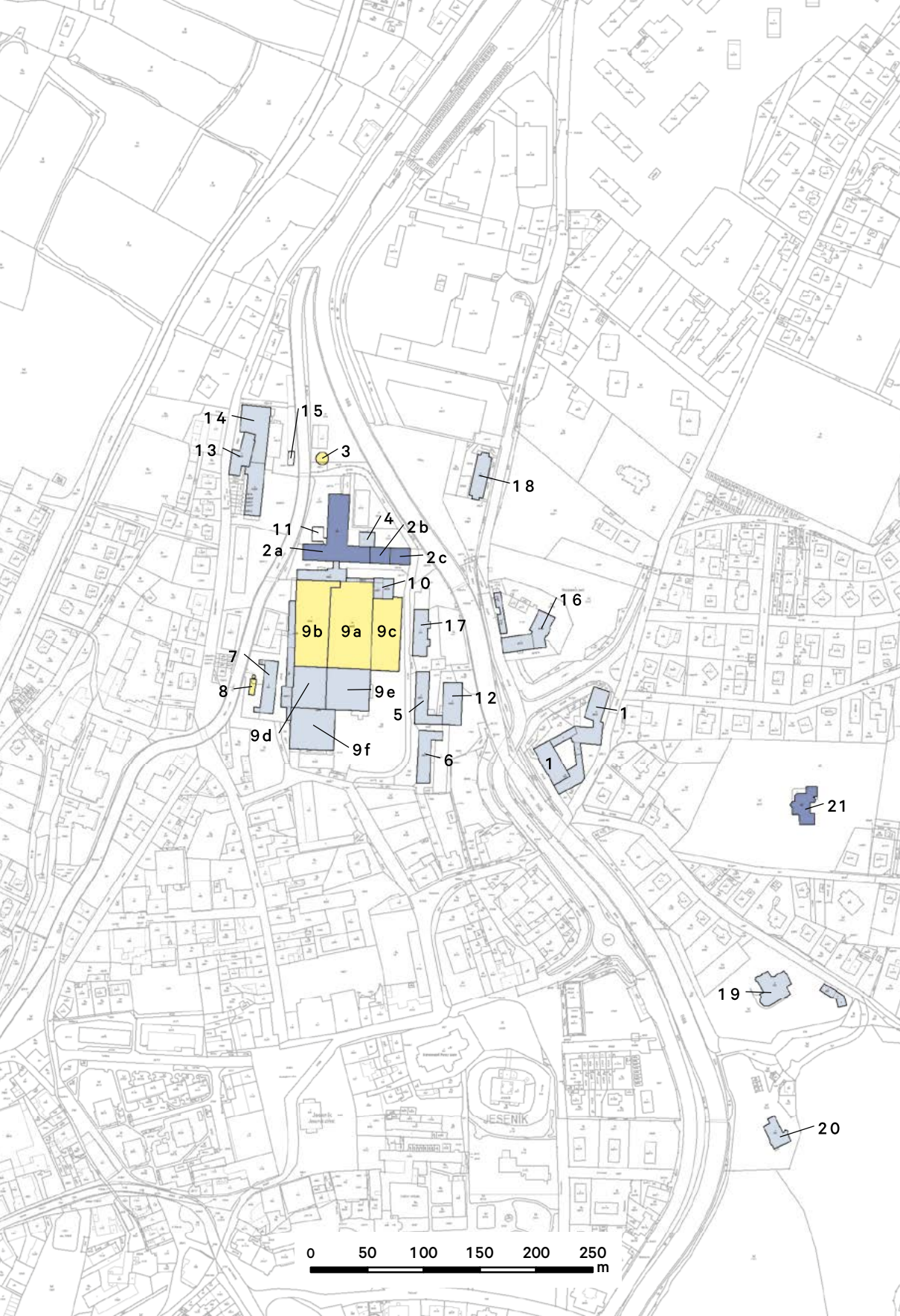
Jeseník, Ernst Regenhart's villa. Photograph by Viktor Mácha, 2020.



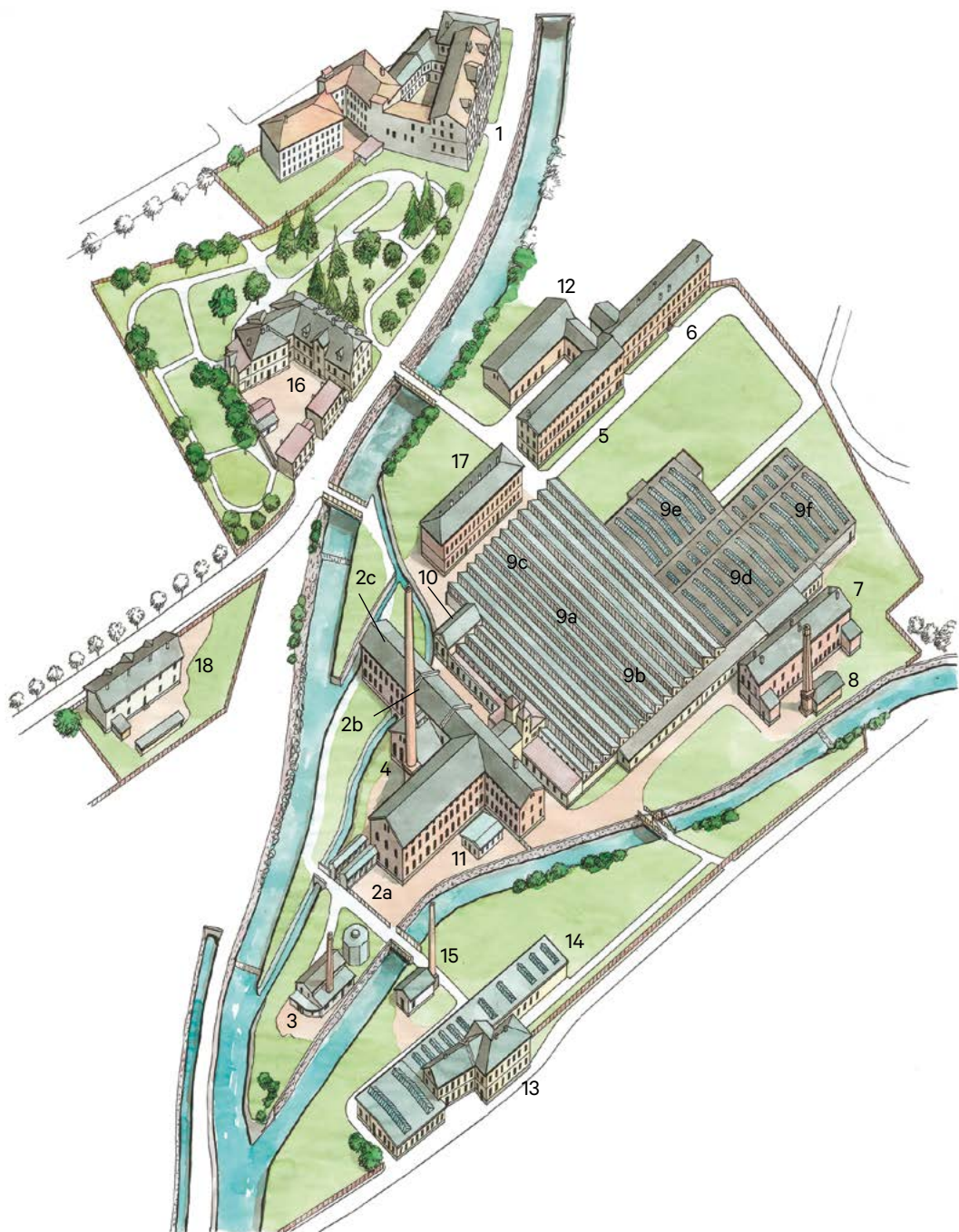
Opposite: Jeseník, Regenhart & Raymann mechanical linen spinning mill and linen goods weaving mill, current situation, scale 1 : 5,000, Pavel Maren, 2021. Map data © Czech Land Surveying and Cadastral Authority.

- cultural monument
- proposed legal heritage protection
- area of heritage interest
- demolition

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Jeseník, Regenhart & Raymann mechanical linen spinning mill and linen goods weaving mill, reconstruction of the situation at the beginning of the 20th century, view from the north-west. Drawing by Jaroslav Staněk, 2020.

Legend: SPINNING MILL / HEADQUARTERS: 1 – mechanical weaving mill, later the company's administrative and commercial headquarters (building purchased in 1851, expanded, modified); WEAVING MILL: 2 – original building (1868), 2a – mechanical weaving mill (1868, Carl A. Specker, Vienna; north wing extended 1907, Franz Gröger, building contractor, Jeseník), 2b – wheelhouse, boiler house (1868, Carl A. Specker, Vienna; second floor added after 1880), 2c – extension, originally a carpentry shop (1880, Joh. Gröger, building contractor, Jeseník; second floor added later); 3 – gas house (1868); 4 – boiler house, chimney (1897, Rudolf Zelenka, building contractor, Jeseník); 5 – manual weaving mill no. II, no. 38, later the design studio/pattern shop, sewing shop (1879?, Rudolf Zelenka, building contractor, Jeseník; enlarged with a perpendicular extension 1898–1899, Franz Gröger, building contractor, Jeseník); 6 – manual weaving mill no. 35 (before 1880); 7 – manual weaving mill no. III, no. 39, later dining hall, bunkhouse (1881?, Rudolf Zelenka, building contractor, Jeseník); 8 – boiler house (1881, Rudolf Zelenka, building contractor, Jeseník); 9 – mechanical weaving mill hall (1889–1913), 9a – factory hall with sawtooth roof, phase 1 (1889–1890, 2,000 m²; extension 1891–1892, 1,000 m², Rudolf Zelenka, building contractor, Jeseník), 9b – factory hall with sawtooth roof, phase 2 (1896; extension 1898–1899, 3,000 m²?, Rudolf Zelenka, building contractor, Jeseník), 9c – factory hall with sawtooth roof / warping shop, phase 3 (1914, Alexander Nitsche, building contractor, Jeseník), 9d – factory hall with flat roof, phase 1 (1905–1906, Ed. Ast & Co.), 9e – factory hall with flat roof, phase 2 (1907–1908, Ed. Ast & Co., Opava), 9f – factory hall with flat roof, phase 3 (1912–1913, Ed. Ast & Co., Opava); 10 – engine house for steam engine and dynamo (before 1898); 11 – laundry, warehouse; 12 – warehouse (1913); CENTRAL WORKSHOPS: 13 – Bartsch mill, later central workshops (reconstruction 1911, Alexander Nitsche, building contractor, Jeseník); 14 – central workshops (1911, Ed. Ast & Co., Opava); 15 – central workshops boiler house (1912, Alexander Nitsche, building contractor, Jeseník); ADMINISTRATIVE AND ACCOMMODATION BUILDINGS: 16 – accommodation complex, house no. 192; 17 – accommodation block no. 32 on the factory site (before 1873?); 18 – bunkhouse no. 40 (1883, Rudolf Zelenka, building contractor, Jeseník); 19 – Erwin Regenhart's villa (1898–1899, architects Karl and Julius Mayreders, Vienna; only on map); 20 – Erwin Regenhart's (1910–1912, architect Karl Mayreder, Vienna; only on map); 21 – Erwin Weiss villa (1901–1903, architects Franz von Krauss and Josef Tölk; only on map).

manager of the Regenhart & Raymann art workshop; it was inspired by English-style villas and the Arts and Crafts movement.²⁹

The complex of the former mechanical weaving mill (and its immediate surroundings) is important in many respects for the history of linen production in the Jeseník region, despite various alterations that have been made to the individual buildings and the demolition of part of the weaving mill factory hall. It was here that the foundations were laid for mechanized spinning and weaving in Austrian Silesia, and key components of the complex are still standing: the building in which the province's first mechanical spinning mill was established in the 1850s, as well as the large mechanical spinning mill built in 1868. The latter building is the most important component in the typologically varied complex of structures, which also include a hand weaving shop and a more recently built hall-type weaving mill (which evolved in several phases of expansion), with its metal and reinforced concrete structural skeleton. Constructed in the first decade of the 20th century, this was one of the earliest examples in the region of the use of metal and reinforced concrete in factory hall structures.

29 The villa was designed by the architects Franz von Krauss and Josef Tölk. – Vila Erwina Weisse. In ZATLOUKAL, P. (ed.). *Slavné vily*, pp. 41–43.

JESENÍK, REGENHART & RAYMANN, MECHANICAL AND HAND WEAVING SHOP FOR LINEN GOODS (FORMERLY AUGUSTIN KÜFFERLE) AND WEAVERS' HOUSING SCHEME

In 1877 Regenhart & Raymann took over the Augustin Küfferle company; the Küfferle mechanical weaving mill, bleaching shop and finishing shop were thus acquired by the Regenhart & Raymann company. The weaving mill had been opened in 1868 with 90 looms, at the same time as Adolf Raymann's large mechanical spinning mill. At the time of the takeover, the mill had 99 looms. The acquisition made Regenhart & Raymann the dominant producer of linen goods not only in Jeseník, but in Austrian Silesia as a whole.³⁰

To build its mechanical weaving mill, A. Küfferle purchased a mill (house no. 26) from Johann Putz, including the rights to use the adjacent watercourse. The mill had three floors and a water mill to power the machinery. When it was acquired by Regenhart & Raymann, they added a water turbine. There was probably a gas house providing gas for the lamps; this is indicated by the circular ground plan of a now-defunct structure, which resembles a gasometer. A building nearby, later used as a boiler house, may have originally been a gas house.³¹ The mechanical weaving mill was closed down probably in 1896–1897, and the building was then used as a hand weaving shop.

In the 1880s, along the road from Jeseník to Česká Ves³² and in the vicinity of the former Küfferle weaving mill, the first houses were built that later became the basis for a weavers' housing scheme (now Bezručova St., parallel with Vančurova St. and perpendicular to Tkalcovská St.). The apartments in these houses consisted of a small living area (in the smaller houses this had a hallway and one living room; in the larger houses a hallway, a living room and a kitchen) and a spacious workshop where hand-operated looms were installed.³³ The apartments were partitioned from each other by fireproof walls. *Gross-Industrie Oesterreichs* states that a total 54 apartments were built for weavers and their families (plus assistants), and that the houses had their own allotments. It appears (according to the plans and cadastral maps) that only 42 apartments were actually built at the scheme, in nine single-floor houses each containing two apartments and six two-floor houses each containing four apartments: i.e. 18 apartments in the smaller houses and 24 in the larger houses.³⁴

We do not know how long the workshops remained in operation. By the 1940s most of these apartments were used solely for residential purposes, and the former workshops had been partitioned into two separate rooms, thus doubling the total number of apartments at the scheme. At this time, the neighbouring Küfferle mill was used for hand weaving, and the third floor had been converted into residential units.³⁵ In 1940 the hand weaving shop had a Girard turbine producing approximately 64 hp.³⁶

30 MYŠKA, M. Slezská lnářská firma, pp. 85–130, here p. 97; *Die Gross-Industrie Oesterreichs*, pp. 332–337, here p. 335.

31 SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 89, 90, 244 etc.

32 *Die Gross-Industrie Oesterreichs*, pp. 332–337, here pp. 336–337. A detailed analysis of the persistence of hand weaving is given in MYŠKA, M. Slezská lnářská firma, pp. 85–130, here p. 105.

33 SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 249 – plans for mid-sized and large double-apartment buildings, 1884, 1885.

34 *Ibid.*, inv. no. 249, 182; *Die Gross-Industrie Oesterreichs*, pp. 332–337, here p. 336. The information about 54 apartments has been reproduced by Myška and other authors researching the company's history.

35 SOKA Jeseník, fonds Regenhart a Raymann (Regenhart & Raymann), inv. no. 182 – valuation of buildings, 1939–1940.

36 *Ibid.*, inv. no. 187 – valuation of company machinery, 1940.

Jeseník, Regenhart
& Raymann hand
weaving shop (formerly
the Augustin Küfferle
mechanical weaving
mill) with its boiler house
(probably formerly a gas
house). Photograph by
Michaela Ryšková, 2020.

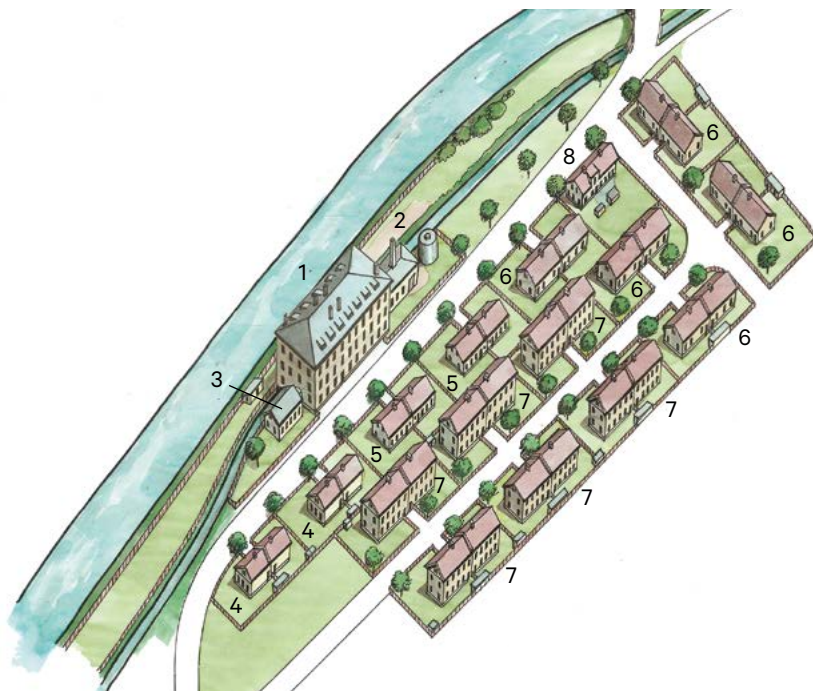


Jeseník, Regenhart
& Raymann weavers'
housing scheme, smaller
buildings (with two
apartments) on Bezručova
St. Photograph by
Michaela Ryšková, 2020.



Jeseník, Regenhart &
Raymann weavers' housing
scheme, view along
Vančurova St. flanked
by houses with four
apartments. Photograph
by Michaela Ryšková, 2015.





Jeseník, Regenhart & Raymann weaving mill and weavers' housing scheme, reconstruction of the situation at the beginning of the 20th century, view from the south. Drawing by Jaroslav Staněk, 2020.

Opposite: Jeseník, Regenhart & Raymann weaving mill and weavers' housing scheme, current situation, scale 1 : 5,000, Pavel Maren, 2021. Map data © Czech Land Surveying and Cadastral Authority.

■ cultural monument ■ proposed legal heritage protection ■ area of heritage interest ■ demolition

Legend: WEAVING MILL: 1 – J. Putz's mill, later the Küfferle mechanical weaving mill and the Regenhart & Raymann mechanical weaving mill with an adjacent turbine engine house, after 1896/1897 a hand weaving shop with part of the building used for accommodation (1852, modified); 2 – gas house?, later boiler house, warehouse; 3 – warehouse, later hand weaving shop (1883, Rudolf Zelenka, building contractor, Jeseník); WEAVERS' HOUSING SCHEME (residential blocks with weavers' workshops): 4 – two smaller buildings each with two apartments, nos. 43 and 44 (ground plan 18.5 × 9.7 m; before 1884?); 5 – two medium-sized buildings each with two apartments, nos. 45 and 46 (ground plan 23 × 8.8 m; 1884, Rudolf Zelenka, building contractor, Jeseník); 6 – five? larger buildings each with two apartments, nos. 47–48, 50–51 (and 49?; ground plan 27.6 × 8.75 m; 1885, Franz Gröger, building contractor, Jeseník); 7 – six two-floor buildings each with four apartments, nos. 55–60 (ground plan 30 × 8.75 m); 8 – the oldest (atypical) residential building, no. 28, demolished (ground plan 20.8 × 10.5 m; before 1884).

Although the houses underwent alterations after the closure of the workshop spaces, the housing scheme remains interesting from the typological perspective, representing a highly unusual solution to the demands of hand weaving operations. At other linen and silk producers, hand-operated looms were used in parallel with mechanical weaving mills; Regenhart & Raymann (which at the end of the 19th century operated 500 mechanical and 1,200 hand-operated looms)³⁷ is the only company which is known to have built a housing scheme for workers including weavers' workshops. The scheme was a newer incarnation of the scattered weavers' communities built on the Janovice estate in the mid-18th century.³⁸

37 *Die Gross-Industrie Oesterreichs*, pp. 332–337.

38 MAINUŠ, F. Janovické harrachovské plátenické podnikání, pp. 468–495.





Libina, N. Langer & Söhne weaving mill, hand weaving shop (building no. 216), later converted into the company headquarters. ZAO, Olomouc branch, fonds Langer, Libina, inv. no. 36.

LIBINA, NORBERT LANGER & SÖHNE, MECHANICAL WEAVING MILL PRODUCING LINEN AND COTTON GOODS

The Šternberk-based firm Norbert Langer & Söhne progressively expanded its business operations beyond the region's main textile centres. In the 1860s, in addition to its bleaching shop in Oskau (Oskava), the company built up a weaving operation in the village of Deutsch Liebau (Německá Libina, now Libina). Its first acquisition was house no. 216, which was modified and expanded to serve as premises for a hand weaving shop. At the end of the 1880s and the beginning of the 1890s the company established a mechanical weaving mill, for which it built a factory hall with a sawtooth roof and a cast iron structural skeleton (supplied by the nearby Klein Brothers ironworks in Zöptau, now Sobotín), with an adjacent steam engine house and boiler house. The mill was designed to house 150 mechanical looms, and it was later substantially enlarged. In 1904 a new factory hall (designed by Ed. Ast & Co.) was built on the north side of the original weaving mill; it had a monolithic reinforced concrete structural skeleton and covered an area of almost 2,000 m². In 1912–1913, a second factory hall was built (designed by the Uničov building contractor Zdenko Vodička) near the main road; the west side of the hall formed the street-facing façade of the factory site. This took the total number of looms at the mill to 425. In 1929–1930 a three-floor roving workshop³⁹ was built, with a riveted metal structural skeleton and brick outer walls. The loft (on two levels) was evidently used for storage and for drying goods.

In the first three decades of the 20th century, the company built a number of buildings containing accommodation for employees in the vicinity of the factory, though they lacked any unifying system or concept. In 1904 four semi-detached houses were built (nos. 544–547, 549–552), as well as an adjacent apartment block (no. 553). Further two-floor apartment blocks were built in (no. 562), 1923 (no. 572–573), 1925 (no. 571), 1927 (no. 595) and 1929–30 (no. 700). The company then built a number of other residential buildings to the north and west of the factory, and the original hand weaving shop (no. 216) was modified as an accommodation block and office building.⁴⁰

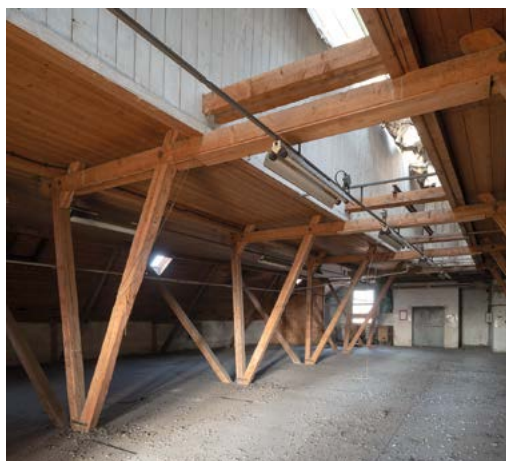
39 SPURNÝ, F. Moravolen Libina, unpaginated; SOKA Šumperk, fonds OÚ Šumperk, inv. no. 471, box 80; ZAO, Olomouc branch, fonds Langer, Libina, inv. no. 72, 73; Ed. Ast & Co., *Ingenieure*, p. 19.

40 ZAO, Olomouc branch, fonds Langer, Libina, inv. no. 36 – valuation of buildings, 1930.



Libina, N. Langer & Söhne weaving mill, roving workshop (1929–1930) and mechanical weaving mill (1883, 1904). Photograph by Viktor Mácha, 2020.





Libina, N. Langer & Söhne weaving mill, roving workshop, 1929–1930. Photograph by Viktor Mácha, 2020.



Libina, N. Langer & Söhne weaving mill, factory hall built in 1912–1913 and the connecting link to the roving workshop, demolished in 2021. Photograph by Viktor Mácha, 2020.

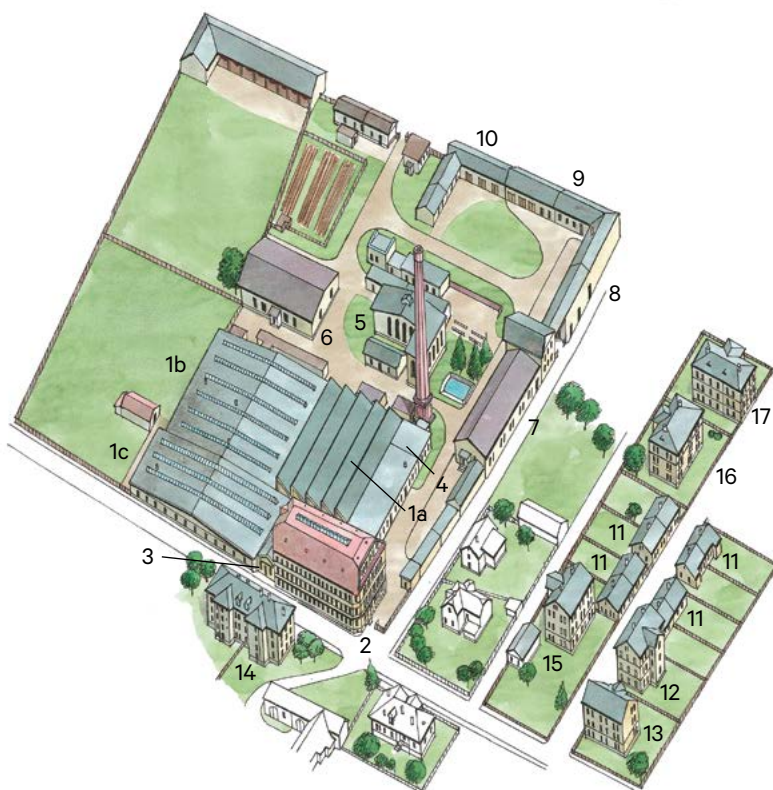


The last expansion of the weaving mill took place in the second half of the 20th century. A new factory hall in the northern part of the site was apparently built in 1962 to house 66 automatic looms.⁴¹

The dominant feature of the site (and of the village as a whole) was a multi-storey factory building dating from 1929–1930. Of considerable architectural interest, it was one of the few large-scale construction projects undertaken at a weaving mill in the Šumperk region in the late 1920s. Its use of light-coloured sand lime bricks⁴² recalls the last of the hall-type weaving mill structures at the site (1912–1913), but the forms are different. With three floors and covering a sizeable area, the new building had a chamfered corner section, cornices segmenting the façades, and a large mansard roof with prominent gables.

41 BERAN, L. – VALCHÁŘOVÁ, V. – ZIKMUND, J. (eds.). *Industriální topografie*, pp. 189–190.

42 Ibid., pp. 189–190.



Libina, N. Langer & Söhne weaving mill, situation around 1940, view from the south-west.
Drawing (reconstruction) by Jaroslav Staněk, 2021.

Opposite: Libina, N. Langer & Söhne weaving mill, current situation, scale 1 : 5,000, Pavel Maren, 2021.
Map data © Czech Land Surveying and Cadastral Authority.

■ cultural monument ■ proposed legal heritage protection ■ area of heritage interest ■ demolition

Legend: 1 – weaving mill factory hall, 1a – weaving mill I (1883), 1b – weaving mill II (1904, Ed. Ast & Co.), 1c – weaving mill III (1912–1913, Zdenko Vodička, building contractor, Uničov), 1d – new factory hall (1960s, only on map); 2 – roving workshop (1929–1930); 3 – connecting link between the weaving mill and the roving workshop (1940); 4 – boiler house, engine house, separate chimney (1904, reconstruction 1928–1930, later converted into factory offices); 5 – engine house (1928–1930); 6 – workshop (1935); 7 – warehouse, workshops (1889, Zdenko Vodička, building contractor, Uničov); 8 – goods warehouse, later dining hall (1912, Josef Winkler); 9 – garages, 10 – sheds, garage; ACCOMMODATION BUILDINGS: 11 – 4 semi-detached houses (1904); 12 – apartment building (1904); 13 – apartment building (1912); 14 – apartment building (1923); 15 – apartment building (1925); 16 – apartment building (1927); 17 – apartment building (1929–1930).



LOUČNÁ NAD DESNOU, MECHANICAL LINEN AND HEMP SPINNING MILL

The mechanical linen and hemp spinning mill in Wiesenberg (today Loučná nad Desnou) was established in 1850 and began production in the following year. It was designed for 5,000 spindles, but it started with just half this number; the remaining spindles were added in 1853. In 1855 the capacity was raised to 6,000 spindles. The machinery was imported from the English city of Leeds.⁴³

The spinning mill was built on the Wiesenberg estate, on land near the manor house. It was a two-floor brick building on an elongated rectangular ground plan, with a hip roof and a central risalit (avant-corps) containing an engine hall for a turbine and later also for a steam engine. The vaulted ceilings with metal girders were supported by cast iron columns. In 1890 the vaulting in the right side of the building was bricked over. In 1907 the spinning mill was extended southwards with the addition of 8 more window axes to a design by the building contractor F. Riess. After a fire in 1940, a new roof was installed in the north wing.⁴⁴

Krejčířík states that water from the River Desná was channelled to the turbine via a cast iron pipe with 1.6 m diameter; *Gross-Industrie Oesterreichs* states that there was a mill-race with a length of 1,000 m. The water fell from a height of 20 metres to power two Jonval turbines producing 200 hp. In 1871 a steam engine and a new turbine were installed. The original turbines were replaced in 1908 with a Francis turbine made by J. M. Voith, St. Pölten, producing a maximum output of 280 hp.⁴⁵

Abutting the rear of the spinning mill (i.e. not visible from the main frontage) was a small boiler house (now defunct) that heated water; a drying house was adjacent to it. In 1858 a new boiler house was built (with two flue boilers) on the south side of the original boiler house. By 1904 another boiler house was in operation on the north side of the original boiler house, and the 1858 boiler house had been adapted to become a new engine house for the steam engine. The original boiler house and drying house were linked in 1876 to create a single building, which was converted into a yarn drying house. There was a gas house supplying gas to interior lamps throughout the site.⁴⁶

The ground plan was axially symmetrical. Flanking the elongated spinning mill building with its central risalit (avant-corps) there were two protruding buildings positioned perpendicular to it, used mainly for storage. The one at the right (north) was evidently built at the same time as the spinning mill, and the one at the left (south) was built somewhat later (1853–1858). There was an administrative building (also including apartments for the factory managers) facing onto the road, which enclosed the central courtyard area.

43 ZAO, Olomouc branch, fonds OŽK Olomouc, inv. no. 1965, box 223; Bericht im Jahre 1853, p. 29; *Die Gross-Industrie Oesterreichs*, pp. 314–315; KREJČÍŘÍK, Mojmír. Kleinové. Historie moravské podnikatelské rodiny. Brno v minulosti a dnes, Supplementum 9. Brno 2009, pp. 239–240. DOHNAL, M. *Průmyslová revoluce*, p. 43. – The sources differ slightly in the dates and numbers of spindles they give. GIO gives 1850 as the date of establishment, while Dohnal states that the mill was built in 1851–1852 and began production in 1852. Krejčířík states that construction and production began a year earlier. Dohnal states that the mill initially had 5,000 spindles, GIO and Krejčířík give an initial figure of 3,000, soon rising to 6,000 (in 1855, according to Krejčířík).

44 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 501; Ibid., unprocessed fonds Mechanická přádelna Loučná n. D. (Mechanical spinning mill Loučná nad Desnou).

45 KREJČÍŘÍK, M. Kleinové, pp. 239–240; *Die Gross-Industrie Oesterreichs*, pp. 314–315; SOKA Šumperk, fonds OÚ Šumperk, inv. no. 501 – Water rights, 1937.

46 In 1898 there were two steam engines in operation, producing 150 hp and 70 hp. – SOKA Šumperk, fonds OÚ Šumperk, inv. no. 501; *Die Gross-Industrie Oesterreichs*, pp. 314–315.



Loučná nad Desnou, linen and hemp spinning mill. Photograph by Viktor Mácha, 2021.



Loučná nad Desnou, linen and hemp spinning mill, warehouse for storing raw flax, with covered loading/unloading area. Photograph by Michaela Ryšková, 2021.

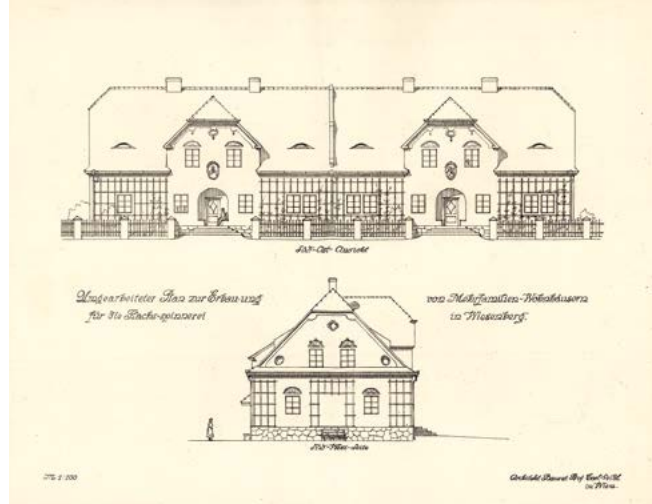
During the second half of the 19th century, two buildings to the north of the site were converted to create accommodation facilities (nos. 119 and 120). In the second decade of the 20th century, two blocks (each containing 10 apartments) were built to the south of the spinning mill (on the eastern side of the road): one dates from before 1914, the other was built in 1914 to a design by the local master builder E. Stanzel. A further two apartment blocks were planned after 1920, which were to be mirror images of each other; only one of them (building nos. 80 and 81) is standing. There are two essentially identical sets of plans for these blocks, one produced by E. Stanzel and the other by the Viennese architect Karl Seidl. The block stands out among the other employee accommodation built in connection with the region's spinning and weaving mills due to the high architectural quality of its design, which draws on the garden city concept. The buildings each had five apartments and recessed entrances; this created niches where people could sit and relax. Above the entrances were stucco relief elements depicting yarn-spinning scenes. The street-facing façades featured trellises for plants, and the design included a proposal for the appearance of the garden areas at the front of the buildings.⁴⁷

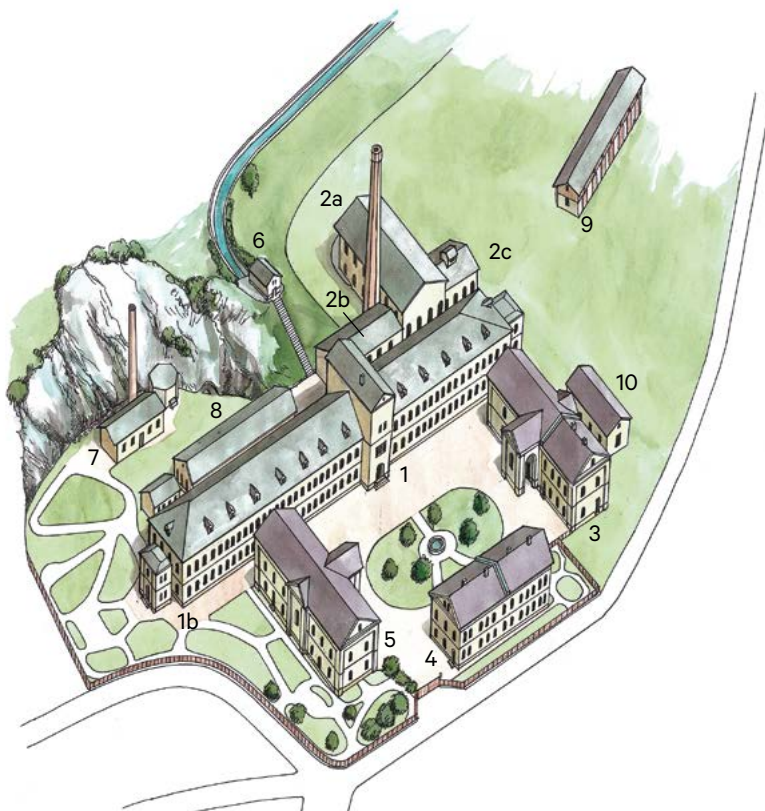
This linen spinning mill, one of the most important spinning mills in the Šumperk region, ceased production during the Great Depression of the 1930s, after which the site was used for machine production. The original building has been preserved, including its load-bearing structures. Another surviving building is the warehouse, with its covered loading/unloading area. The spatial concept of the site has been disrupted by the reconstruction and expansion of one of the storage buildings (which is not in keeping with the original scale) and by extensions to the original spinning mill.

47 SOKA Šumperk, unprocessed fonds Mechanická přádelna Loučná n. D. (Mechanical spinning mill Loučná nad Desnou).

Loučná nad Desnou, block containing 10 apartments, 1920s, planning documentation, street-facing façade and detail, Carl Seidl, Vienna. SOKA Šumperk, unprocessed fonds Mechanická přádelna Loučná n. D. (Mechanical spinning mill Loučná nad Desnou), box 2.

Loučná nad Desnou, block containing 10 apartments, 1920s. Photograph by Viktor Mácha, 2020.



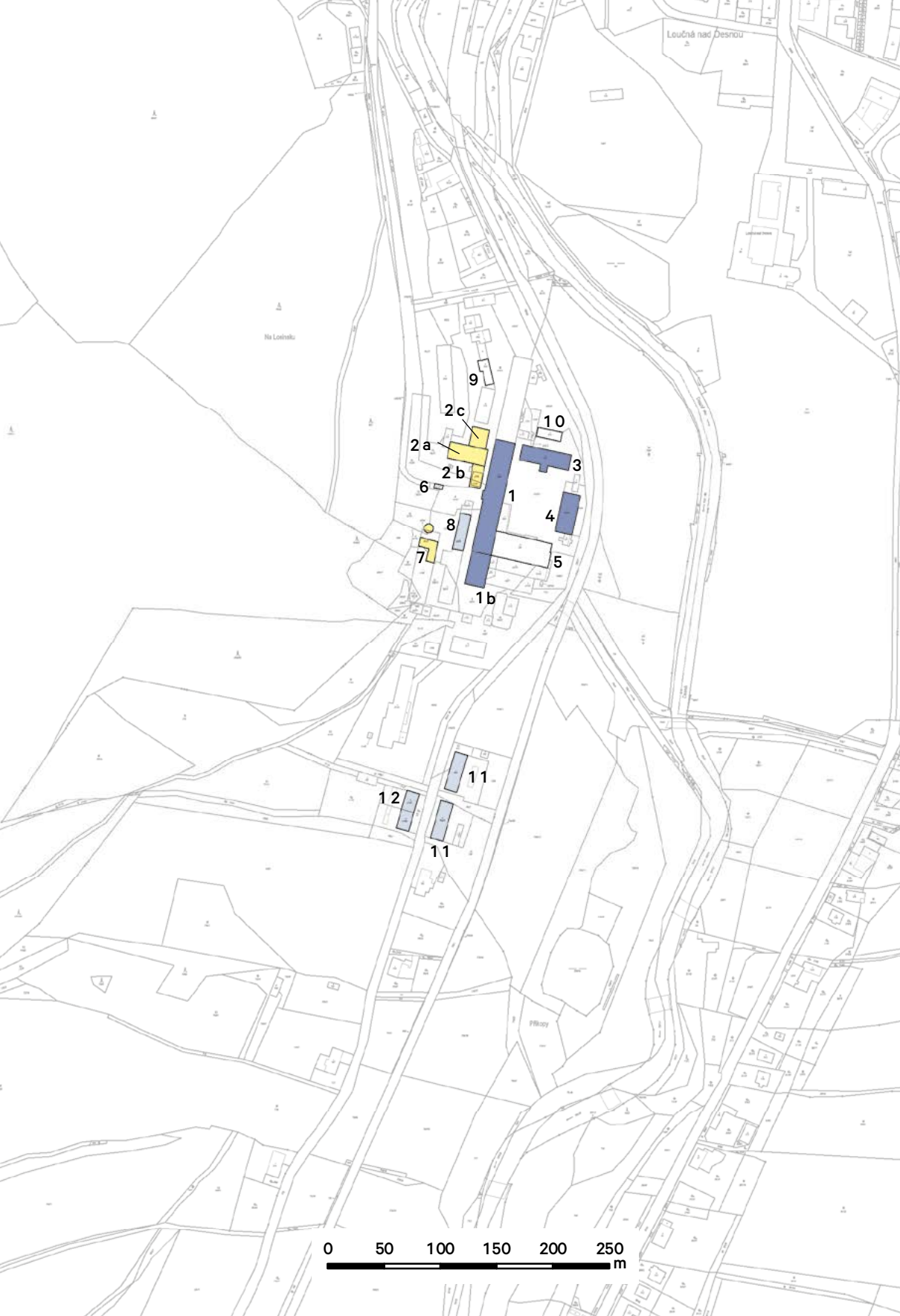


Loučná nad Desnou, linen spinning mill, situation around 1910, view from the south-east.
Drawing by Jaroslav Staněk, 2021.

Opposite: Loučná nad Desnou, linen spinning mill, current situation, scale 1 : 5,000, Pavel Maren, 2021.
Map data © Czech Land Surveying and Cadastral Authority.

■ cultural monument ■ proposed legal heritage protection ■ area of heritage interest ■ demolition

Legend: SPINNING MILL: 1 – spinning mill, engine house for turbines and a steam engine (1851–1852; 1871 steam engine installed in the central risalit; new vaulting in the north wing, 1890, Franz Riess?; 1940 new roof in the right wing due to fire damage, E. Stanzel, master builder, Loučná); 1b – extension of the spinning mill (1907, F. Riess, building contractor, Šumperk); 2a – original boiler house, chimney and drying house/warehouse – separate buildings linked by a bridge, later connected to create a single building used as a yarn drying house (1851–1852; 1876 reconstruction, linked to create one building; demolished); 2b – boiler house, later steam engine house (1858, E. Liebhich?; 1904 adapted to serve as a steam engine house; demolished); 2c – new boiler house (po 1871, demolished); 3 – warehouse, apartments, bunkhouse (1851–1852); 4 – accommodation and administrative building (1851–1852); 5 – warehouse (before 1858, replaced by a new factory hall); 6 – water channel, filtration screens; 7 – gas house (1871?, demolished); 8 – warehouse?; 9 – storage facility (1890); 10 – warehouse?; RESIDENTIAL BUILDINGS: 11 – two blocks containing 10 apartments (cca 1914, Eduard Stanzel, master builder, Loučná; only on map); 12 – block containing 10 apartments (1920s, architect Karl Seidl, Vienna; only on map).



0 50 100 150 200 250 m

OSKAVA, NORBERT LANGER & SÖHNE, BLEACHING AND FINISHING SHOP FOR LINEN AND COTTON GOODS

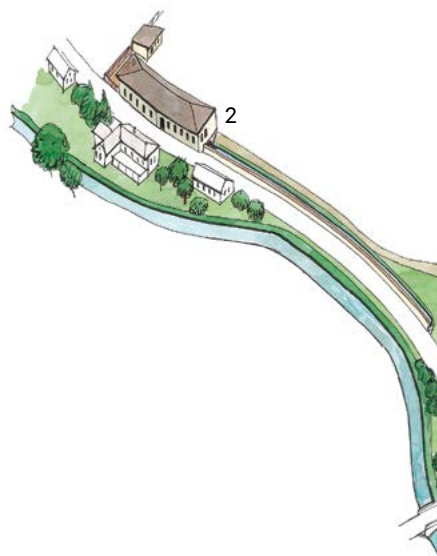
The Langers' bleaching shop in Oskava was situated in the Oskava valley and next to a mill-race which channelled water to it from the stream. Its predecessor was a bleaching shop belonging to the local lord, but we do not know what this looked like. The oldest structures at the site were a two-floor administrative and accommodation building (plus an outbuilding) and a single-floor hand weaving shop, evidently built in the mid-19th century. Adjacent to these were other accommodation buildings and utility buildings.

At the end of the 1850s and the beginning of the 1860s two drying houses were built, together with an adjacent outbuilding and a single-floor bleaching shop, situated separately higher upstream (see the reconstruction in the drawing). Soon afterwards, the company built a two-floor bleaching shop (which is still standing) in the close vicinity of the local church; this laid the foundations for the new part of the factory site, which began to evolve during the 1870s and 80s.⁴⁸ The site underwent a lengthy process of evolution, and its current appearance is due mainly to alterations made after the company was nationalized, becoming the Moravolen national corporation.

The pair of cloth drying houses built in Oskava around 1860 became a local landmark, and the structures were frequently depicted as a central feature in contemporary postcards and photographs of the village. They both survived even after they were no longer in use, and the wooden drying tower was granted legal heritage protection. However, it remained disused, fell into dereliction, and in 1966 was damaged by a windstorm. What remained of the tower was demolished.⁴⁹ The brick drying tower was converted into a residential building (house no. 172). Another original structure that has survived to this day is the administrative and accommodation building in the southern part of the site, which is now used for residential puposes. The hand weaving shop was converted to serve as a cinema.

A particularly distinctive feature of the Langers' bleaching shop is its square-sectioned chimney with a height of 12 metres, built on a slope above the factory in order to avoid soiling the bleached goods with ash. The smoke was channelled to the chimney via an underground duct that was approximately 200 metres long.⁵⁰

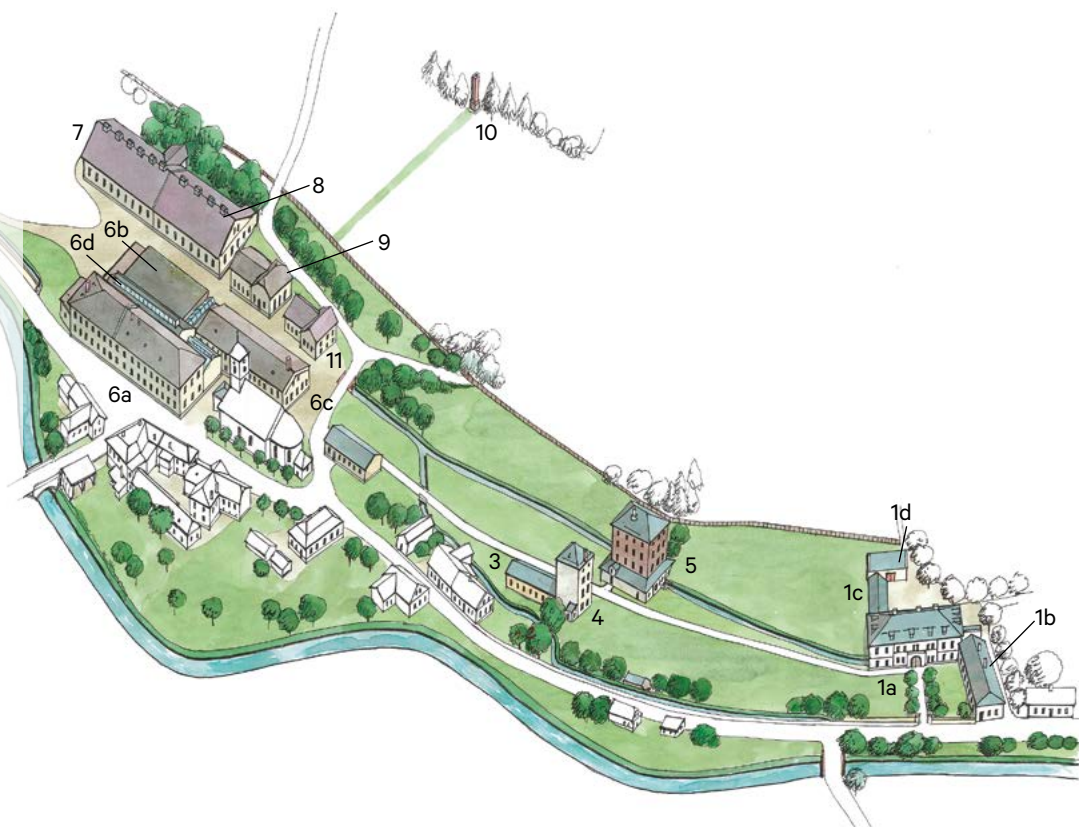
Today, the site of the bleaching and finishing shop is important primarily because it documents a continual process of production stretching from the first half of the 19th century to the present day; the former central part of the site is now used as a textile processing plant by the company CNM textil, a. s., and it is the last such plant that is still active in the region.



48 ZAO, fonds N. Langer, Libina, inv. no. 37 – insurance of factory buildings in Oskava, 1935.

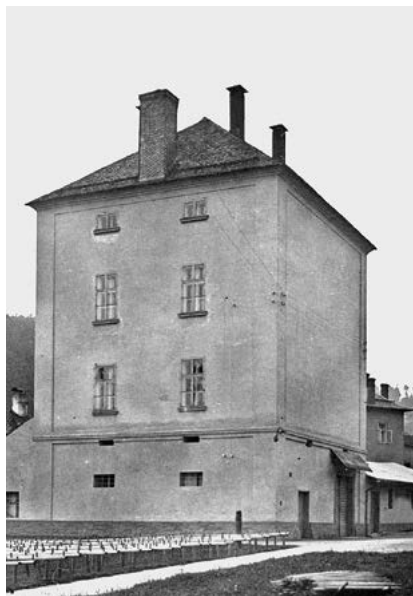
49 The structure was erroneously listed in the Central Register of Cultural Monuments (ÚSKP) as a flax drying house (building no. 39). Its legal heritage protection was removed in 1975. – Sušárna lnu. [online] Památkový katalog [retrieved 2. 4. 2021]. Available at: <https://pamatkovykatalog.cz/susarna-lnu-2145441>.

50 ZAO, fonds N. Langer, Libina, inv. no. 37.



Oskava, Norbert Langer & Söhne bleaching and finishing shop, drawing showing a reconstruction of the situation around 1930, view from the south-west. Drawing by Jaroslav Staněk, 2021.

Legend: 1 – buildings in the southern part (1846–1847), 1a – administrative and accommodation building, 1b – hand weaving shop, later a residential building, 1c – outbuilding, stables, garage, 1d – residential building; 2 – bleaching shop (1860; demolished); 3 – bleaching shop (1858, demolished); 4 – winter drying house (1860); 5 – summer drying house (1860, demolished), turbine engine house (demolished); 6 – bleaching shop, finishing shop, 6a – bleaching shop (1861–1862), 6b – finishing shop (1874), 6c – mangle, calender shop, offices (1884), 6d – starching shop, boiling room (1916); 7 – bleaching shop; 8 – mercerizing shop (1922); 9 – engine house, boiler house (1892–1916, reconstructed 1938); 10 – chimney; 11 – workshop.



Oskava, N. Langer & Söhne bleaching and finishing shop, winter drying house. Photograph by Viktor Mácha, 2021. ZAO, Olomouc branch, fonds N. Langer, Libina, inv. no. 37, situation in 1935.

Oskava, N. Langer & Söhne bleaching and finishing shop, chimney. Photograph by Viktor Mácha, 2021.

Opposite: Oskava, N. Langer & Söhne bleaching and finishing shop, current situation, scale 1 : 5,000, Pavel Maren, 2021. Map data © Czech Land Surveying and Cadastral Authority.

■ cultural monument ■ proposed legal heritage protection ■ area of heritage interest ■ demolition

Legend: 1 – buildings in the southern part (1846–1847), 1a – administrative and accommodation building, 1b – hand weaving shop, later a residential building, 1c – outbuilding, stables, garage, 1d – residential building; 2 – bleaching shop (1860; demolished); 3 – bleaching shop (1858, demolished); 4 – winter drying house (1860); 5 – summer drying house (1860, demolished), turbine engine house (demolished); 6 – bleaching shop, finishing shop (reconstructed, modified, expanded); 7 – bleaching shop; 8 – mercerizing shop (1922); 9 – engine house, boiler house (1892–1916, reconstructed 1938); 10 – chimney; 11 – workshop.



STARÉ MĚSTO, G. A. BUHL SOHN UNITED SPINNING MILLS AND TEXTILE FACTORIES

A linen yarn bleachery appears to have been established at this site in the late 1820s. In 1868 it was converted to use steam power, and the traditional bleaching process (grass bleaching) was supplemented by chemical processes. A dyeing and printing shop were also built. The site underwent a process of modernization. An important impetus for its development came when Staré Město became part of the railway network with the building of the local line to Hanušovice in 1905. The printing and dyeing shops were enlarged, and a power plant was built.⁵¹ In 1906 the bleaching and finishing shop had a steam engine (producing 30 hp) and a water turbine (12 hp).⁵² From 1919, the company began producing thread. In 1934 the boiler house was equipped with two flue boilers that had been made in 1907 by F. Ringhoffer in Prague and the Sobotín-Štěpánov Mining Company (Zöptauer-Stefanauer Bergbau A. G.). The engine house had a steam engine produced by the Prager Maschinenbau A. G. engineering works in Prague (producing 90 hp) and a Francis water turbine (20 hp) built in 1919 by J. M. Voith, St. Pölten. The new engine house was equipped with a 400 hp steam engine built in 1910 by Nicholson Budapest.⁵³

The oldest structure at the site is the bleaching shop (and drying house). Its current appearance is a result of rebuilding work done after the building had been damaged by fire. The rebuilding of the upper floor (which contained warehouses, accommodation and a drying house) was designed by Rudolf Winter in 1912. As part of the rebuilding project, the façade of the main building was ornamented with cornices and columns featuring decorative vases. These elements were later adopted in the newer buildings: the dyeing shop, boiling rooms and warehouse located in perpendicular wings that protruded from the main tract.⁵⁴ The hall in which the dyeing shop was located (i.e. one of the above-mentioned perpendicular wings) was roofed in 1916 using a reinforced concrete structure designed by the building contractor Rudolf Pilnáček.⁵⁵

At the end of the 1920s, the site was expanded with the construction of a new administrative building and thread spinning mill, designed by the Vodička Brothers (Bratři Vodičkové) building contractors of Uničov in 1927. The new building took its stylistic and structural cues from the older buildings at the site, presenting a prominent main façade which echoed the older forms. Although the supporting structures were made of reinforced concrete, the main façade was loosely based on the traditionalist style of the older dyeing shop building. The plasterwork façades were segmented by lesenes and cornices, the roofs had attics, and the gable parapet of the new building featured undulating lines.⁵⁶

When the company was nationalized, the bleaching plant became part of the national corporation Lenas Bruntál, and later came under the control of the national corporation Moravolen Šumperk. A new boiler house and warehouse were built, and the original buildings underwent modifications. Although the original architectural detailing of the façade disappeared, the basic forms remained intact. The interiors have been better preserved, especially the main corridors of the administrative building and the large hall with its staircase and numerous original details.

51 SPURNÝ, František. Moravolen Staré Město. *Vlastivědné zajímavosti*, no. 129, unpaginated.

52 *Adressbuch der Textil-Industrie Österreich-Ungarns 1906–7*. Reichenberg 1906, p. 162.

53 ZAO, Olomouc branch, fonds Buhl, Staré Město, inv. no. 154 – valuation of machinery, 1934–1935.

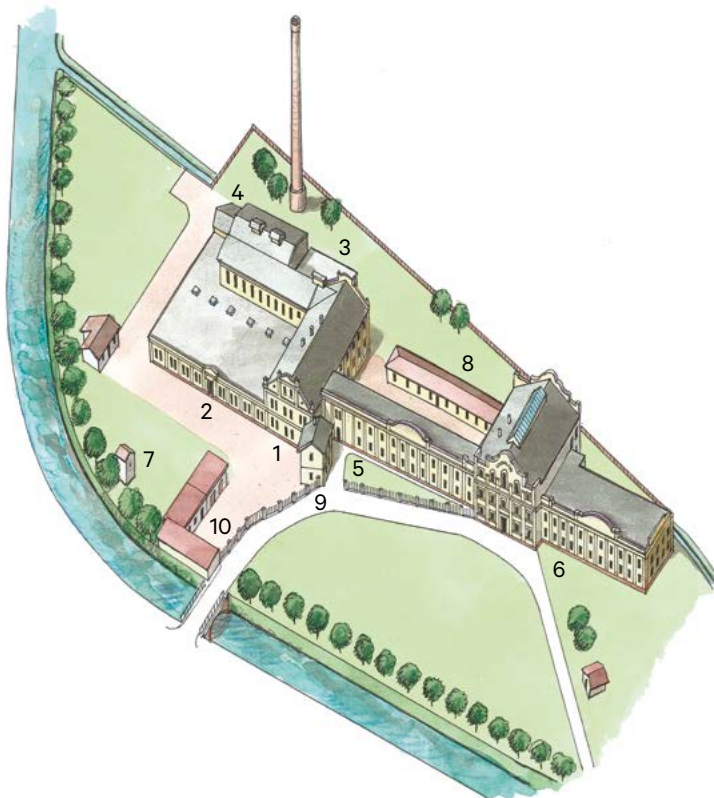
54 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 486.

55 *Ibid.*, inv. no. 486, box 92.

56 *Ibid.*, inv. no. 486.

Staré Město, G. A. Buhl
Sohn united spinning
mills and textile factories,
thread spinning mill offices
and production premises,
1927–1928. Photograph by
Viktor Mácha, 2019.



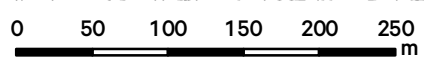


Staré Město, G. A. Buhl Sohn united spinning mills and textile factories, reconstruction of the situation in the 1920s, view from the south-west. Drawing by Jaroslav Staněk, 2021.

Opposite: Staré Město, G. A. Buhl Sohn united spinning mills and textile factories, current situation, scale 1 : 5,000, Pavel Maren, 2021. Map data © Czech Land Surveying and Cadastral Authority.

■ cultural monument ■ proposed legal heritage protection ■ area of heritage interest ■ demolition

Legend: 1 – original bleaching shop and drying house (before 1912, 1912 reconstructed after a fire, R. Winter); 2 – dyeing shop (reinforced concrete roof 1916, Rudolf Pilnáček, building contractor, Hradec Králové), drying house; 3 – boiler house, engine house for the steam engine and turbine; 4 – new steam engine house; 5 – workshops, warehouse; 6 – thread spinning mill offices and production premises (1927–1928, Bratři Vodičkové, building contractors, Uničov); 7 – transformer station; 8 – warehouse (replaced by a new building); 9 – laboratory (demolished); 10 – auxiliary buildings (sheds, guard's house, etc.).



SUDKOV, I. SEIDL & COMP., MECHANICAL LINEN AND COTTON SPINNING MILL

The spinning mill in Sudkov was one of the largest mechanical spinning mills in the Šumperk region. In 1863 Ignaz Seidl bought a mill with a pond (including a mill-race), and in the following two years he built a spinning mill processing flax and tow (rough waste fibres from the production process). The plans for the spinning mills, administrative and accommodation building and flax warehouse date from May 1864,⁵⁷ the foundation stone was laid on 28 May 1864, and the first products left the factory on 3 October 1865.⁵⁸

The layout of the mill was based on that of the mechanical spinning mill in Šumperk. The two-floor spinning mill building stretched along one of the longer sides of the rectangular site, and was free of architectural details. The central risalit (avant-corps) of the mill contained an engine room equipped with Jonval-type turbines made by Kohlich & Co. in Mühlhausen and producing 200 hp; these turbines supplied power to 6,000 spindles. On the opposite side of the site was an accommodation building and a warehouse where flax was stored. Along the shorter sides of the site were the administrative building (on the site frontage) and the gas house, which supplied gas to the interior lamps of the factory. At the end of the main mill building was a boiler house with a chimney, which featured on the factory situation plan dating from 1865.⁵⁹

At some point before 1882 the building was extended by the construction of a drying house with five floors; this replaced the original boiler house and engine house. Between the original flax warehouse and the workers' accommodation block (later modified to serve as a warehouse), a heckling shop was built above the mill-race.

The expansion was also connected with the company's decision to start spinning cotton yarn in 1883: an extra two floors were added to the original spinning mill, and a cotton cleaning shop with a dust tower was built (later enlarged in 1891–1892).⁶⁰ A new cotton spinning mill was built abutting the cleaning shop in 1904, and in 1928 it was enlarged to create a new cleaning shop and a cotton blending shop with a pneumatic transportation system (designed by Karl Ilgner). The reinforced concrete dust tower was designed by the Brno branch of Pittel & Brausewetter in 1916.⁶¹

As the factory complex grew, its power generation facilities were expanded accordingly. At the end of 1928 the company had two Francis turbines (producing 250 and 167 hp) produced by J. M. Voith of St. Pölten in 1902 and 1924, as well as one Francis spiral turbine producing 47.2 hp (to power the lighting system) built in 1914 (also by Voith); the Francis turbine was installed in the engine house (located in the courtyard) in 1915. Steam power was provided by a steam engine built by the First Brno Engineering Works (Erste Brünnner Maschinenfabrik) in 1898 producing 1,000 hp, plus another steam engine producing 750 hp. Steam was generated by four Babcock-Wilcox boilers (three made by the Erste Brünnner Maschinenfabrik in 1898, 1907 and 1915, and the fourth made in 1926–1928). In this period, the linen spinning mill had 12,544 fine yarn spindles and the

57 SOKA Šumperk, fonds OÚ Zábřeh (Zábřeh District Authority), inv. no. 906; *Die Gross-Industrie Oesterreichs*, pp. 338–339, here p. 338.

58 JÁNEŽ, Karel. *Sedm set let obce Sudkov. Sto třicet let přádelny lnu*. Sudkov 1996, p. 38.

59 SOKA Šumperk, fonds OÚ Zábřeh, inv. no. 906.

60 Ibid.; ZAO, Olomouc branch, fonds Ig. Seidl a spol., Sudkov (Ig. Seidl & Comp., Sudkov), inv. no. 181, box 13; SPURNÝ, František. *Moravolen Sudkov. Vlastivědné zajímavosti*, no. 97. Šumperk 1973, unpaginated; *Die Gross-Industrie Oesterreichs*, p. 338. – When production began, the cotton spinning mill had 5,024 spindles.

61 The first brick powder tower was built in connection with the construction of a cleaning shop in 1882. In 1904 it was demolished to make way for a new cotton spinning mill, which had a new brick powder tower. – SOKA Šumperk, fonds OÚ Zábřeh, inv. no. 906.



Sudkov, I. Seidl & Comp. linen and cotton spinning mill. Photograph by Michaela Ryšková, 2019.



Sudkov, I. Seidl & Comp. linen and cotton spinning mill. Photograph by Viktor Mácha, 2019.



Sudkov, I. Seidl & Comp.
linen and cotton spinning
mill, cotton blending
shop and dust tower.
Photograph by Michaela
Ryšková, 2019.



Sudkov, I. Seidl & Comp.
linen and cotton spinning
mill. Photograph by
Michaela Ryšková, 2019.



Sudkov, I. Seidl & Comp.
linen and cotton
spinning mill, west wing.
Photograph by Viktor
Mácha, 2019.

cotton spinning mill had 16,616 spindles on self-acting mules and 8,696 on ring frames, as well as 1,936 plying spindles for producing thread.⁶²

The changes made during the second half of the 20th century include the closure of the cotton spinning mill and the use of the vacated buildings as a central heckling shop for the national corporation Lenas, which began production in 1955–1956.⁶³ In 1959–1960 the ceilings in the west wing of the original spinning mill were reinforced; the original ceilings (which had cast iron beams and brick vaulting supported on cast iron columns) were replaced by reinforced concrete structures.⁶⁴

In 1869 a workers' housing scheme was established at Podhora, not far from the factory. It consisted of three buildings containing bunkhouses and apartments. On the opposite side of the street another structure was built, which was apparently used as a laundry.⁶⁵ In 1906 plans were drawn up for the construction of five buildings, each of them containing ten apartments and accompanied by an outbuilding containing shared toilets, stables and firewood racks for the individual apartments.⁶⁶ The last residential blocks to be built at the site were workers' accommodation buildings (nos. 171–173). In 1920–1921 two of the oldest buildings – no. 158 (with six apartments) and no. 118 (the bunkhouse) – were enlarged by the addition of an extra floor, and the bunkhouse was converted into apartments.⁶⁷ In 1884 a German school was built in the same street, which in 1925 was converted for residential purposes.⁶⁸ Other workers' accommodation blocks were built by the company in 1873 (in the nearby village of Kolšov) and at the turn of the 20th century (in Sudkov itself).⁶⁹

Two villas and a residential building for factory clerks were also built nearby. In the 1890s the "Emma" villa (house no. 100) was built above the workers' housing scheme and the school to a design by Karl Seidl. The second villa, for the Chiari family, was built alongside the clerks' accommodation block directly adjacent to the factory (house no. 117).⁷⁰

Since the demolition of the spinning mill in Hanušovice, the Sudkov complex has been the largest surviving mechanical linen spinning mill in the Šumperk region. Its development was stimulated by the decision to introduce cotton spinning in the 1880s. The site is valuable because it applied structural principles and layouts that were characteristic of the mechanical spinning mills established in the Šumperk region from the 1840s to the 1860s, and also because it was built by one of the most important linen producers in the region. Other reasons for its heritage value include the influence that the factory had on the development of the village of Sudkov – not only the mill itself, but also the residential complexes and individual houses as well as the school that was built for the children of the company's employees. The spinning mill is also an important local landmark, and the view of the site across the Sudkov pond was frequently depicted in historical postcards and photographs.

62 ZAO, Olomouc branch, fonds Ig. Seidl a spol., Sudkov (Ig. Seidl & Comp., Sudkov), inv. no. 112; Ibid., inv. no. 42.

63 Ibid., fonds Moravolen, Sbirka soudobé dokumentace (Collection of contemporary documentation); DOUBRAVSKÝ, Zdeněk. Vývoj Moravolenu Sudkov v letech 1945–1960. Master's thesis. Olomouc 1976, pp. 33–37. – The ceilings were reinforced and air conditioning systems were installed.

64 Moravolen Holding, a. s., company archives; JÁNĚ, K. *Sedm set let*, p. 44.

65 SOKA Šumperk, fonds OÚ Zábřeh, inv. no. 906; JÁNĚ, K. *Sedm set let*, p. 39. – Jáně mentions 15 bunkhouses and 25 apartments.

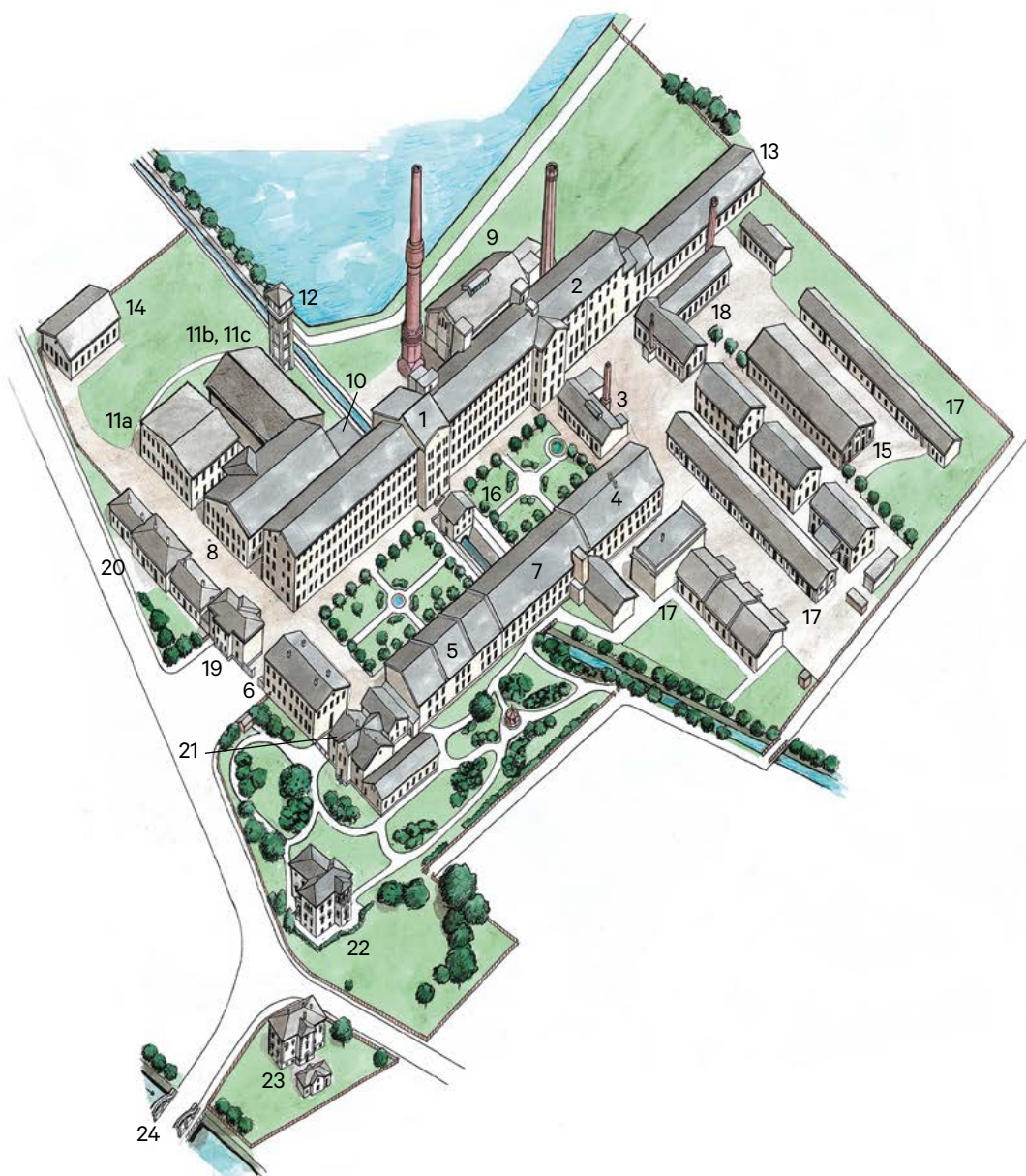
66 SOKA Šumperk, fonds OÚ Zábřeh, inv. no. 906.

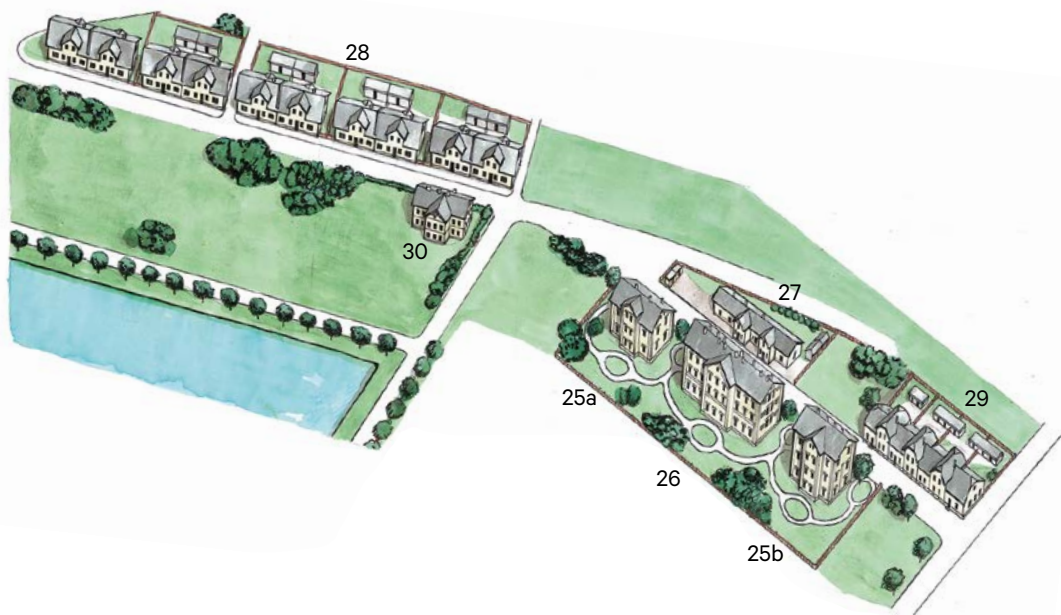
67 JÁNĚ, K. *Sedm set let*, p. 40. – Jáně identifies them as buildings nos. 170–173, today's numbering is 171–173.

68 Ibid., p. 39 and 13. – From 1950 it was a company creche.

69 ZAO, Olomouc branch, fonds Ig. Seidl a spol., Sudkov (Ig. Seidl & Comp., Sudkov), inv. no. 115, box 10; Ibid., inv. no. 181, box 13.

70 ZATLOUKAL, Pavel. (ed.). *Slavné vily*, p. 24; *Stavby Olomouckého kraje. To nejzajímavější od sametové revoluce*. Olomouc 2009, p. 17.





Sudkov, I. Seidl & Comp. linen and cotton spinning mill, situation around 1920, view from the south-west.
Drawing by Jaroslav Staněk, 2020.

Legend: SPINNING MILL: 1 – linen spinning mill, later also a cotton spinning mill (in the west wing), with a turbine engine room in the central risalit (1864–1865, originally with two floors, signed by the factory manager Prill; 1882 extra floors added; 1959–1960 insertion of reinforced concrete ceilings into the west wing); 2 – yarn drying house, later also tow spinning mill, on the site of the original boiler house and the steam engine house (before 1882; 1891 partial replacement of beam ceilings with vaulted ceilings supported by cast iron columns, Franz Klema, building contractor); 3 – gas house, later warehouse (1864–1865, closed down 1915); 4 – workers' housing block, later warehouse (1864–1865); 5 – flax and tow warehouse (1864–1865); 6 – administrative and accommodation building, later only used as offices (1864–1865); 7 – heckling shop (between the original warehouse and the accommodation building; 1886 rebuilt after a fire); 8 – cleaning shop, cotton spinning mill (1882; 1891 extension, Franz Klema, building contractor); 9 – boiler house (1887, lg.? Klein, building contractor; 1898 steam engine house added; 1899 drying house added, Franz Klema, building contractor; 1915, elevator added, Franz Klema, building contractor), chimney with a water reservoir for extinguishing fires (1907); 10 – steam engine house (1887, lg.? Klein, building contractor); 11a, 11b – cotton spinning mill (1904, Franz Klema, building contractor), 11c – cotton blending shop added (1928, Karl Ilgner, building contractor, Zábřeh); 12 – reinforced concrete dust tower (1916, Pittel & Brausewetter, Brno); 13 – flax carding shop, tow cleaning shop in the extension (1905, 18 bays/window axes, Franz Klema, building contractor; 1916 addition of 6 bays/window axes; 1919 addition of a further 3 bays, Franz Klema, building contractor); 14 – cotton yarn warehouse (1908, Franz Klema, building contractor; demolished); 15 – tow warehouse (1912); 16 – engine house with a turbine providing power to the lighting systems, taken out of service in 1960 and used as an electrical workshop (before 1915; 1915 extra floor added, Franz Klema, building contractor); 17 – warehouses; 18 – locksmiths' workshop, forge, carpenters' workshop etc.; 19 – gatehouse, accommodation block; 20 – dining hall; STRUCTURES OUTSIDE THE FACTORY SITE: 21 – residential building, on the site of a former farm building (1909?); 22 – villa, no. 117; 23 – residential building; 24 – bridge; RESIDENTIAL COMPLEXES IN THE MUNICIPAL SUBDIVISION OF PODHORA: 25a – two-floor building with six apartments, no. 116 (1869–1871); 25b – two-floor building with six apartments, with a third floor added later, no. 158 (1869–1871, 1920–1921 extra floor); 26 – bunkhouse, no. 118 (evidently 1869–1871, 1920–1921 an extra floor added, converted into apartments for company clerks); 27 – laundry?, enlarged and converted for residential use (1869–1871?); 28 – five buildings each with ten apartments for workers (1905–1908, plans 1906, Franz Klema, building contractor); 29 – residential buildings for workers, nos. 171–173 (1912); 30 – German school (1895; 1925 converted into apartments, from 1950 company creche).



ŠUMPERK, FRANZ BUJATTI, MECHANICAL WEAVING MILL PRODUCING SILK GOODS

The factory hall of the Franz Bujatti weaving mill was built in three phases from the end of the 1870s to 1889 (more details are given in the chapter on the historical development of textile industry buildings). Only the northern part of the original hall has survived; it was built during the first two phases of construction, in around 1880. The administrative building that abuts the hall and forms the main façade of the site facing onto 8. května St. (formerly Mühlfeldstrasse / Mlýnskoplní ulice) was built before 1882 and enlarged (with the addition of a second risalit) after 1898. The multi-storey building (with employee facilities, a workshop and warehouses) dates from the end of the 19th century. (A drawing showing a reconstruction is on page 214).⁷¹

When the mill was closed, the factory buildings were used as workshops, warehouses and office premises. The southern part of the Bujatti weaving mill hall has been replaced by a supermarket; the neighbouring W. Schay weaving mill was also demolished to make way for the same development.

Once a large and grand factory, the mill has only survived in fragmentary form. Its main heritage value is on the level of history: the Fr. Bujatti company was one of the oldest, largest and most important silk-makers in the Šumperk region, and it was closely associated with the early phase of mechanization in the local weaving industry.

Šumperk, Fr. Bujatti silk goods
factory, weaving mill. Photograph by
Michaela Ryšková, 2006.



Opposite: Sudkov, I. Seidl & Comp.
linen and cotton spinning mill, current
situation, scale 1 : 5,000, Pavel Maren,
2021. Map data © Czech Land
Surveying and Cadastral Authority.

- cultural monument
- proposed legal heritage protection
- area of heritage interest
- demolition

A legend on on page 189.



71 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 96.

ŠUMPERK, JOHANN ERNST KLAPPEROTH, CORDUROY MANUFACTORY

The beginnings of the corduroy manufactory in Šumperk date back to 1785, when the Viennese merchant Johann Ernst Klapperoth applied for a permit to establish the necessary company. In the following year he took the first steps to create the business: he asked the town council to sell him land and to issue a permit for him to construct a water reservoir in the upper part of the town's mill-race (Mlýnský Potok), which would be used for washing his products. The permit was granted, though with one condition: the washing was to be restricted to the summer months in the upper part (near the dam), in order not to poison the fish. Klapperoth originally planned to locate his manufactory in a monastery building, but he abandoned this idea as the premises proved unsuitable; instead he acquired two houses (nos. 70 and 72), municipal land and allotments.

The buildings contained both spinning and weaving shops. The company employed 150 women at the site using spindles and spinning wheels, and later also spinning machines. At the outset, the weaving shop was equipped with seven looms, in 1789 it had five large and 19 medium-sized looms, and the number continued to grow. Other production processes at the site were cutting, dyeing, bleaching, and finishing. In addition to the Šumperk manufactory itself, the Klapperoth company also employed spinners and weavers at other locations in the town and the surrounding area.⁷²

The buildings that comprised the manufactory (nos. 70 and 72) were located in the "lower suburb" of Šumperk, on Neugasse (now Gen. Svobody St.); this street delineated the eastern boundary of the site. The western boundary was formed by the Untere Neuweltgasse (today Jiřího z Poděbrad St.), and to the north of the site were gardens (allotments), fields and a brickworks. Water was sourced via a mill-race from a stream (known as the Timenetz Bach, Grenzbach, or in Czech Bratrušovský Potok). A second mill-race, the Schwarze Graben ("black ditch") bisected the site along a north-south trajectory; in 1897 it was filled in.

Today, it is no longer clear how the original corduroy production site was structured, and what precisely some of the oldest buildings there looked like. Only one of the two original buildings (house no. 70) is still standing. The first documented mention of the building dates from 1765, when one Johann Heinisch bought it from Anton Rays. It then changed ownership several times, until in 1786 the town council purchased it from the clothmaker Franz Heinisch; the council then sold it to Klapperoth. Archive materials give more information on the auxiliary buildings and several small alterations, such as the construction of stables in 1789.⁷³ Nevertheless, some major structural changes were made at the end of the 18th century, and house no. 70 underwent rebuilding work (probably in several phases) in order to convert it to the manufactory: the entrance passage in the central part was blocked and a staircase was inserted, large vaults were built on the ground floor, and the street-facing façade was enlarged by the addition of a central risalit (avant-corps) with rounded corner sections, which contained the main entrance to the building. Above the risalit and the central part of the building, a new mansard roof was built. The trees for the roof structures were felled in 1783 and 1786.⁷⁴

The rebuilding work was apparently completed in 1786. It appears that the building contained an apartment for the janitor, offices, a warehouse for finished goods, and areas for loading and

72 DOHNAL, M. *Původní akumulace*, pp. 87–94.

73 AUGUSTINKOVÁ, L. *Stavebněhistorický průzkum*, pp. 27–29.

74 Ibid., pp. 58–59. – This information is a result of an on-site survey of the structures and a dendochronological analysis of the roof structures, which are reported in *Stavebněhistorický průzkum*; KYNCL, Tomáš. *Výzkumná zpráva na dendrochronologické datování dřevěných konstrukcí Klapperothovy manufaktury v Šumperku*. Brno 2017.



Šumperk, J. E. Klapperoth corduroy manufactory / F. Ulrich linen manufactory, building no. 396, whose central part was used for drying goods. Photograph by Viktor Mácha, 2021.

Opposite: Šumperk, J. E. Klapperoth corduroy manufactory, building no. 70. Photograph by Viktor Mácha, 2020.

residential purposes. House no. 70 was described as a two-floor brick building with a length of $13 \frac{1}{3}$ of a fathom and a width of 7 fathoms. Access to the upper floor was via a staircase leading up from the entrance hall. The ground floor also contained four vaulted rooms, and the upper floor contained six rooms, three (vaulted) kitchens and a larder. The roof had clay tiles. Abutting the house at the rear was another building (evidently the courtyard wing), which was $14 \frac{1}{6}$ fathoms long and $2 \frac{1}{6}$ fathoms wide, with an entrance hall and two rooms. Also abutting the building was a brick stable block. House no. 72 (which no longer exists) was a two-floor brick building with two wings. The front wing was $15 \frac{1}{3}$ fathoms long and $6 \frac{1}{3}$ fathom wide, and the right wing was $4 \frac{1}{6}$ fathoms long and $5 \frac{1}{3}$ fathoms side. On the ground floor there were 10 rooms, 6 entrance halls, 8 kitchens (with larders) and a stable area. A masonry-built vaulted staircase led from the vaulted entrance hall to the upper floor, where there was an entrance area, 11 rooms, 6 individual entrance halls and 8 kitchens. A second vaulted staircase (paved with bricks) led from the upper floor to the loft area. The roof had wooden tiles. In the courtyard area there was a firewood rack and a well.⁸⁰

In 1838 Friedrich Ulrich requested the allocation of a house number “for the building behind house no. 70”. The description of the building that he provided for this application corresponds with building no. 396 (today Jiřího z Poděbrad St., buildings nos. 396/52 and 590/54). It was a three-floor brick building with a wood-tiled roof, and it had two extensions each with two floors and measuring $15 \frac{5}{6}$ fathoms in length and $4 \frac{1}{2}$ fathoms in width. The ground floor was used for residential purposes. The upper floor was accessed via a wooden outdoor staircase, and besides living areas it also contained a cloth drying room with the necessary wooden equipment.⁸¹

To the south of it was another building (no. 426) which no longer exists. Comparing an indicative sketch dating from 1834 with a more recent cadastral map (1878), it is evident that this building was the subject of plans to set up a mangle (drawn up in 1843). The building was shortened on its south side. A mangle was installed near the north perimeter wall; it was powered by a manual winch (gin) located in a newly added extension. The ceilings of the ground floor level were partly vaulted. The upper floor was open up to the underside of the roof, and may have been used for

80 SOKa Šumperk, fonds AM Šumperk, inv. no. 1241. A description is given in AUGUSTINKOVÁ, L. *Stavebněhistorický průzkum*, pp. 33–35.

81 Ibid.; SOKa Šumperk, AM Šumperk, Pozemková kniha (Land registry book), inv. no. 277. A description is also quoted in AUGUSTINKOVÁ, L. *Stavebněhistorický průzkum*, pp. 36–37. The descriptions differ in the number of floors in the extensions.



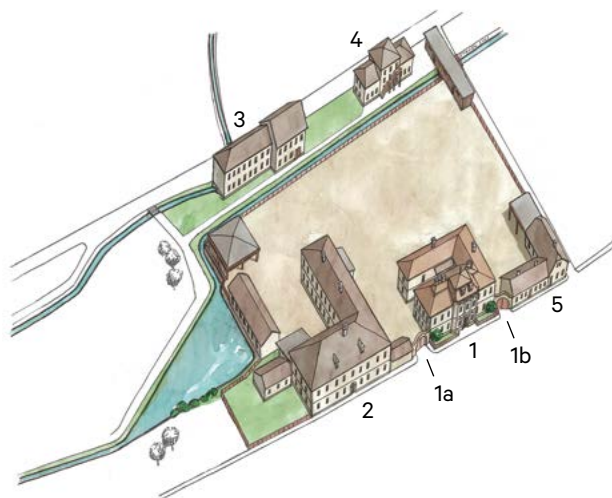
drying cloth.⁸² The building was later used for silk production. The remaining buildings were used for residential purposes, and the courtyard was redeveloped to create a garden with a gazebo.⁸³

Only some of the original buildings at the site are still standing: the two-floor Baroque building (no. 70, today at Gen. Svobody St., no. 70) and building no. 396, the former drying house, built before 1834 and later modified for residential purposes (today Jiřího z Poděbrad St., nos. 396/52 and 590/54). Out of the two entrance gateways at the sides of building no. 70 (part of the axial symmetry of the street-facing façade), only the north gateway has survived. The smaller buildings in the north-east corner of the site were partly demolished before 1951, though a residential building (no. 442) is still standing. The original manufactory itself (no. 72), and building no. 426 (a mangle, later a silk weaving shop), were demolished between 1967 and 1971. New buildings have entirely erased the traces of these original structures (as well as the former course of the mill-stream and the location of the reservoir).

Although many of the site's buildings have been demolished, this remains a unique complex associated with a corduroy manufactory – which at the time was the only manufactory of its type in the entire Habsburg Monarchy. Building no. 70 is of high architectural value, and it has been granted legal heritage protection. Its grand façade, thanks to which it was nicknamed “the little manor house” (Schlössel), established itself as an image that was firmly associated with the Klapperoth manufactory. However, despite being legally protected, for many decades the house suffered neglect and dereliction. In 2017 it was purchased by the town of Šumperk in order to renovate it and create a museum exhibition tracing the history of the textile industry in the town.

82 SOKA Šumperk, fonds AM Šumperk, inv. no. 1241.

83 Ibid., fonds Sbirka dokumentačního materiálu Státního okresního archivu Šumperk (Collection of documentation material of the State District Archives Šumperk), Hönigovy sešity (Hönig notebooks); MÚ Šumperk (Šumperk Town Council), Materiály vyzvednuté z makovice domu č. 70 (Materials taken from the onion dome of building no. 70). – In the plan, building no. 426 is marked as a room formerly used for silk goods production.

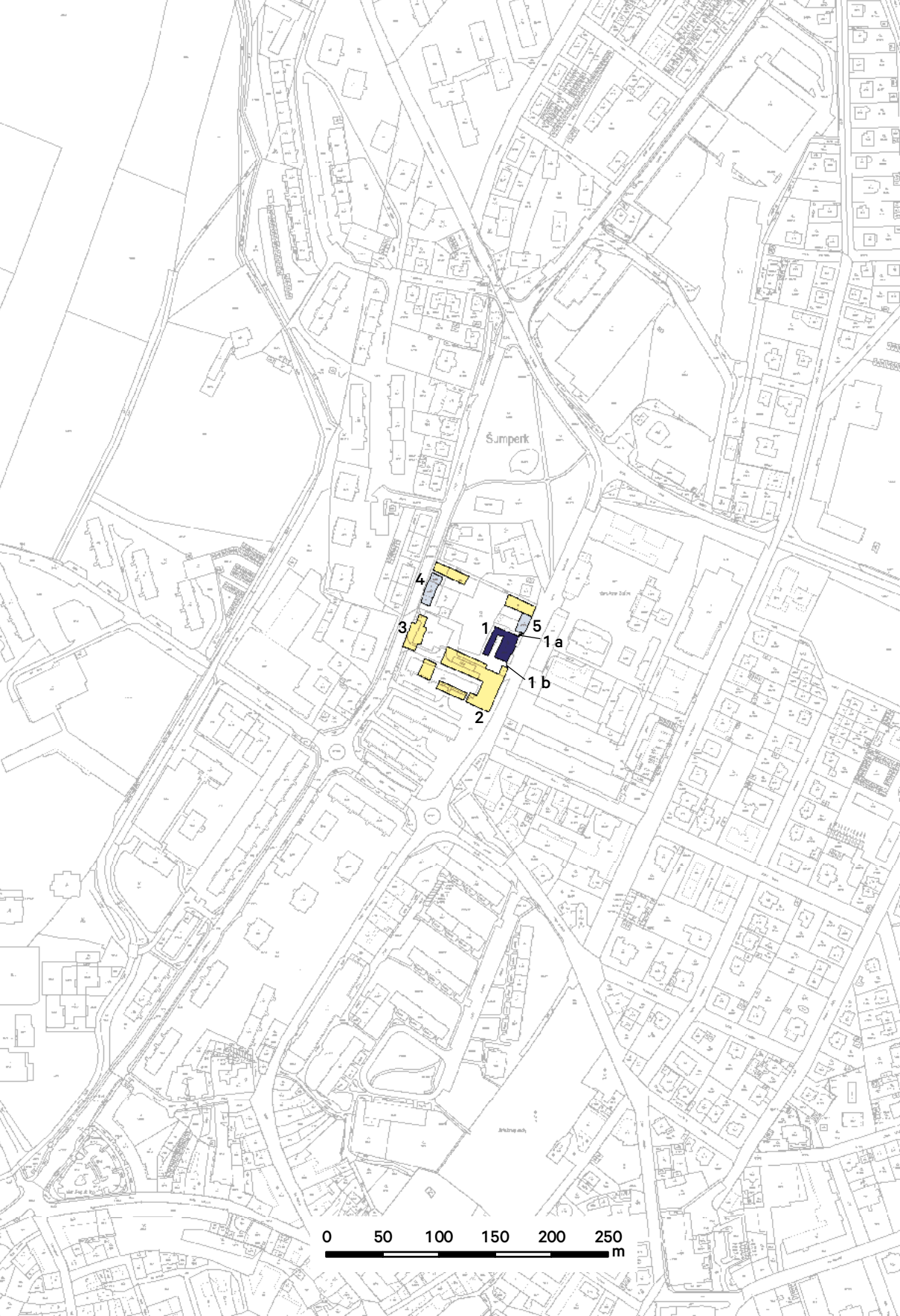


Šumperk, J. E. Klapperoth corduroy manufactory / F. Ulrich linen manufactory, reconstruction of the situation in 1834 (after corduroy production had finished), view from the south-east. Drawing by Jaroslav Staněk, 2021.

Opposite: Šumperk, J. E. Klapperoth corduroy manufactory / F. Ulrich linen manufactory, current situation, scale 1 : 5,000, Pavel Maren, 2021. Map data © Czech Land Surveying and Cadastral Authority.

■ cultural monument ■ proposed legal heritage protection ■ area of heritage interest ■ demolition

Legend: 1 – production, administrative and accommodation building of the corduroy manufactory, no. 70, in 1834 used only for residential purposes (before 1786, structurally modified), 1a, 1b – entrance gateways at the sides of building no. 70 (only the north gate has survived); 2 – former corduroy manufactory building, no. 72, in 1834 used only for residential purposes (before 1786; structurally modified; demolished in 1967–1976); 3 – production building of the manufactory, no. 426 (before 1834; 1843 converted for the installation of a winch-powered mangle, later used for silk goods production; demolished in 1967–1976); 4 – building no. 396, drying house and residential building, later converted for exclusively residential purposes (before 1834; structurally modified); 5 – residential building and outbuildings, later apparently modified for residential purposes (building no. 442 before 1834; 1866 conversion of the older outbuilding at the northern edge of the site; only building no. 442 is still standing, the others were demolished before 1951).



Šumperk

Šumperský náhon

Šumperský náhon

0 50 100 150 200 250 m

ŠUMPERK, MECHANICAL LINEN SPINNING MILL IN ŠUMPERK / ED. OBERLEITHNER'S SÖHNE MECHANICAL WEAVING MILL

The mechanical linen spinning mill in Šumperk was built outside the town, on land near the River Desná. The plans for the mill, signed by the building contractor Carl Schwarz, date from August 1840. The buildings were completed in the same year. The turbine that drove the machinery came into operation on 11 September 1842.⁸⁴

The buildings were positioned around the perimeter of a rectangular plot of land bisected half-way along its length by a mill-race. A spinning mill was built above the mill-race, on one of the longer sides of the rectangle; all the production operations were concentrated in this one building. It was a brick building with two floors and wooden internal structures, with a hip roof. The spinning machines were supplied by the Schlumberger et Cie works in the French town of Guebwiller, and they were powered by a 35 hp turbine situated in the centre of the building. On the opposite long side of the rectangular plot, various smaller auxiliary structures were built (a kitchen, a dining hall, a bunkhouse, a guard's apartment) as well as outbuildings (carpenters' and locksmiths' workshops). The shorter side of the plot faced towards the town, and in the centre of the axially symmetrical main frontage was the administrative building (with offices and a yarn warehouse on the ground floor and two apartments on the upper floor). The role of the wings in the symmetrical composition was played by the shorter side of the spinning mill and an accommodation block for company clerks, linked by a fence with the administrative building and the site entrances. (The configuration of the spinning mill complex and its individual structures are described in greater detail in the chapter on the historical development of textile industry buildings).⁸⁵

After its initial construction, the site did not undergo any major alterations. The spinning mill was designed for 12,000 spindles, but when it began operating only 2,592 were active. By 1872 this number had risen to 7,400.⁸⁶ The new spindles were installed in the existing building, and no structural extensions were required.

However, a number of smaller-scale changes were made at the site. Before 1848 alterations were carried out at the smaller buildings and auxiliary structures, and a new wider building was added among them, located above the mill-race and apparently intended for storing flax. The entrance between the administrative building and the clerks' accommodation building was taken out of service, and new structures were added in the space between the buildings.⁸⁷ Sources state that in 1847 a steam engine was installed, with an output of 40 hp.⁸⁸ In 1856 a new warehouse was built in the factory yard, and probably in 1865 the original flax warehouse was replaced by a structure containing a boiler hall, an engine house for the steam engine, and a new chimney with a height of 35 m. The original boiler house and gas house remained in use as a drying house and oil store, and an extension was added containing workshops. A new gas house and gasometer were built in the rear (newer) part of the site in 1875.⁸⁹

84 SOKA Šumperk, fonds AM Šumperk, inv. no. 1227; LEITNER, B. K. Die erste mechanische Flachsspinnerrei, pp. 138–154; information on the completion of the site is given in DOHNAL, M. *Průmyslová revoluce*, p. 38.

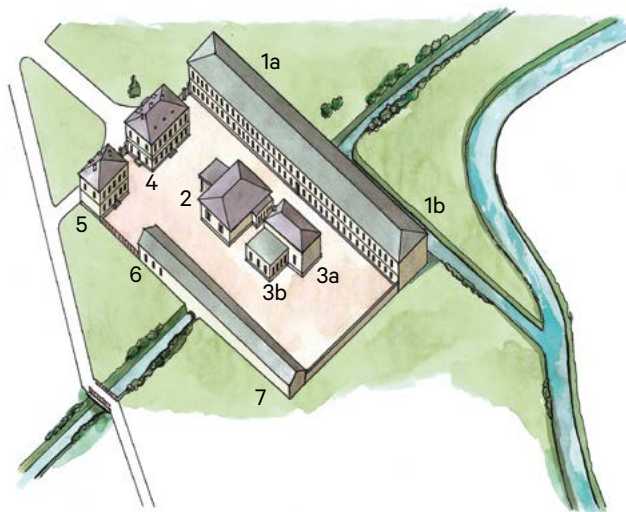
85 Ibid.

86 Cf. STEIN, E. von. Die Oesterreichische Leinen-Industrie, p. 296.

87 MZA, fonds D9 – Indicative sketch, sign. 1408, Šumperk, 1848.

88 DOHNAL, M. *Průmyslová revoluce*, p. 40.

89 ZAO, Olomouc branch, fonds Oberleithner a synové (Oberleithner & Söhne), inv. no. 23 and 25 – valuation of weaving mill buildings for factory insurance 1888 a 1906; Ibid., inv. no. 27 – valuation of weaving mill buildings for fire insurance, 1913.



Šumperk, Mechanical linen spinning mill in Šumperk, drawing reconstructing the situation at the beginning of the 1840s (shortly after construction), view from the south. Drawing by Jaroslav Staněk, 2021.

Legend: 1 – spinning mill, 1a – roving workshop, 1b – fine spinning mill (1840, Carl Schwarz, likewise for the following buildings); 2 – flax store; 3a – boiler house, yarn drying house; 3b – gas house; 4 – administrative building (offices, yarn warehouse, apartments for the manager and accountant); 5 – accommodation block for clerks; 6 – dining hall, kitchen; 7 – carpentry workshop, locksmiths' workshop, guard's accommodation.



Šumperk, Mechanical linen spinning mill in Šumperk / Ed. Oberleithner's Söhne mechanical weaving mill, spinning mill, 1840. Photograph by Viktor Mácha, 2020.



Šumperk, Mechanical linen spinning mill in Šumperk / Ed. Oberleithner's Söhne mechanical weaving mill, boiler house, historical photograph. Archives of Sumtex CZ, reproduction of a photograph from MCPD archives. Photograph by Viktor Mácha, 2020.

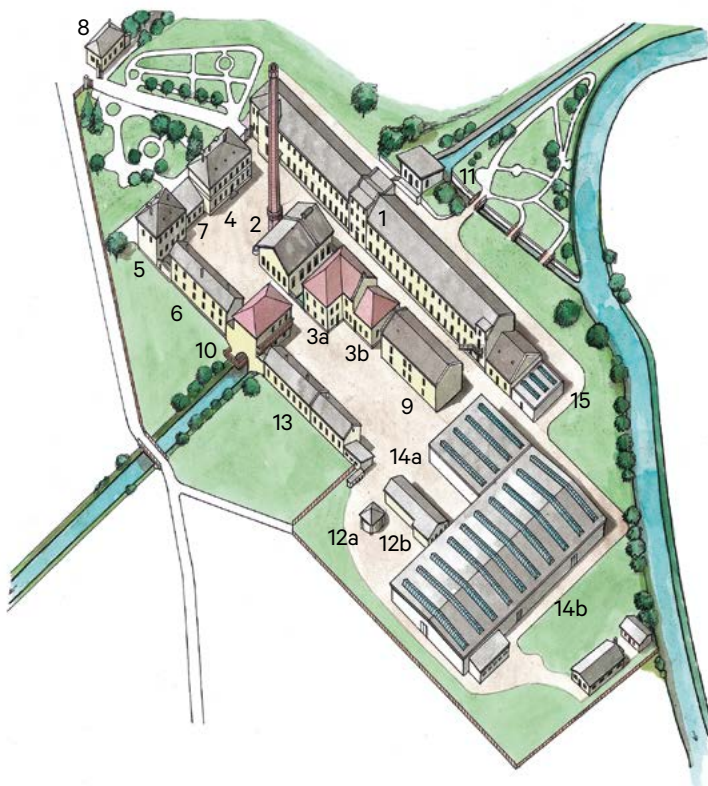


In the 1870s, the dire situation in the industry, combined with the recession, meant that the mill had to close. In 1880 the buildings were purchased by Ed. Oberleithner's Söhne, which established a weaving mill. When it began production, the mill had 24 mechanical looms powered by water.

A later addition to the site was a weaving mill factory hall with a monolithic reinforced concrete structural skeleton. It extended beyond the original boundaries of the site and was built in three phases: 1905, 1906 and after 1939. The extension was designed in 1906 by the Opava (Troppau) branch of Ed. Ast & Co.⁹⁰ The final phase, launched after 1939, created a regular square-shaped ground plan and included the demolition of the former gas house and gasometer, which by this time no longer served their original purpose.

In 1930 the weaving mill had a Francis water turbine (200 hp) with a regulator, supplied by the Prague engineering works Ruston & Co. in 1903, as well as a horizontal steam engine (240 hp) made by Brand & Lhuillier in 1906. Steam was produced by two Tischbein boilers dating from 1901 and 1906. The mechanical looms (of which there were approximately 480) were supplied by

90 ZAO, Olomouc branch, fonds Oberleithner a synové (Oberleithner & Söhne), inv. no. 172.

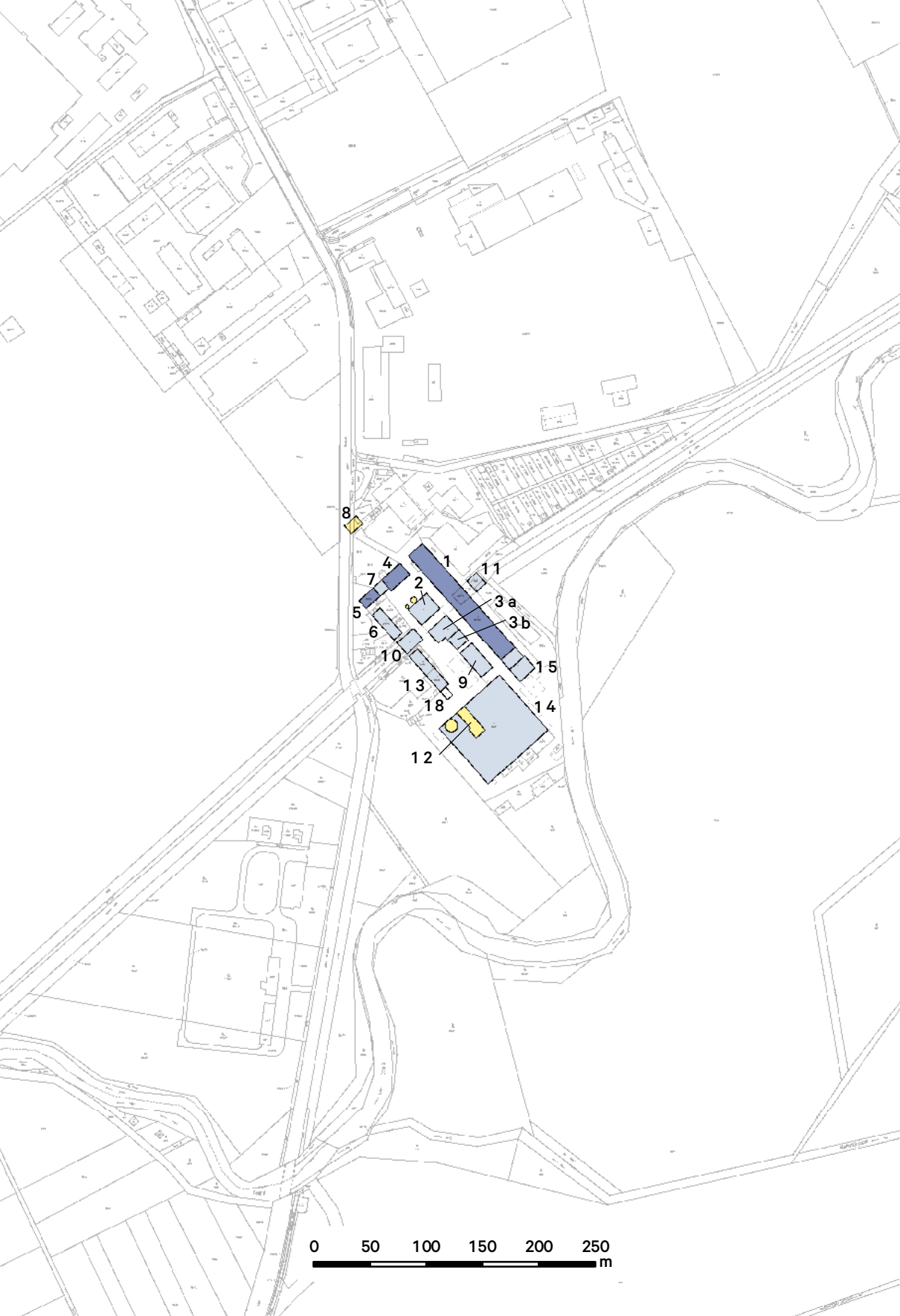


Šumperk, Mechanical linen spinning mill in Šumperk, later Ed. Oberleithner's Söhne mechanical weaving mill, drawing showing a reconstruction of the situation around 1906, view from the south. Drawing by Jaroslav Staněk, 2020.

Opposite: Šumperk, Mechanical linen spinning mill in Šumperk, later Ed. Oberleithner's Söhne mechanical weaving mill / ... / Sumtex CZ, current situation, scale 1 : 5,000, Pavel Maren, 2021. Map data © Czech Land Surveying and Cadastral Authority.

■ cultural monument ■ proposed legal heritage protection ■ area of heritage interest ■ demolition

Legend: MECHANICAL LINEN SPINNING MILL IN ŠUMPERK: 1 – spinning mill, from 1880 weaving mill (1840, Carl Schwarz; 1848? extended with the addition of 4 bays/window axes); 2 – boiler house and steam engine house, chimney (in place of the former flax warehouse; 1865); 3a – boiler house and drying house, gas house, later drying house and oil store (1840, 1892 structural alterations); 3b – workshop; 4 – administrative building (offices, warehouse, apartments; 1840); 5 – clerks' accommodation block (1840); 6 – kitchen, bunkhouse, later hand weaving shop, warehouse, apartment, bunkhouse on the upper floor (1840, structural alterations); 7 – warehouse (1855); 8 – gatehouse (1858, demolished); 9 – warehouse, later yarn warehouse (1856); 10 – yarn warehouse (1860?); 11 – building above the overfall, filtration screens (1866); 12a – originally a gasometer, later a waste store (1875, 1903 converted for storage); 12b – gas house, later a canteen (1875; 1882 extension – sick room; 1903 conversion); 13 – warehouse, residential building (1870); SITE EXPANSION / OBERLEITHNER WEAVING MILL: 14 – weaving mill, 14a – weaving mill (1905, Ed. Ast & Co., 900 m²?); 14b – enlargement of the weaving mill (1906, Ed. Ast & Co., Vienna, Hugo Gröger, Vienna, situation plan signed by [Josef] Prosinger, building contractor, Šumperk, 2,800 m²); 15 – weaving mill, cleaning shop (1906, situation plan signed by [Josef] Prosinger, building contractor, Šumperk).



0 50 100 150 200 250
m



Šumperk, Mechanical linen spinning mill in Šumperk / Ed. Oberleithner's Söhne mechanical weaving mill, mechanical weaving mill, factory hall, 1905–1906. Photograph by Viktor Mácha, 2020.

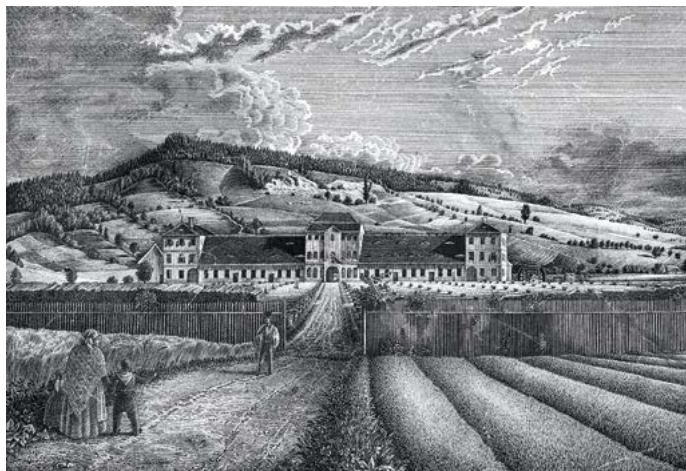
Hohlbaum, Atherton Bros. and other companies; the mechanical Jacquard looms (around 820) were made by Hohlbaum & Schlecker.⁹¹

The spinning mill building was modified after its construction. Most of the wooden structural elements shown in the original plans (1840) were replaced by a structural skeleton consisting of cast iron slopes and metal girders supporting vaulted roofs. The chimney was demolished in the mid-1980s and the boiler house was converted into changing rooms.

The mechanical linen spinning mill in Šumperk was the first linen mill of its type in Moravia. It became a template for later mechanical linen mills built in the Šumperk region in the 1850s and 1860s. Surviving original structures at the site include the spinning mill itself, the administrative building and the clerks' accommodation block. Besides its historical and typological value, the site is also important as an example of continuous uninterrupted production. The site is currently owned by Sumtex CZ, s. r. o., and it remains the last still active mechanical weaving mill in Šumperk (and indeed in the wider region).

91 ZAO, Olomouc branch, fonds Oberleithner, Šumperk, inv. no. 32, box 3 – valuation of buildings and machinery, 1930. In 1942 plans were drawn up for the replacement of the Francis turbine with a Kaplan turbine made by the Ig. Storek engineering works in Brno. – Ibid., inv. no. 84.

Šumperk, Ed. Oberleithner's
Söhne bleaching shop, pen
drawing, J. E. Kastner, 1841.
VMŠ (Šumperk Museum
of Local History), inv. no.
H 13489.



ŠUMPERK, ED. OBERLEITHNER'S SÖHNE, LINEN GOODS BLEACHING AND FINISHING SHOP

The Ed. Oberleithner's Söhne bleaching shop was a site whose appearance was determined not only by pragmatic operational considerations, but also by the company's attempt to create a prominent landmark in an outlying district of Šumperk. It was established in 1825 at a location to the south of the town, on a greenfield site next to the River Desná. It began production in 1826–1827 with the intention of using modern methods to compete with the estate bleacheries owned by the local aristocrats.

It is not possible to say with certainty whether the original appearance of the building was the same as that which we know from later artistic depictions and photographs. However, there is no doubt that it formed the basis for the later structure. A valuation of the bleaching shop dating from the 1820s states that adjacent to a two-floor residential building there was a bleaching shop (with three bleaching furnaces, seven vats and a beetling mill) with a boiling house next to it. Adjacent to the bleaching shop there was a drying house with three floors.⁹²

The bleaching shop is shown very clearly on a situation plan from the era. In the centre of the site was a drying house, and abutting this were two wings: on one side a water-driven mangle and beetling mill, and on the other side the bleaching shop itself, with two large furnaces and boilers surrounded by a ring of vats, plus a third small furnace at the side of the building. The furnaces were operated from an extension built at the rear of the building, to prevent the bleached goods from being soiled by ash and smoke. This extension also contained a dyeing shop, with three unheated vats. At both sides of the main building there were residential buildings with passageways into the yard area.⁹³

An ink drawing from 1841 depicts essentially the same scene: it shows a building with an elongated rectangular ground plan featuring axially symmetrical volumes. The central part (with three floors, the main entrance and a semi-hip roof) was probably used for drying goods. Abutting it were two low wings with tall gable roofs. At the corners of the complex were taller structures – the drying

92 SOkA Šumperk, fonds AM Šumperk, inv. no. 1241; TURKOVÁ, H. Vybrané objekty, pp. 23–38.

93 ZAO, Olomouc branch, fonds Ed. Oberleithner, Šumperk, inv. no. 160 – undated plans for a bleachery.



Šumperk, Ed. Oberleithner's Söhne bleaching shop, original building. Photograph by Viktor Mácha, 2019.

Opposite: Šumperk, Ed. Oberleithner's Söhne bleaching shop, undated situation plan.
ZAO, Olomouc branch, fonds Ed. Oberleithner a synové, Šumperk (Ed. Oberleithner & Söhne, Šumperk), inv. no. 160.

house and a residential building. In front of the bleachery, between it and the town, was a large meadow where the bleached yarn and cloth was dried, as well as outbuildings on the edge of the meadow.

The space between the original building and the river was gradually built up. The bleaching shop building was rebuilt after a fire in 1886, as was the nearby steam engine house and boiler house. A new heated drying house was built at the same time. Some auxiliary buildings from the second half of the 19th century have survived, as has the elongated finishing and drying house building from the beginning of the 20th century. Abutting this were factory halls featuring a monolithic reinforced concrete skeleton, designed by Pittel & Brausewetter: a calender shop and mangle with a workshop (plans from 1906), and an elongated building containing a folding shop and offices (1907).⁹⁴ The mill-race was re-routed to the north of the original building.

In 1930 the bleaching shop had a Francis turbine made by Leder & Co. and Ruston & Co. in 1904, a tandem steam engine (producing 120 hp) made by Ruston & Co. in 1903, and three Cornwall and Fairbairn steam boilers made in 1887, 1895 and 1909.⁹⁵

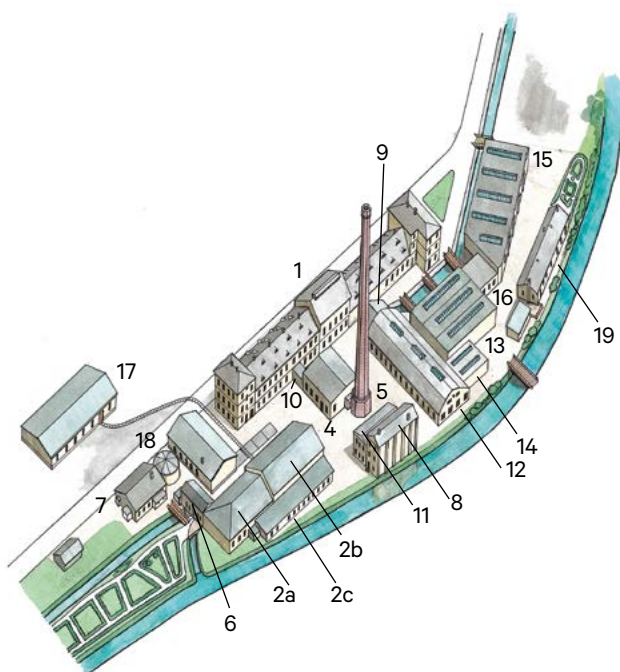
In the second half of the 20th century, the restricted space at the site (combined with the continual uninterrupted production) caused the complex to become more densely built up, as newer buildings were added to the older structures. The bleaching shop ceased production in 1996.⁹⁶ The buildings were modified for new uses.

The original building recalls the existence of one of the most important bleaching shops in the Šumperk region, and its original volumes are still clearly visible despite later alterations.

94 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491.

95 ZAO, Olomouc branch, fonds Oberleithner, Šumperk, inv. no. 32, box 3 – valuation of buildings and machinery, 1930.

96 TURKOVÁ, H. Vybrané objekty, pp. 23–38.



Šumperk, Ed. Oberleithner's Söhne bleaching shop, reconstruction of the situation around 1912, view from the south-west. Drawing by Jaroslav Staněk, 2020.

Opposite: Šumperk, Ed. Oberleithner's Söhne bleaching shop, current situation, scale 1 : 5,000, Pavel Maren, 2021. Map data © Czech Land Surveying and Cadastral Authority.

■ cultural monument ■ proposed legal heritage protection ■ area of heritage interest ■ demolition

Legend: 1 – original building of the bleaching shop (cca 1830, 1886–1887 reconstruction after a fire); 2 – cloth bleaching shop, 2a – beetling mill and laundry (1865), 2b – beetling mill, boiling room (1869), 2c – starching shop, warehouse, extension for transmission system (1880–1886, extension for transmission system 1900); 3 – warehouse, pump house (1875, Ig. Klein; extended); 4 – boiler house, steam engine house (1869; modified 1886–1887, Ig. Klein); 5 – chimney, 40 m tall; 6 – turbine engine house (1886), dynamo (1903), icehouse (1905); 7 – kitchen, dining hall (1878); 8 – drying house with steam heating system (1886–1887, Ig. Klein); 9 – turbine engine house, yarn warehouse (before 1900, renovation 1900); 10 – accumulator hall (1903); 11 – finishing shop, later sewing shop (1904, [Josef] Proisinger, building contractor, Šumperk); 12 – finishing shop / drying house (before 1912, 1912 renovation); 13 – calender shop, mangle (1906, Pittel & Brausewetter); 14 – workshop (1906, Pittel & Brausewetter); 15 – folding shop (1907, Pittel & Brausewetter, Šumperk); 16 – offices (1907, Pittel & Brausewetter, Šumperk); 17 – cloth bleaching shop (1907, H. Popp & E. Ullrich, building contractor, Šumperk); 18 – water reservoir, reinforced concrete circular tank (1910, Pittel & Brausewetter, Šumperk); 19 – forge, stables, workshops.



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Šumperk, offices, shop and apparently also a production site of E. Oberleithner's manufactory.
Photograph by Michaela Ryšková, 2021.

ŠUMPERK, ED. OBERLEITHNER'S SÖHNE ADMINISTRATIVE AND COMMERCIAL OFFICES WITH A HAND WEAVING SHOP

In 1829, Eduard and Pauline Oberleithner agreed an exchange of property with the town council; in return for the old municipal hospital they built a new poorhouse on Hřbitovní (today Kozinova) Street. In place of the hospital they built a grand four-floor house with exterior upper-floor walkways and a Classicist façade (today the corner of Gen. Svobody St. and Hlavní Třída St.),⁹⁷ where the company's administrative and commercial offices were situated. The building evidently also contained a hand weaving shop. At the beginning of the 20th century a small hall-type structure was built in the courtyard area; with a sawtooth roof and four bays (internal spanned sections) and designed by the building contractor Hubert Proisinger, it was used as a warehouse, packing shop and offices. The hall was later extended with the addition of a further three bays, to plans drawn up by the building contractor Friedrich Jahn in 1928.⁹⁸

The building on the corner of Gen. Svobody St. and Hlavní Třída St. is (along with the bleaching shop on the River Desná) one of the oldest buildings associated with the textile business run by Eduard Oberleithner – the founder of one of the largest linen producers in Šumperk.

A map on the page 225.

⁹⁷ HARRER, F. *Dějiny*, p. 308.

⁹⁸ SOKA Šumperk, fonds AM Šumperk.

ŠUMPERK, FELIX REITERER'S SÖHNE, MECHANICAL WEAVING MILL PRODUCING SILK GOODS

The Felix Reiterer's Söhne factory was established in the early 1880s on the eastern edge of the town, on a newly built road named Schenkhofstrasse (now Lidická St.) and in the vicinity of the Fr. Bujatti company. In 1881 plans were drawn up for an elongated factory building with two floors and a gable roof. The ground floor was designed to house 23 weaving looms, with auxiliary machinery on the upper floor. The room housing the transmission system was located in an extension on the east side of the building. The plans proposed both a mechanical drive system (including the locations of the transmission components) and a manually powered system. The situation plan also shows the ground plans of the adjacent buildings that were to be built at a later date (which were to extend the original weaving mill in both directions along its longer axis) and the steam engine house, boiler house and chimney that were to be built abutting the extension containing the transmission system on the east side of the factory.⁹⁹ The boiler house and engine house were not built in the initial phase, and the looms were powered entirely by hand; this is evident from subsequent plans dating from 1882. The weaving mill was extended on its north side with the addition of a structure around double the length of the original building. The new layout was axially symmetrical: in the centre was a new, taller administrative building, its frontage accentuated by a central risalit (avant-corps) with the main entrance. Abutting it were two wings: the original south wing and a new north wing, whose volume, layout and architectural style made it a replica of the original building. In the courtyard area, an extension was built abutting the central part, containing offices, a staircase and employee facilities. The engine house and boiler house are not part of the 1882 plans.¹⁰⁰

Although *Gross-Industrie Oesterreichs* states that the company's intention was to build a mechanical weaving mill,¹⁰¹ it was evidently not mechanized until the site was enlarged in 1886–1887. The new mechanical weaving mill was designed by the building contractor F. Riess as a hall-type structure with brick outer walls and a metal structural skeleton supporting wooden ceiling beams and a sawtooth-type roof with four parts. On the eastern side, abutting the new mill, was a building that contained the boiler house, the steam engine house and workshops; it had a gable roof. The chimney was positioned apart from the building.

Already in 1889, plans were drawn up to enlarge the weaving mill by adding a further three bays (internal structural sections) to the hall. Another enlargement project, designed in the mid-1890s by the building contractor Franz Riess, was a mirror image of the original layout of the mechanical weaving mill: the boiler house and engine house were enlarged, and abutting them on the south side was a new weaving mill – a factory hall with five bays using the same structural design as the hall designed in 1886.¹⁰²

At the beginning of the 20th century a roof was installed above the courtyard area between the original building and the 1889 weaving mill; this created space for a warping shop, and the weaving mill hall was also extended southward with the construction of a further four bays. The original

99 *Die Gross-Industrie Oesterreichs* states that the building was designed by the Viennese architect Josef Hudetz and that the engine (producing 100 hp) was designed by Edlen von Radinger. The lighting system was supplied by the Vienna company Kremenezky, Mayer & Co. – It is not possible to verify this information; the lettering in the plans is illegible. According to surviving planning documentation, the weaving operation was not mechanized until 1886–1887 (see below for more information) – SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 100; *Die Gross-Industrie Oesterreichs*, p. 45.

100 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 100.

101 *Die Gross-Industrie Oesterreichs*, p. 45.

102 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 100.



Šumperk, F. Reiterer's Söhne silk goods factory, street frontage formed by the original factory building dating from the early 1880s. Photograph by Viktor Mácha, 2019.



Šumperk, F. Reiterer's Söhne silk goods factory, original factory building from the early 1880s and the winding shop inserted later between it and the mechanical weaving mill. Photograph by Viktor Mácha, 2019.



Šumperk, F. Reiterer's Söhne silk goods factory, mechanical weaving mill built in 1886–1887 and 1889. Photograph by Viktor Mácha, 2019.



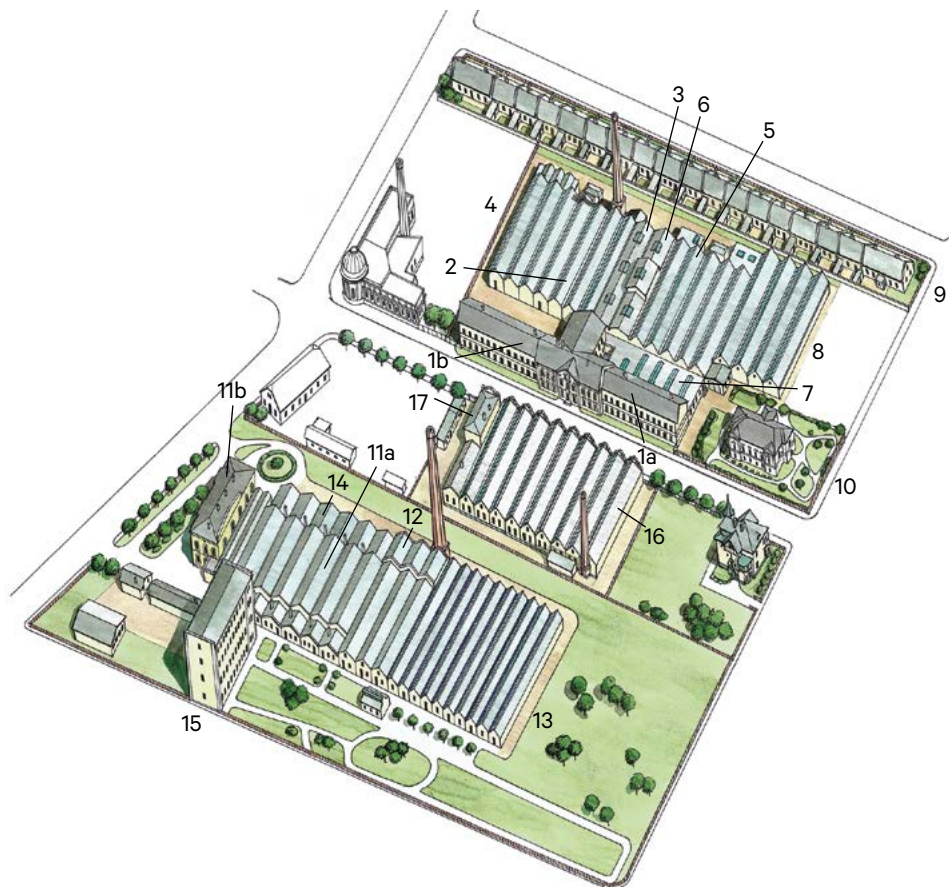
Šumperk, F. Reiterer's Söhne silk goods factory, mechanical weaving mill from 1880s and 1902. Photograph by Michaela Ryšková, 2006.

chimney was replaced by a new, taller one. This marked the end of the complex's architectural evolution. In 1928 the weaving mill covered an area of around 5,000 m². The offices were located in the two-floor building dating from 1881–1882, and the side wings housed roving workshops.¹⁰³

A villa for the factory manager was built in the vicinity of the complex, and at some time before 1889 a row of residential buildings was added, consisting of 16 small workers' cottages with larger semi-detached houses at each end for the foremen (on the west side of what is now Banskobystrická St.).

This is one of the three oldest and largest silk weaving mills in Šumperk. However, unlike the other two sites (Fr. Bujatti and S. Trebitsch), of which only fragments have been preserved, the F. Reiterer factory has survived to an extent that corresponds with the peak of its development (apart from the demolition of the chimney). The earliest phases of the complex's evolution are represented, i.e. the hand weaving shop (which was later converted into an administrative building), the mechanical weaving mill (which evolved progressively and includes the steam engine house and boiler house, though the original equipment has not been preserved), and the residential parts of the factory complex. From a typological perspective, the Felix Reiterer's Söhne factory is a representative example of the configuration of silk weaving mills in the Šumperk region during the last decades of the 19th century, including the original architectural design of its frontage, which has become an integral part of the appearance of Lidická Street.

103 Ibid.



Šumperk, the cluster of textile factories (Bujatti, Felix Reiterer's Söhne, Schay) on the east side of the town, along Schenkhofstrasse (today Lidická St.), drawing showing a reconstruction of the situation at the beginning of the 20th century, view from the south-west. Drawing by Jaroslav Staněk, 2020.

Opposite: Šumperk, the cluster of textile factories (Bujatti, Felix Reiterer's Söhne, Schay), current situation, scale 1 : 5,000, Pavel Maren, 2021. Map data © Czech Land Surveying and Cadastral Authority.

■ cultural monument ■ proposed legal heritage protection ■ area of heritage interest ■ demolition

Legend: F. REITERER'S SÖHNE SILK GOODS WEAVING MILL: 1a – original building (1881–1882, 12 window axes), 1b – enlargement of the original factory building – risalit and left wing (1882, signature illegible); 2 – mechanical weaving mill, factory hall with sawtooth roof (4 bays; 1886–1887, F. Riess); 3 – steam engine house, boiler house, chimney, height 25 m (1886–1887, F. Riess; 1907–1914 new chimney in place of the original one, 40 m; 2002 demolished); 4 – weaving mill (3 bays, 1889–1890, F. Riess); 5 – weaving mill (5 bays, 1895, F. Riess); 6 – enlargement of the boiler house and engine house (1895, F. Riess, building contractor, Šumperk); 7 – winding shop (1902, F. Riess, building contractor, Šumperk); 8 – weaving mill (4 bays and extension, 1902, F. Riess, building contractor, Šumperk); 9 – workers' housing (16 buildings for labourers, two at the ends for foremen; 1886?–1889); 10 – villa (1889–1894); FR. BUJATTI SILK GOODS WEAVING MILL: 11a – mechanical weaving mill (6 bays, before 1880), 11b – administrative building (before 1882; reconstruction / extension at the north side to add a new risalit, after 1898); 12 – boiler house, chimney (1880, Theodor Rodler, extension of the older sawtooth-roofed factory hall, chimney 24 m; extension of the boiler house, 1882, Theodor Rodler; 1889, new chimney, 30 m, demolished); 13 – weaving mill (10 bays, 1882, Theodor Rodler; demolished); 14 – enlargement of the original weaving mill (1889); 15 – multi-storey building with employee facilities, a workshop and warehouses (1898; 1929 plans to adapt the space for weaving, Hubert Proisinger, building contractor, Šumperk); SCHAY LINEN GOODS WEAVING MILL: 16 – weaving mill (9 bays, according to the plans 7; 1911; demolished); 7 – residential building (1911; enlarged with a single-floor extension; demolished).



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ŠUMPERK, KARL SIEGL SEN., BLEACHING SHOP, FINISHING SHOP AND HAND WEAVING SHOP PRODUCING LINEN GOODS

The beginnings of textile production at the location known as Malé Benátky ("Little Venice") date back to the Middle Ages. In 1566 the nobleman Petr of Žerotín sold a plot of land with a former hammer mill to the paper-maker Hans (Jan) Bawernfeind, who wanted to build a paper mill there. In the first half of the 1840s, the land (and a sawmill that was located on it) was purchased by Johann Siegl.¹⁰⁴ He added more buildings in the immediate vicinity: a beetling mill, formerly used for woolmaking (no. 300, demolished in 1906; Siegl took advantage of the associated right to use the local watercourses), a mill next to a pond (no. 299), and house no. 370 (on the other side of the road, which later became the basis for bleaching shop no. II).¹⁰⁵

The only part of the former paper mill that is still standing is a building constructed to plans dating from 1825. Next to an existing building by the mill-race (with two floors, on a rectangular ground plan), a three-floor building was constructed; it had a hip roof, a central risalit (avant-corps) and a plasterwork façade segmented by cornices and bossage. The building had a passageway which divided it into two halves, one for production and the other for accommodation; the production facilities were located in the half nearer to the mill-race, which was fed from the pond. The mill-race had a water wheel which powered the machinery at the paper mill. The tall roof (containing two separate floors) with ventilation slits was evidently used for drying.¹⁰⁶

No sources are available on the earliest phase in the bleaching shop's evolution. The main building replaced the original paper mill – it abutted the building at the front of the site in the form of a perpendicular wing, whose longer side was adjacent to the mill-race. The main building originally had just one floor, but in 1899 two upper floors were added (to plans by Popp & Ullrich). This created a complex of structures with varying heights, as the part directly adjacent to the paper mill was extended upwards to create a drying house. In the last three decades of the 19th century the building was extended and expanded on several occasions. The result was a cluster of buildings located alongside the mill-race. The water wheel was replaced by a turbine, and the mill-race was routed underground via a pipe. In 1867 a boiler house with a chimney was added; it was extended in 1937. In 1907 the finishing shop (built in 1867 on the opposite bank of the mill-race) was enlarged by the construction of a hall with a monolithic reinforced concrete structural skeleton, designed by the building contractor Josef Proisinger.¹⁰⁷

In 1939 a steam engine was installed in the engine house. Produced by the Prager Maschinenfabrik A. G. in 1890, it was supplied with steam by two flue boilers purchased in 1915 (and modernized in 1937). The water drove a horizontal turbine made by the same company in 1904.¹⁰⁸

From 1949 the buildings were used by a research institute specializing in bast fibres, which later became the company Basaltex, a. s.¹⁰⁹ The site did not evolve further; the only alterations to the buildings were merely utilitarian.

104 SOKA Šumperk, fonds AM Šumperk, inv. no. 21; HARRER, F. *Dějiny*, pp. 519–521 – Harrer states that the purchase was in 1842. The reference to the sawmill evidently refers to building no. 297, which was later demolished.

105 SOKA Šumperk, Sběrka dokumentačního materiálu SOKA Šumperk (Collection of documentation material of the State District Archives Šumperk), Hönigovy sešity (Hönig notebooks), notes on buildings nos. 296–300 and situation plan.

106 Ibid., fonds AM Šumperk, inv. no. 1122, box 191.

107 Ibid., OÚ Šumperk, inv. no. 491, box 107. ZAO, Olomouc branch, fonds C. Siegl sen., inv. no. 77 – valuation of bleachery buildings, 1929.

108 ZAO, Olomouc branch, fonds C. Siegl sen., inv. no. 776 – valuation of bleachery machinery, 1939.

109 TURKOVÁ, H. Vybrané objekty, pp. 23–38.

Šumperk, K. Siegl sen.
bleaching shop, paper
mill built in 1825, later
an administrative and
accommodation building
for the bleaching shop.
Photograph by Viktor
Mácha, 2019.



The mill on the opposite side of the mill-race (known locally as the “pond mill”), is mentioned in documents dating back to the 16th century. In 1850 it was purchased by Maximilian Drossbach, the manager of the first mechanical linen spinning mill, who sold it to Karl Bock. Bock used the site to build a small mechanical spinning mill, which in 1865 had 1,800 spindles. When the spinning mill went bankrupt in 1870, the original mill was re-opened. In 1893 it was purchased by Hermann Schuch, a producer of silk goods, and in 1897 it was acquired by Karl Siegl sen., who opened a hand weaving shop at the site.¹¹⁰ The buildings were clustered around an enclosed courtyard with a trapezoid shape. The appearance of the complex in the mid-19th century is shown in plans for a reconstruction following a fire in 1845, when an upper floor and new outbuildings were added. The core of the site was a two-floor building containing the mill and accommodation, next to the mill-race. Encircling the other sides of the yard were single-floor utility buildings and stables.¹¹¹

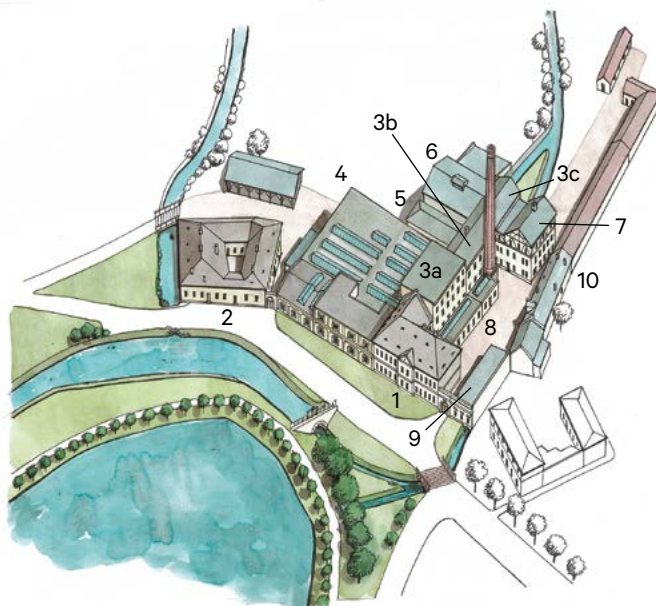
Another bleaching shop operated on the opposite side of the road, in house no. 370. It belonged to Johann Göttlicher, and later to the Heider, Lubich and Schay companies. By 1918 it had been purchased by Karl Siegl, who ran it as his company's bleaching shop no. II.¹¹² It was closed down during the inter-war period, and the buildings were demolished.

The settlement known as Malé Benátky (“Little Venice”, now part of Šumperk) was an important hub of linen production in the town. Only part of the original complex has survived, and its heritage value lies mainly in its history. It comprises the bleaching shop of Karl Siegl sen. (one of the two largest bleaching shops in Šumperk) and the so-called “pond mill” (which was briefly the site of Karl Bock's small mechanical spinning mill – one of six such mills in the Šumperk region of whose existence we know).

110 HARRER, F. *Dějiny*, pp. 524–527.

111 SOKA Šumperk, fonds AM Šumperk, inv. no. 1122, box 191.

112 Ibid., fonds Sbírka dokumentačního materiálu SOKA Šumperk (Collection of documentation material of the State District Archives Šumperk), Höningovy sešity (Höning notebooks); Ibid., AM Šumperk, inv. no. 1313; ZAO, Olomouc branch, fonds KS Olomouc – firemní spisy (company documents), inv. no. 1131, sign. A I 10.

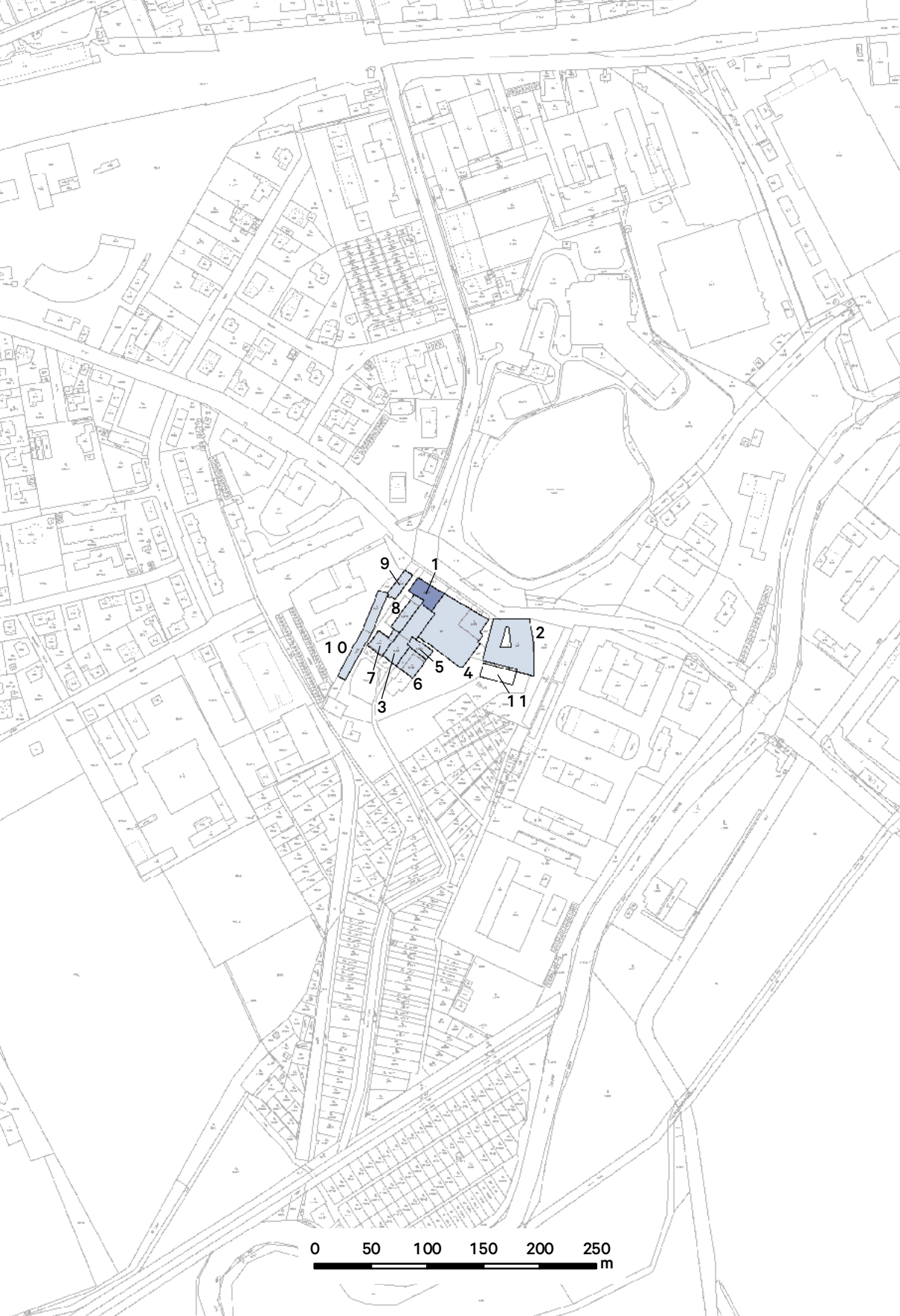


Šumperk, K. Siegl sen. bleaching shop, finishing shop and hand weaving shop, reconstruction of the situation around 1910, view from the north-west. Drawing by Jaroslav Staněk, 2020.

Opposite: Šumperk, K. Siegl sen. bleaching shop, finishing shop and hand weaving shop, current situation, scale 1 : 5,000, Pavel Maren, 2021. Map data © Czech Land Surveying and Cadastral Authority.

■ cultural monument ■ proposed legal heritage protection ■ area of heritage interest ■ demolition

Legend: 1 – paper mill, later bleaching shop, building no. 296 (1825, Franz Hanz); 2 – “Pond mill”, later Karl Bock’s spinning mill and the hand weaving shop of K. Siegl sen., building no. 299 (reconstruction after a fire 1845, Ignaz Austerz?); 3a – beetling mill, drying house (1844?, 1899 enlargement – addition of two floors and a drying house, Popp & Ullrich?; 1908 reconstruction of the drying house roof, Pittel & Brausewetter), 3b – boiling room, drying room (1874, 1899 addition of 2 new floors to create a 3-floor structure, Popp & Ullrich?), 3c – piece bleaching shop, yarn drying house, warehouse (1887 addition of 1 new floor to create a 3-floor structure, Josef Prosinger, building contractor, Šumperk); 4 – finishing shop, turbine engine house (1867; 1907 enlargement of the finishing shop and turbine engine house, Josef Prosinger, building contractor, Šumperk; 1913 extension to the engine house, Hubert Prosinger, building contractor, Šumperk); 5 – boiler house, chimney (1867; 1937 boiler house extension, Hubert Prosinger, building contractor, Šumperk); 6 – yarn bleaching shop (1887; 1901 přístavba, Wilhelm Lux, building contractor, Šumperk); 7 – offices, workshops, after 1910 also drying house (1887, Josef Prosinger, building contractor, Šumperk; 1910 extension of the drying house, Hubert Prosinger, building contractor, Šumperk); 8 – beetling mill, boiling room, calender shop, extension of the beetling mill (1901, Wilhelm Lux?, building contractor, Šumperk), 8b – piece bleaching shop, extension of the beetling mill (1911); 9 – raw cloth warehouse and gate (1890s, Josef Prosinger?, building contractor, Šumperk); 10 – auxiliary building, bunkhouse, dining hall, warehouse, stables (before 1890; 1890 structural alterations, Wilhelm Lux, building contractor, Šumperk); 11 – wooden coal store (1907, Josef Prosinger, building contractor, Šumperk).



0 50 100 150 200 250
m



Šumperk, K. Siegl sen.
mechanical weaving
mill / Moravolen, aerial
photographs from 1982.
Photograph by Suchan,
VMŠ (Šumperk Museum of
Local History), 581/82.

ŠUMPERK, KARL SIEGL SEN. MECHANICAL LINEN GOODS WEAVING MILL

In 1889 the Karl Siegl sen. company established a mechanical weaving mill to produce linen goods and table linen in Šumperk. The site of the factory was on the south-eastern edge of the town centre, next to Sterngasse and extending along the newly built Franz-Josef-Strasse (today Krátká St. and M. R. Štefánika St. respectively). The new mill expanded the company's portfolio of production sites; it already ran a hand weaving shop and a bleaching shop in the Malé Benátky ("Little Venice") district of the town. The hand weaving shop, specializing in fine patterned goods, continued to operate alongside the mechanical weaving mill (see the catalogue entry "Šumperk, Karl Siegl sen., bleaching shop, finishing shop and hand weaving shop producing linen goods").

The mechanical weaving mill used existing buildings belonging to the company near Sterngasse (a sales outlet, warehouse, offices and a hand weaving shop¹¹³), and it was directly connected to these auxiliary buildings. The mill was designed by the Šumperk building contractor Josef Proisinger in July 1889. It was a combination of one multi-storey building (with three floors and a basement level) with a hip roof, where the preparatory and auxiliary operations were carried out, and a factory hall with a sawtooth roof and seven bays (internal structural sections), abutted on the courtyard side by the steam engine house, boiler house and chimney. Both buildings used a metal structural skeleton which was at least partly (and probably entirely) supplied by the nearby Klein Brothers ironworks in Zöptau, now Sobotín. The façades were finished in plasterwork, richly segmented in a historicist style, and the sawtooth roof had an attic bearing the inscription "MECH. WEBEREI des CARL SIEGL sen.". Construction work was completed in July 1890. At the end of the 19th century the mill had 180 mechanical looms in operation.¹¹⁴

113 TURKOVÁ, H. Vybrané objekty, pp. 23–38. – Hand-operated looms remained in operation here until a hand weaving shop was established in the "pond mill" building in 1897.

114 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 107; *Die Gross-Industrie Oesterreichs*, pp. 340–341; ZAO, Olomouc branch, fonds C. Siegl sen., Šumperk, inv. no. 124.



Šumperk, K. Siegl sen. mechanical weaving mill, building containing auxiliary and preparatory shops, 1889, cast iron columns in the basement and on the second floor and original building, 1860, and warehouse, offices, 1880. Photograph by Michaela Ryšková, 2006 a 2021.



Šumperk, K. Siegl sen. mechanical weaving mill, building containing auxiliary and preparatory shops and place after the demolished weaving mill, 1889. Photograph by Michaela Ryšková, 2021.



Šumperk, K. Siegl sen. mechanical weaving mill, the weaving mill hall converted into retail spaces and a supermarket. Photograph by Viktor Mácha, 2019.

The weaving mill was extended twice (in 1905 and 1907, to plans by Josef Prosinger) towards the south, adding five and then six extra bays. The structural design and the exteriors were the same as those of the existing hall. The attic was extended along the entire length of the roof, and the façade was segmented by pilasters, cornices and blank windows; the central part (1905) was accentuated by two blank portals.¹¹⁵

In 1905 the engine house was enlarged, and in the following year a new boiler house was built. Smoke was channelled from the boilers to the original factory chimney via an underground duct. Before 1912, small utility buildings (workshops, a coal store) were built in the yard area.

The 1907 plans for the extension of the weaving mill factory hall included a proposal to build a new multi-storey structure on the south side, thus creating an enclosed courtyard. It was not until five years later that these plans became a reality. A multi-storey building designed by Hubert Prosinger was built at the junction of Franz-Josef-Strasse and Zephyresku-Strasse (now M. R. Štefánika St. and Dr. E. Beneše St.).¹¹⁶ The new building did not follow the 1907 proposals to use the same volumes and façade design as the buildings dating from 1889. In 1912–1913 a brick building with a metal structural skeleton was built, with four above-ground and one below-ground levels. It contained the preparatory and auxiliary operations in the production process (warp preparation, winding, rewinding, yarn production, cutting and storage). The machinery was powered by electricity (as in the previous enlargement of the factory).

In 1939 the weaving mill had around 460 looms, mainly supplied by Hohlbaum Jägerndorf (now Krnov), Atherton Preston, Livesey Blackburn, and Müller Reichenberg (now Liberec); of these, around 300 were Jacquard looms, mainly supplied by Hohlbaum, Wimmer Wien, Schleicher Greiz or Schramm Wien. The engine house had a steam engine built in 1905 and producing 350 hp.¹¹⁷

When production was finally shut down in the 1990s, the site was redeveloped in order to create a multifunctional complex that included commercial premises, services, shops and parking. The design for the complex, by the OSA Studio (Polách a Fabián, s. r. o.), respected the scale of the existing buildings, their height and the street line. The largest intervention was the demolition of seven bays in the oldest hall (1889) in order to create space for an access road (from M. R. Štefánika St.) and parking. The remaining halls were converted into retail spaces including a supermarket. The multi-storey buildings were also converted for services and commercial use, and the 1912 building was extended (elongated). The structures of the original buildings were left intact, and were not concealed by the redevelopment. The original segmentation of the façades was removed. The designers attempted to retain the industrial character of the site, while also introducing contemporary materials and forms from the 1990s.

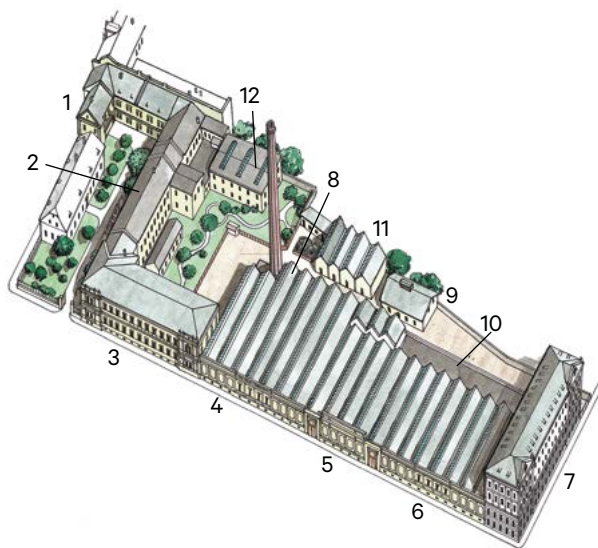
As a result, one of the largest textile factories in the region, built in the 1880s close to the town centre, has remained part of the urban fabric of Šumperk. The factory chimney (dating from 1899, during the earliest phase of the construction of the mechanical weaving mill) is the dominant structure at the site, and a major local landmark. We should praise the approach taken by the investor (Obchodní korzo, a. s., Šumperk), which has preserved this important element of the town's historical memory and has ensured that the continuity of the site's development remains unbroken. The site also convincingly demonstrates the universality of textile industry buildings, which can be adapted for various new functions without the need for substantial structural interventions.¹¹⁸

115 SOKA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 107.

116 Ibid.

117 ZAO, Olomouc branch, fonds C. Siegl sen., Šumperk, inv. no. 75 – valuation of weaving mill machinery, 1939.

118 POLÁCH, Jan – FABIÁN, Petr. Památkově chráněné objekty v Olomouci a starý průmyslový areál v Šumperku se stávají po konverzi svědky soudobé kultury s širokými možnostmi nového využití. In *Konverze průmyslových staveb*. Special edition of the journal ČKAIT, 2002, pp. 36–42.

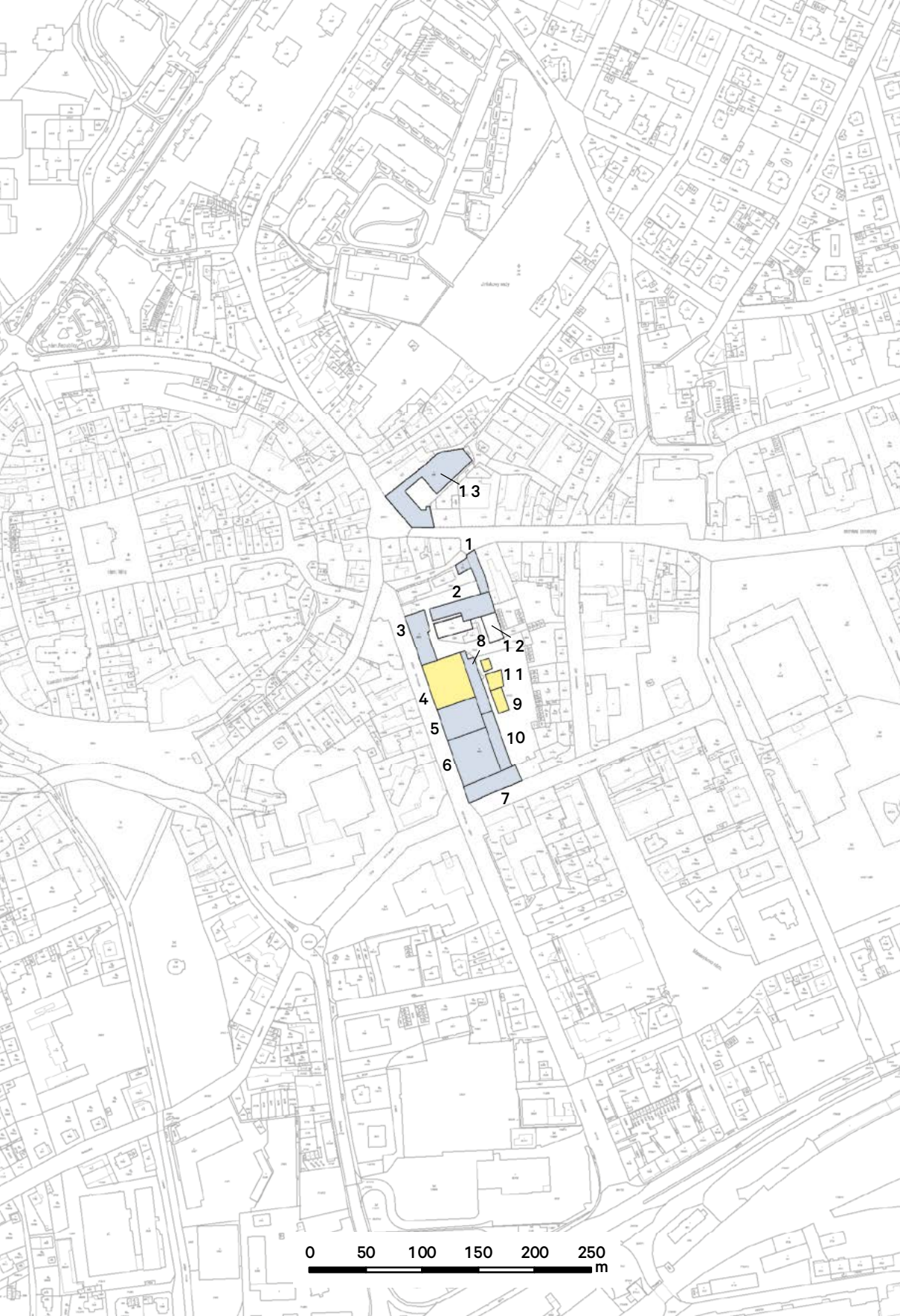


Šumperk, K. Siegl sen. mechanical weaving mill, drawing showing a reconstruction of the situation after 1912, view from the south-west. Drawing by Jaroslav Staněk, 2020.

Opposite: Šumperk, K. Siegl sen. mechanical weaving mill, current situation, scale 1 : 5,000, Pavel Maren, 2021. Map data © Czech Land Surveying and Cadastral Authority.

■ cultural monument ■ proposed legal heritage protection ■ area of heritage interest ■ demolition

Legend: 1 – original building (1860); 2 – warehouses, now offices (1880); 3 – weaving mill, building containing auxiliary and preparatory shops (1889, Josef Prosinger, building contractor, Šumperk); 4 – weaving mill, hall I (7 bays; 1889, Josef Prosinger, building contractor, Šumperk; weaving mill demolished); 5 – weaving mill, hall II (5 bays, 1905, Josef Prosinger, building contractor, Šumperk); 6 – weaving mill, hall III (6 bays, 1907–1908, J. [Josef?] Prosinger, building contractor, Šumperk); 7 – multi-storey factory building (1912, Hubert Prosinger, building contractor, Šumperk); 8 – boiler house, steam engine house, chimney (1889, Josef Prosinger, building contractor, Šumperk); 9 – new boiler house (1906, J. [Josef?] Prosinger, building contractor, Šumperk; demolished); 10 – extension of weaving mill III (1907–1908); 11 – workshop (cca 1889?, demolished); 12 – warehouse (1910, Hubert Prosinger, building contractor, Šumperk); ED. OBERLEITHER, COMMERCIAL AND ADMINISTRATIVE BUILDING, HAND WEAVING MILL (only on map): 13 – apartment block with outdoor upper-floor walkway (cca 1830; 1929 extra floor added to two-floor yard-facing wing to create third floor, Friedrich Jahn, building contractor, Šumperk), sawtooth-roofed factory hall (1924, Hubert Prosinger, building contractor, Šumperk; 1928 extension, Friedrich Jahn, building contractor, Šumperk).



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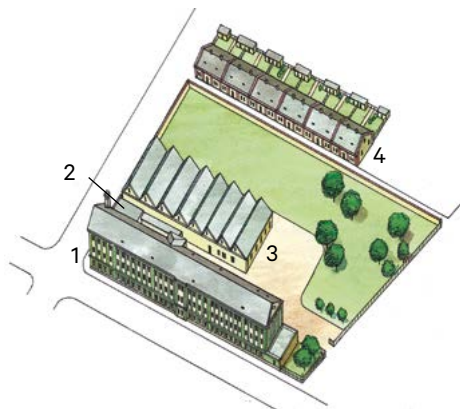
ŠUMPERK, SCHMIEDER & CO. / EMANUEL FISCHMANN, MECHANICAL WEAVING MILL PRODUCING SILK GOODS

The Schmieder & Co. silk goods factory was built at the junction of Schenhofstrasse and Josefstädterstrasse (today Lidická St. and Jesenická St.). From 1887 onwards it operated under the name of its successor company, Emanuel Fischmann's Neffe. It was evidently established as a hand weaving shop; it was not located next to any stream or other watercourse to power a water wheel or turbine, nor do the construction or situation plans include a boiler house or a steam engine house.¹¹⁹

We have no information on the original appearance of the factory built by the Vienna-based company Schmieder & Co. It was built in 1880 and enlarged in 1881.¹²⁰ By 1894 it had already evolved into its current form: a three-floor brick-built structure on an elongated rectangular ground plan (78 × 13 m), with a gable roof. The ceilings were supported by cast iron columns and wooden girders; two further rows of (wooden) columns were added later. In 1894 a lower structure was built at the side of the site near Jesenická St., containing a roving workshop (including a gas engine and later a petrol engine). A later addition was a hall-type weaving mill with a six-part sawtooth roof, designed in 1927 and later extended with the addition of a further two bays.¹²¹

In 1894, a row of six workers' accommodation blocks was built running parallel with the factory (along what is now Mendlova St.).¹²² A further six blocks were built by the municipality on the former site of the factory in 1930. Two of them were designed by the building contractors Schmidt & Poisel, two by the architect Hans Göbel and two by Popp & Ulrich.¹²³

The multi-story factory building dating from the 1880s at the corner of Jesenická St. and Lidická St. is the largest structure of its type among Šumperk's silk weaving mills, and it remains an important local landmark.



Šumperk, Schmieder & Co. / E. Fischmann mechanical silk weaving mill, drawing showing a reconstruction of the situation at the end of the 1920s, view from the south-west. Drawing by Jaroslav Staněk, 2020.

Opposite: Šumperk, Schmieder & Co. / E. Fischmann mechanical silk weaving mill, current situation, scale 1 : 5,000, Pavel Maren, 2021. Map data © Czech Land Surveying and Cadastral Authority.

■ cultural monument ■ proposed legal heritage protection ■ area of heritage interest ■ demolition

Legend: 1 – main factory building / weaving mill (before 1894); 2 – extension of the main factory building (1894, Franz Klema, building contractor; later an engine house for a petrol-powered engine); 3 – weaving mill / hall with a sawtooth roof (6 bays, 1927, L. Prade & H. Habermann, Šumperk; later extended with the addition of a further two bays); 4 – six accommodation blocks (before 1894).

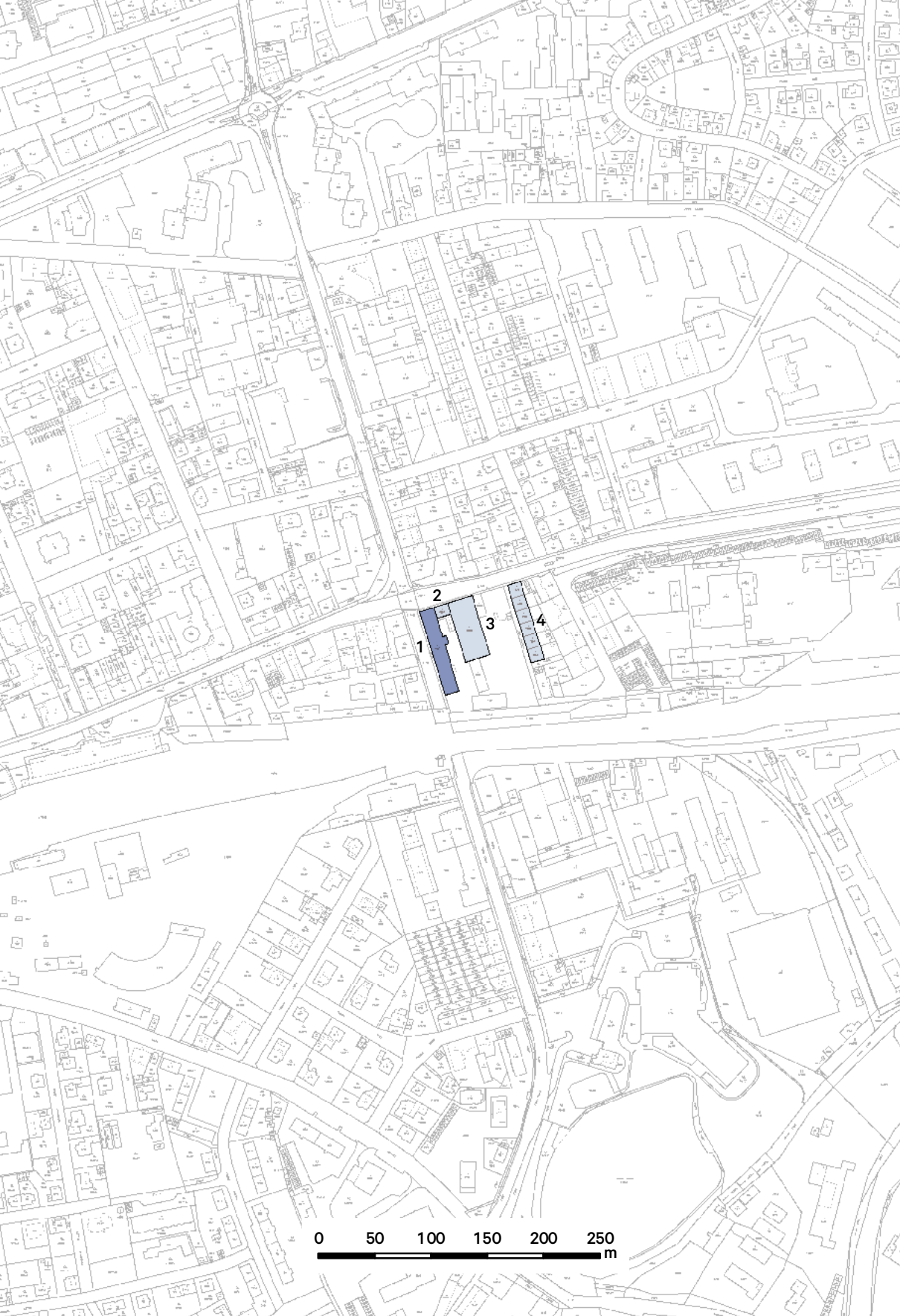
119 SOKa Šumperk, fonds OÚ Šumperk, inv. no. 491, box 108.

120 TURKOVÁ, H. Významné objekty, pp. 23–38.

121 SOKa Šumperk, fonds OÚ Šumperk, inv. no. 491, box 108.

122 These buildings are also mentioned in documents produced by the Šumperk town council in 1898 in connection with overtime worked by one Josef Scholz, who ran a cloth dressing shop in one of them; the machinery he used was also the property of the company. SOKa Šumperk, fonds OÚ Šumperk, inv. no. 491, box 108.

123 Ibid.; HARRER, F. *Dějiny*, p. 426.



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Šumperk, E. Fischmann silk goods factory, weaving mill. Photograph by Viktor Mácha, 2019.



Šumperk, Vinciguerra & Cie. thread spinning mill, thread mill, steam engine house/boiler house and water tower. Photograph by Michaela Ryšková, 2021.

ŠUMPERK, VINCIGUERRA & CIE., SILK THREAD SPINNING MILL

This factory on Zábřežská Street, known most commonly under the name Hedva (the name of the national corporation that was the last company to operate it), was established at the beginning of the 20th century. The smaller two-floor buildings (the right one containing accommodation as well as production premises) were built at the beginning of the 20th century and were used to produce weaving supplies and thread.

In 1910 some of the buildings at the site were acquired by the Viennese firm Vinciguerra & Cie., which operated a winding shop there. Under the company's ownership, the site was substantially expanded northwards until it acquired its current appearance. There are two versions of the 1913 plans for the first sawtooth-roofed factory hall, signed by Bruno Bauer and Hubert Prosinger. Both sets of plans feature the same ground plan (dimensions 19.5 × 31.5 m), but they differ in the number of bays (internal structural sections) in the hall. When built, the hall had three bays, according to Prosinger's design. The street-facing façade with an attic took cues from the segmentation and style of the older factory building dating from 1900. The machinery was powered by a petrol engine.¹²⁴

The same design was used in the following year, when the hall was extended with the addition of a further two bays (to a design by Hubert Prosinger) as well as in the last extension, in 1917–1918, which added six new bays. This final phase in the factory's evolution (designed by the architect Bruno Bauer) used reinforced concrete structures and included the construction of a combined boiler house, steam engine house and water tower.¹²⁵ The façade was modified to echo the segmentation that had been used in the previous phases of construction, but the potentially

¹²⁴ SOkA Šumperk, fonds OÚ Šumperk, inv. no. 491, box 97 and 109.

¹²⁵ Ibid.



Šumperk, Vinciguerra & Cie. thread spinning mill, factory hall with sawtooth roof. Photograph by Viktor Mácha, 2019.





Šumperk, Vinciguerra & Cie. thread spinning mill, factory hall (1930) with lamellar ceiling. Photograph by Viktor Mácha, 2019.

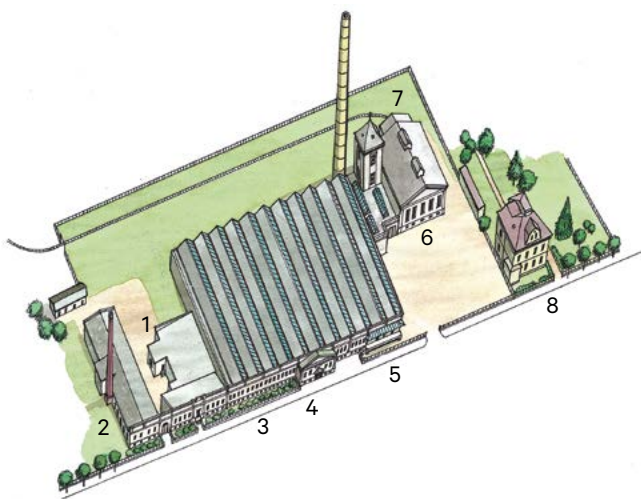
monotonous effect of this repetition was alleviated by new elements and volumes. The dominant feature of the site was now the boiler/engine house, set back from the road, with its chimney and water tower; these created a vertically oriented counterweight to the horizontal axis of the hall, and the structure was made coherent by an attic running its entire length. The triangular gable motif used in the boiler house was also echoed on the tympanum of the risalit (*avant-corps*), which was extended so that it protruded from the otherwise flat frontage of the hall.

A chimney (40 metres tall) was built at the same time as the boiler house. The first part of the 1913 factory hall was also extended along its longitudinal axis, so that it had the same length (50 m) as the older hall. The boiler house was extended with the addition of an engine house for a portable engine (designed in 1922 by Hubert Prosinger).

The oldest structures in the south part of the site, which were incorporated into the complex at a later date, were replaced by a factory hall with a reinforced concrete structural skeleton. The evolution of the site reached its peak with the construction of a factory hall with a segmented roof and a lamellar ceiling structure, designed by Popp & Ullrich in 1930.¹²⁶

The production of silk goods in the Šumperk region was represented mainly by weaving mills. The Vinciguerra thread spinning mill (which also had a finishing shop) is to some extent unique. The site has been preserved in a relatively authentic state (though the façades have been simplified). At the core of the complex is a type of building that was very widely used for textile production in the late 19th and early 20th century – factory halls with sawtooth-type roofs, here combined with a standard metal structural skeleton and reinforced concrete structures, adapted to fit the shape of the roofs built during the earlier phases of construction (unlike the more frequently used flat roofs with skylights). The final phases of the site's evolution (when the main façade was also altered) bear the imprint of the Viennese architect Bruno Bauer, who designed numerous industrial structures and registered a number of patents. The type of segmented roof built in 1930 is not found in any other textile factories in the region.

126 Ibid.

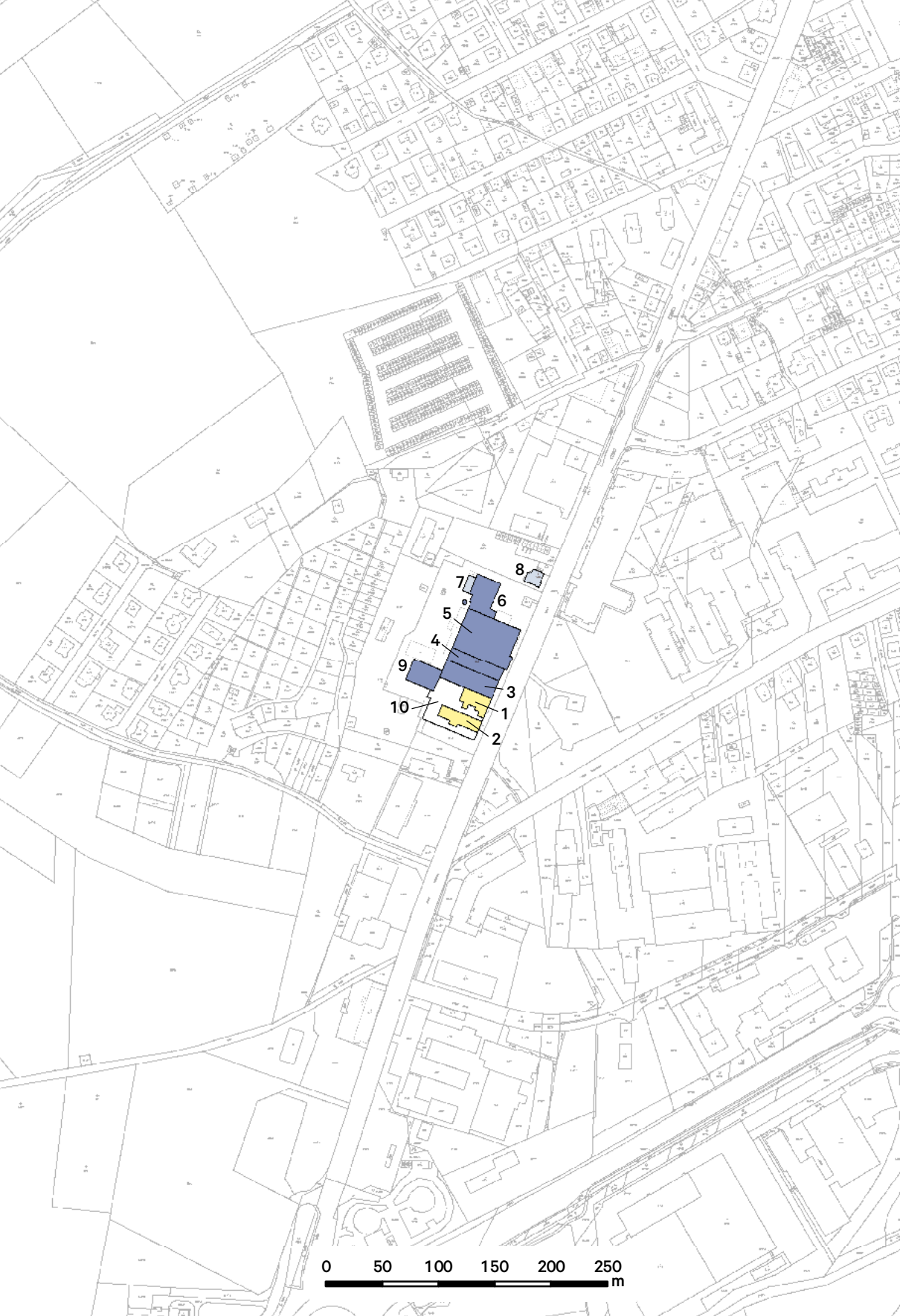


Šumperk, Vinciguerra & Cie. thread spinning mill, drawing showing a reconstruction of the situation around 1920, view from the south-east. Drawing by Jaroslav Staněk, 2020.

Opposite: Šumperk, Vinciguerra & Cie. thread spinning mill, current situation, scale 1 : 5,000, Pavel Maren, 2021. Map data © Czech Land Surveying and Cadastral Authority.

■ cultural monument ■ proposed legal heritage protection ■ area of heritage interest ■ demolition

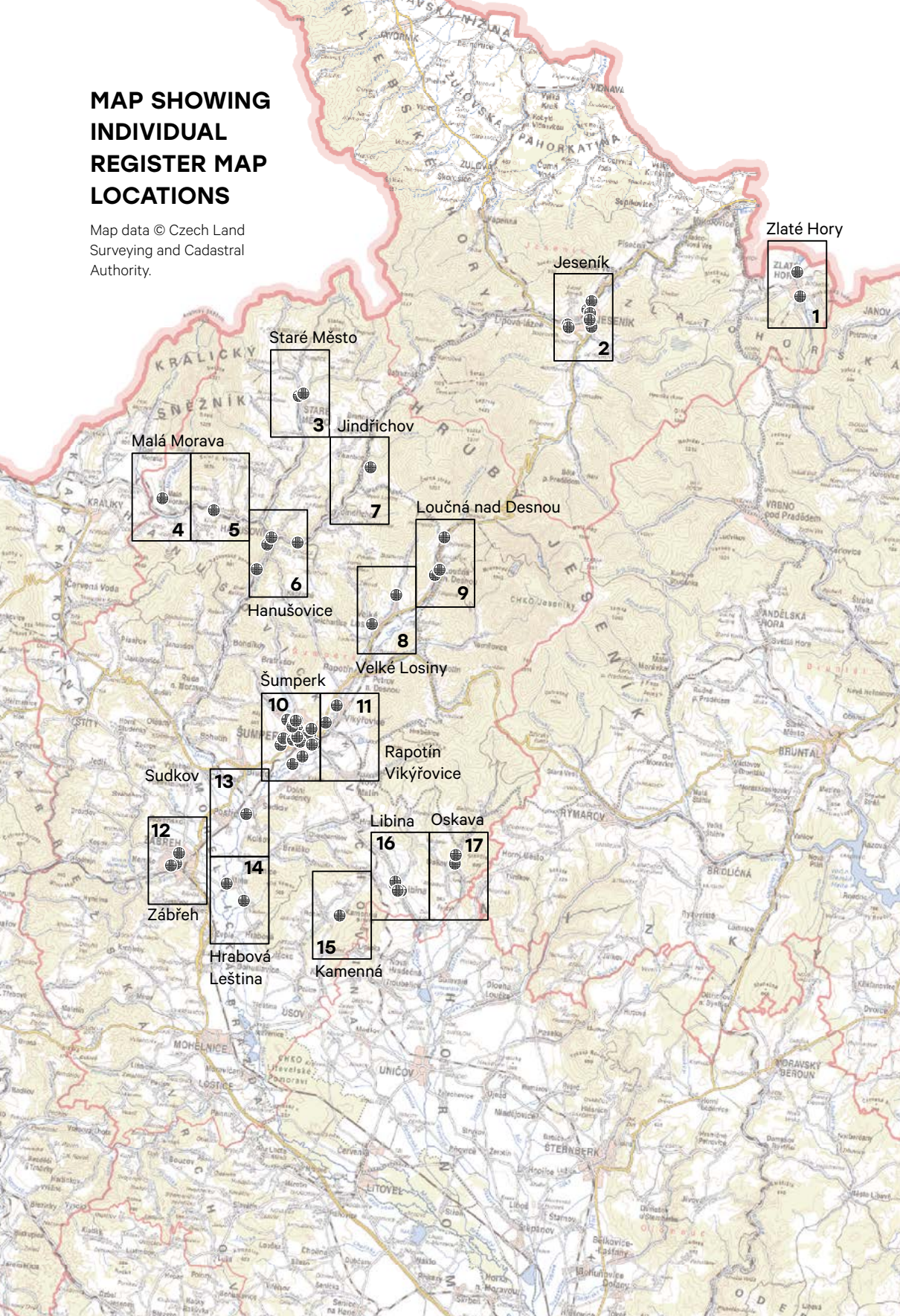
Legend: 1 – production and residential building of the Surber company (1901, Anton Schwestka?, building contractor, Šumperk; extension 1902); 2 – production building of the Surber company (1901, extension 1905); 3 – factory hall with sawtooth roof (3 bays, 1913, Hubert Prosinger building contractor, Šumperk; extension 1918, Hubert Prosinger, building contractor, Šumperk); 4 – factory hall with sawtooth roof, 1. extension (2 bays, 1914, Hubert Prosinger, building contractor, Šumperk); 5 – factory hall with sawtooth roof, 2. extension (6 bays and risalit, 1917, architect Bruno Bauer, Vienna); 6 – boiler/engine house, water tower (1917, architect Bruno Bauer, Vienna); 7 – extension for the portable engine (1922, Hubert Prosinger, building contractor, Šumperk); 8 – villa; 9 – hall with lamellar ceiling (1930, H. Popp & E. Ullrich, Šumperk; only on map); 10 – new buildings (only on map).



0 50 100 150 200 250 m

MAP SHOWING INDIVIDUAL REGISTER MAP LOCATIONS

Map data © Czech Land
Surveying and Cadastral
Authority.



REGISTER

Bludov cadastral district Bludov							
no.	owners	location	raw material	operation	from	until	notes
–	Hugo Engel (1892–1901) / Rabl & Singer (1901–1905)	no. 38 (1892)	silk	weaving mill	1892	1905	formerly brewery
–	Klein & Ross (1903–?)	no. 38	silk, rayon	weaving mill	1903	during WW1	
–	E. Pohl (1896–1898) / Müller & Pohl (1898)	?	silk	weaving mill	1896	1898?	
–	S. Trebitsch & Sohn	no. 321 (1925)	silk	weaving mill (hand)	2nd half of 1850s	1925	

Hanušovice cadastral district Hanušovice							
no.	owners	location	raw material	operation	from	until	notes
1	Buying company of Czechoslovak Linen Spinning Mills, Prague (Einkaufsgenossenschaft der Čsl. Flachsspinnereien in Prag)	at the railway station	linen	warehouse	1937	?	
2	Oberleithner & Co. (1864–1946) / Moravolen / Nobeslen / Slezan, Frýdek-Místek		linen	spinning mill	1855–1957	2008 or 2009	demolished, power plant in operation
3	Oberleithner & Co. (1864–1946) / Moravolen / Nobeslen / Slezan, Frýdek-Místek	municipal subdivision Holba	linen	spinning mill	1855	1956	
4	Flax Preparation Company, Hanušovice (Genossenschafts-Flachsbereitungsanlage in Hanušovice)	municipal subdivision Potůčnick, no. 431	linen	threshing mill	1930s	?	

Hrabová u Dubicka cadastral district Hrabová u Dubicka							
no.	owners	location	raw material	operation	from	until	notes
5	Franz Schmeiser & Co. / United Bohemian and Moravian Cotton Mills, Ústí nad Orlicí (later Utex; from 1947) / Vigona, Svitavy / MEZ, Mohelnice	municipal subdivision Vitošov, no. 50	cotton	weaving mill	1893	1950	formerly a mill

Jeseník cadastral district Bukovice u Jeseníka							
no.	owners	location	raw material	operation	from	until	notes
6	Josef Neupert / Jeseník Savings Bank Company (from 1874?) / Regenhart & Raymann (from 1898) / ...	formerly Bukovice, no. 126; current Nábřeží St., no. 126	linen	bleaching plant (yarn), processing plant	?	?	
Jeseník cadastral district Jeseník							
no.	owners	location	raw material	operation	from	until	notes
7	August Küfferle / Josef Raymann et Comp. / Raymann et Co. (from 1876) / Regenhart & Raymann / ...	formerly municipal subdivision Frývaldov-Ves, no. 26; current Bezručova St., no. 26	linen	weaving mill	1868	?	formerly a mill
8	Raymann Mechanical Flax Spinning Mill (Raymann's Flachsgarnspinnerey) / Adolf Raymann and Comp. / Regenhart & Raymann / ...	Husova St., no. 191/2	linen	spinning mill, later the company head-quarters building (offices, warehouses)	1851–1854	around 1875 (until 1877)	
9	Josef Raymann / Regenhart & Raymann	formerly municipal subdivision Frývaldov-Ves, no. 24	linen	bleaching plant, later processing plant (yarn and goods)	1808	after 1900	no. I
10	Josef Wiesner / Regenhart & Raymann (from 1876?) / Arandar, Frývaldov / Komsomol / Moravolen, Šumperk / Moravolen Jeseník	municipal subdivision Dittrichstein, bleaching plant, no. 39, current Janáčkova St. 18a, 747 etc.	linen	bleaching plant, later processing plant (yarn)	1858?	2005?	no. II
11	Regenhart & Raymann (from 1876?) / Arandar, Frývaldov / Komsomol / Moravolen, Šumperk / Moravolen, Jeseník	municipal subdivision Dittrichstein, current Janáčkova St., no. 754 etc.	linen	bleaching plant, processing plant (goods)	1905	2005?	no II
12	Josef Raymann / Raymann et Co. / Regenhart & Raymann / Arandar, Frývaldov / Komsomol / Moravolen, Šumperk / Moravolen, Jeseník	formerly municipal subdivision Frývaldov-Ves, no. 20; current Tovární St., no. 219, 1, 35, 38, 1413 etc.	linen	weaving mill	1860s	2004	

Jeseník katastrální území Jeseník							
no.	owners	location	raw material	operation	from	until	notes
13	Josef Raymann / Raymann et Co. / Regenhart & Raymann / ...	municipal subdivision Frývaldov-Ves; current Bezručova St., no. 286/29, 1215/31, 318/2, 632/33, 320/35, 471/37, 662/39, 506/41, Vančurova St., no. 670/2, 668/4, 591/6, 538/8, 586/7, 592/5, 669/3, 671/1, Tkalcovská St., no. 723/9, 555/7, 564/3, 584/5	linen	weavers' housing scheme	1880s	?	

Jindřichov cadastral district Nové Losiny							
no.	owners	location	raw material	operation	from	until	notes
14	Dominik Vogel	municipal subdivision Nové Losiny	linen	bleaching plant	?	?	

Kamenná cadastral district Kamenná							
no.	owners	location	raw material	operation	from	until	notes
15	Rudolf Wiesner	no. 41	linen, cotton	weaving mill hand / mech. (from 1925)	?	?	

Leština cadastral district Leština							
no.	owners	location	raw material	operation	from	until	notes
16	Josef Drtil	no. 155	linen, cotton	weaving mill (workshop)	1927	?	

Libina cadastral district Horní Libina							
no.	owners	location	raw material	operation	from	until	notes
17	Julius Kauer	no. 510	linen, cotton	weaving mill	1934	?	

Libina cadastral district Horní Libina							
no.	owners	location	raw material	operation	from	until	notes
18	Daniel Kreuzinger	no. 300	silk	weaving mill (workshop)	?	?	
19	Norbert Langer & Söhne, (1890–1946) / Moravolen, Šumperk (1946–1993) / Nobeslen (1994–2004) / ... / Getura Plus	no. 526	linen, cotton, artificial silk (from 1925)	weaving mill	1890?	2004	
20	Norbert Langer & Söhne, (1863?–1946) / ...	no. 216	linen	weaving mill, offices	1863?, 1879?	?	
–	Wilhelm Siegl	?	linen	weaving mill	1858?	1862?	

Loučná nad Desnou cadastral district Rejhotice							
no.	owners	location	raw material	operation	from	until	notes
21	Mechanical weaving mill in Loučná (Wiesenberger mechanische Flachs-spinnerei, 1853–1856) / Imperial and Royal Flax Spinning Mill in Loučná (k. k. priv. Flachsspinnerei in Wiesenberg, 1856–1910) / Imperial and Royal Flax Spinning Mill in Loučná, limited co. (k. k. priv. Flachsspinnerei in Wiesenberg, Gesellschaft m. b. H., 1910–1924) / Flax Spinning Mill in Loučná, limited co. (Flachsspinnerei in Wiesenberg, Gesellschaft m. b. H., 1924–1930) / Spinning Mill in Loučná, limited co. in liquidation (Flachsspinnerei in Wiesenberg, Gesellschaft m. b. H. in Liquidation, 1930–1933) / ... / Velosteel Trading	no. 126	linen	spinning mill	1851	1933	
22	Friedrich Ulrich (1845–1860) / Friedrich Ulrich & Sohn, 1860–1867 / Ulrich & Viereck (1867–1870) / Friedrich Ulrich & Sohn; 1870–1937 / Johann Ospald (1937–1943) / sawmill	no. 46	linen, cotton	bleaching plant, processing plant (goods)	1843–1845?	1943	

Loučná nad Desnou cadastral district Kociánov							
no.	owners	location	raw material	operation	from	until	notes
23	estate-owned bleaching plant	north-east of manor house	linen	bleaching plant	1839?	?	bleachery demolished, house retained

Malá Morava cadastral district Malá Morava							
no.	owners	location	raw material	operation	from	until	notes
24	Cooperative flax threshing company (Flachsbrechgenossenschaft)	no. 70	linen	threshing mill	1935?	?	

Malá Morava cadastral district Vojtěškov							
no.	owners	location	raw material	operation	from	until	notes
25	Vít Schenk	no. 59	linen	threshing mill	1924	1930s	part of the mill

Nový Malín cadastral district Nový Malín							
no.	owners	location	raw material	operation	from	until	notes
–	Rabl & Singer	formerly Plechy no. 17	silk	weaving mill (hand)	1902?	1905?	

Oskava cadastral district Oskava							
no.	owners	location	raw material	operation	from	until	notes
26	Norbert Langer & Söhne (from 1836) / Moravian-Silesian Linen Factories (Moravskoslezské Inářské závody), Šumperk / Nobeslen (from 1992) / CNM textil, Baška (from 2004)	no. 35 (bleaching plant), no. 172 (winter drying house), č. p. 30 (office)	linen, cotton	bleaching plant, processing plant	until 1835/1836	in operation	formerly estate-owned bleaching plant
27	Johann Ospald / Moravian-Silesian Linen Factories (Moravskoslezské Inářské závody), Šumperk / Moravolen, Šumperk / Nobeslen / ...	no. 7	linen, cotton	bleaching plant, processing plant	1892	2004?	

Petrov nad Desnou cadastral district Petrov nad Desnou							
no.	owners	location	raw material	operation	from	until	notes
–	Bruno Körner	formerly no. 212	linen?	weaving mill (workshop)	1937	?	

Rapotín cadastral district Rapotín							
no.	owners	location	raw material	operation	from	until	notes
28	Wagner Brothers (1802–1810/1812) / Gotthold Kunz / Friedrich Ulrich; Friedrich Ulrich et Sohn (cca 1828–1867) / Ulrich & Viereck (1867–1870) / Eduard Viereck (1871–1914) / Rapotín community bleachery (Rapotínské společenstevní bělidlo, s. r. o. / Reitendorfer Gesellschaftsbleiche G. m. b. h.; 1914–1945/1946)	formerly no. 89; current Výzkumníků St., no. 267, 400 (bleaching plant), č. p. 402 (water power plant)	linen	bleaching plant	1802	1921	power plant in operation

Rohle cadastral district Rohle							
no.	owners	location	raw material	operation	from	until	notes
–	Richard Wachutka	formerly no. 70	linen, cotton	weaving mill (workshop)	1924	?	
–	František Gottwald	formerly no. 78	linen, cotton?	weaving mill (workshop)	?	?	

Staré Město cadastral district Staré Město pod Králickým Sněžníkem							
no.	owners	location	raw material	operation	from	until	notes
–	Alexandr Buhl	no. 46, 68	linen	bleaching plant	1843	1884?	
29	Gustav A. Buhl / Chemische & Natur-Garnbleiche von Gustav A. Buhl Sohn's (1886–1919) / Gustav A. Buhl Sohn, Bleichwerke, Färberei u. Elektrizitätswerk Mähr.-Altstadt (1919–1939) / Vereinte Flachs-spinnereien und Textilwerke G. A. Buhl Sohn, Mähr.-Altstadt (1939–1946) / Moravian-Silesian Linen Factories (Moravsko-slezské lnářské závody) / Lenas, Bruntál / Moravolen, Šumperk / ... / PRO-BIO	Lipová St., no. 39, 45	linen	bleaching plant, dyeing plant, thread spinning mill	1843?	2000?	

Staré Město cadastral district Staré Město pod Králickým Sněžníkem							
no.	owners	location	raw material	operation	from	until	notes
30	Františka Heintelová	formerly no. 22, current Hornická St., no. 312		yarn winding shop	1934	?	

Sudkov cadastral district Sudkov							
no.	owners	location	raw material	operation	from	until	notes
31	Ignaz Seidl (1865–1867) / I. Seidl & Comp. (1867–1946) / Moravian-Silesian Linen Factories (Moravskoslezské lnářské závody), / Lenas, Bruntál / Moravolen, Šumperk / Moravolen, Bruntál / Moravolen Holding	no. 293	linen, cotton (from 1883)	spinning mill	1865	2006	

Šumperk cadastral district Dolní Temenice							
no.	owners	location	raw material	operation	from	until	notes
32	Hermann Schimetschek (1896–1905) / Wilibald Lubich & Sohn (1906–1946/1948) / Moravian-Silesian Linen Factories (Moravskoslezské lnářské závody), Šumperk / Lenax / Ekodo Šumperk	Anglická St., no. 2118	silk, linen	weaving mill	until 1896	1951?	od 1951: opravná stroje n. p. Moravolen

Šumperk cadastral district Šumperk							
no.	owners	location	raw material	operation	from	until	notes
33	Amfaldern & Co. (1921–1951) / Silk Weaving Mills, Prague (Tkalcovny hedvábí, Praha) / Municipal services / AZ Ekotherm	Zábřežská St, no. 906	silk	spinning mill, thread spinning mill	1920	1947?	
34	Bischof & Jeržabek / MEZ, Postřelmov (from 1945) / ...	Jeremenkova St., no. 848, 3244	linen	weaving mill	1911	1945	
35	Franz Bujatti (1868–1912) / Akciová společnost pro průmysl hedvábnický (Seidenindustrie Aktiengesellschaft vorm. Franz Bujatti; 1912–1938) / ...	8. května St., no. 913, 444, 2952, 663	silk	weaving mill	1860?	1938 or 1932	

Šumperk cadastral district Šumperk							
no.	owners	location	raw material	operation	from	until	notes
36	Carl Enzinger (1884–1899/1900) / Friedrich Déri (1899/1900–1924) / Hermann Schefter (1923/1924–1946) / Henap, Moravská Třebová / Hedva, Moravská Třebová (1961–1990) / ...	Šumavská St., no. 779	silk	weaving mill	1884	1990	
–	Franz Emmer	formerly no. 38	linen, cotton	weaving mill	1844	until 1890	
37	Schmieder & Co. (1880–1887) / Emanuel Fischmann (1887–1911) / Emanuel Fischmann's Neffe; 1912–1926/1927) / Fritz Schön-wälder & Co. (1927–1935)	Lidická St., no. 506; Jesenická St. no. 177	silk	weaving mill, processing plant	1880	1933	
38	Maxmilian Friedmann & Gebrüder Schiel (1915–1922) / Schiel Bros. United Silk Production Factories (Vereinigte Seidenwarenfabriken Gebrüder Schiel, 1922–1945) / Pramet	Uničovská St., no. 905	silk	weaving mill	1915/1916	1952	
39	Elias Pohl (1898–1903) / Carl Giani Jr. (Carl Giani jun. , 1903–1941) / Hans Janisch (1941–1945) / SLUM, Uherské Hradiště / Mona / Toko (1945–1948) / Plyšan, Hlinsko (from 1948) / Bytex, Vratislavice (1962–1990) / Dekora (1990–1993) / Polydekor (1993–2005) / ...	Zábřežská St., no. 596	silk	weaving mill	1898	2005	
–	Anton Hanel	formerly no. 93	linen, cotton	weaving mill	1844	until 1890	
40	Emil Heider (?–1930/1934) / Fiedler & Karger (1935–1946) / Silk Weaving Mills, Prague (Tkalcovny hedvábí, Praha) (1948–?) / Henap / Atlas / ...	8. května St., no. 670, 2948	linen, cotton, silk	weaving mill	1903?	?	
41	Johann Ernst Klapperoth (1786–1789) / Klapperoth's heirs (1789–1800) / Gotthold Kunz (1800–1829) / Friedrich Ulrich (1829–?)	Gen. Svobody St., no. 70, 442; Jiřího z Poděbrad St., no. 396, 590	bavlna, len	weaving manufactory	1786	cca 1830	from 1860s: S. Trebitsch & Sohn silk weaving mill in building no. 426

Šumperk cadastral district Šumperk							
no.	owners	location	raw material	operation	from	until	notes
42	Klein & Ross (1901–WWI) / S. Eisenberger (1919–1930) / Korhoň & Pospischil (1930–1932) / Korhoň & Comp. (Korhoň a spol., 1932–1938) / Anna Deschelová (1942–1945) / Korhoň & Comp. (Korhoň a spol., 1945–1948) / Moravian-Silesian Linen Factories (Moravskoslezské Inářské závody), Šumperk / ...	Nemocniční St., no. 734, 3248	silk, linen, cotton	weaving mill	1901	?	
43	Mechanical flax and hemp spinning mill in Šumperk (Schönberger mechanische Flachsspinnerei, Aktiengesellschaft; 1846–1880) / Ed. Oberleithner's Söhne (1880–1946) / Moravian-Silesian Linen Factories (Moravskoslezské Inářské závody), Šumperk / Moravolen, Šumperk / ... / Sumtex CZ	Žerotínova St., no. 417	linen, hemp, later also cotton	spinning mill / weaving mill	1842	in operation	spinning mill operation until 1880; weaving mill in operation
–	Johann N. Neumann	?	cotton, silk	dyeing plant, processing plant	1916	1938	
44	Eduard Oberleithner (1825–1839) / Ed. Oberleithner et Sohn (1839–1842) / Ed. Oberleithner et Söhne (1842–1849) / Ed. Oberleithner's Söhne (1849–1946) / Moravian-Silesian Linen Factories (Moravsko slezské Inářské závody), Šumperk (1946–1949?) / Moravolen, Šumperk	Žerotínova St., no. 3311	linen, cotton	dyeing plant, processing plant	1825	1996	
45	Eduard Oberleithner (?–1839) / Ed. Oberleithner et Sohn (1839–1842) / Ed. Oberleithner et Söhne (1842–1849) / Ed. Oberleithner's Söhne (1849–1946) / ...	Gen. Svobody St., no. 17, formerly no. 17–19	len, bavlna	správní a obchodní budova, ruční tkalcovna	cca 1830	?	
46	Felix Reiterer's Söhne (1885–1926) / Silvet, Prague (Silvet, Praha) (1926–1942) / Telegraph and Construction Authority / ...	Lidická St., no. 519, 2858, 2854, 2855, 2857, 2744, Jeremenkova St., no. 2744; 8. května St., no. 2854	silk	weaving mill	1885	1929?	

Šumperk cadastral district Šumperk							
no.	owners	location	raw material	operation	from	until	notes
47	Wilhelm Schay (1912–1947) / Mining and Metallurgical Company (Báňská a hutní společnost), Ostrava (1947–1949) / United Steelworks (Spojené ocelárny), Kladno (1949–1952) / First Five-Year Plan Works (Závod První pěti-letky), Šumperk (1952–1966) / Pramet, Šumperk (from 1966)	Lidická St., no. 50	linen	weaving mill	1912	1938?	
48	Arnold Schimetschek (1892–1939) / Fiedler & Karger (1939–1945) / Henap, Moravská Třebová / ... / Pramet, Šumperk / ...	Dolnostudénská St., no. 715	silk	weaving mill	1892	1952?	
49	Karl Siegl Sr. (Karl Siegl sen. , 1842?–1945) / Moravian-Silesian Linen Factories (Moravskoslezské lnářské závody), Šumperk / Moravolen, Šumperk / Bast Fibres Research Institute (Výzkumný ústav lýkových vláken) / Basaltex	Uničovská St., no. 296	linen	bleaching plant, processing plant	1842?	1949	
50	Johann Göttlicher / Karl Bock (1850s?–1872) / Anton Hönig (1872?–1882) / ... / Carl Schreiber (1882–1906?/1910?) / Bleaching and Finishing Works in Šumperk (Mähr. Schönberger Bleiche und Apretur; 1906/1910–1918) / Karl Siegl Sr. (Karl Siegl sen. , 1918–1946) / ...	formerly no. 370; currently in the complex at Uničovská 19	linen, cotton?	bleaching plant	1850?	1930s?	Karl Siegl Sr.: bleaching plant no. II
51	Karl Bock (1858–cca 1870) / Anton Hönig (1872–1882?) / ... / Hermann Schuch (1893–1897) / Karl Siegl Sr. (Karl Siegl sen. , 1897–1946?) / ...	formerly no. 299; current Uničovská St., no. 48	linen, cotton?, silk	přádelna / tkalcovna	1858	?	originally the “pond mill”
52	Karl Siegl Sr. (Karl Siegl sen. , 1853–1945) / Moravian-Silesian Linen Factories (Moravskoslezské lnářské závody), Šumperk / Moravolen, Šumperk	M. R. Štefánika St., no. 318; Dr. E. Beneše St., no. 2871	linen	weaving mill	1890	1990s	
53	August Ston	formerly Wasser-gasse, no. 6	silk	weaving mill	1895?	1911?	demolished
54	S. Trebitsch & Sohn (1872–1938) / Sudeten-deutsche Seidenweberei Mähr. Schönberg, G. m. b. H. (1940–1944) / Henap (1948–?) / Brokát, Moravská Třebová? / Atlas, Zábřeh / Hedva, Moravská Třebová / ...	Lautnerova St., no. 488	silk	weaving mill	1872–1874	1998	

Šumperk cadastral district Šumperk							
no.	owners	location	raw material	operation	from	until	notes
–	Josef Turek	formerly Kaiserstr. 32; lower part of Hlavní třída	silk	weaving mill (hand)	1903	1908	
55	J. J. Surber (1901–1904) / Jakob and Marie Frei (1905–1908; premises leased to Franz Rotter) / Eschmann & Comp. (1908–1917) / V. Vinciguerra (1917–1924) / V. Vinciguerra & Cie. (1924–1946) / Henap, Moravská Třebová (1948–?) / Hedva, Moravská Třebová / Hedva, Moravská Třebová	Zábřežská St., no. 703	silk	thread spinning mill, dyeing plant, bleaching plant, processing plant	1905	2019	
56	Wagner Brothers / Schweska ?	west of corduroy manufactory	linen	bleaching plant	cca. 1834?	?	demolished

Velké Losiny cadastral district Velké Losiny							
no.	owners	location	raw material	operation	from	until	notes
57	Edwin Godni / Josef Doleschel (od 1911?)	formerly no. 313, current no. 384	linen?	weaving mill (workshop)	1907?	1946?	
–	Emil Engler & Co.	?	linen, cotton	weaving mill (workshop)	1904	?	
–	Anton J. Schmidt's Söhne	?	linen, cotton	weaving mill (workshop)	1830	?	
58	tírna	on the site of the spa (Božena building)	linen	threshing mill	?	at the latest 1861	

Vikýřovice cadastral district Vikýřovice							
no.	owners	location	raw material	operation	from	until	notes
59	estate-owned bleachery / I. Seidl? (from 1852?) / ... / Frank Lane / tractor workshop / ...	formerly the settlement of Křenišov (Gröneshof); currently Křenišovská St., no. 226	linen	bleaching plant / weaving mill	1829? bleaching plant / 1901 or 1911 weaving mill	1938?	

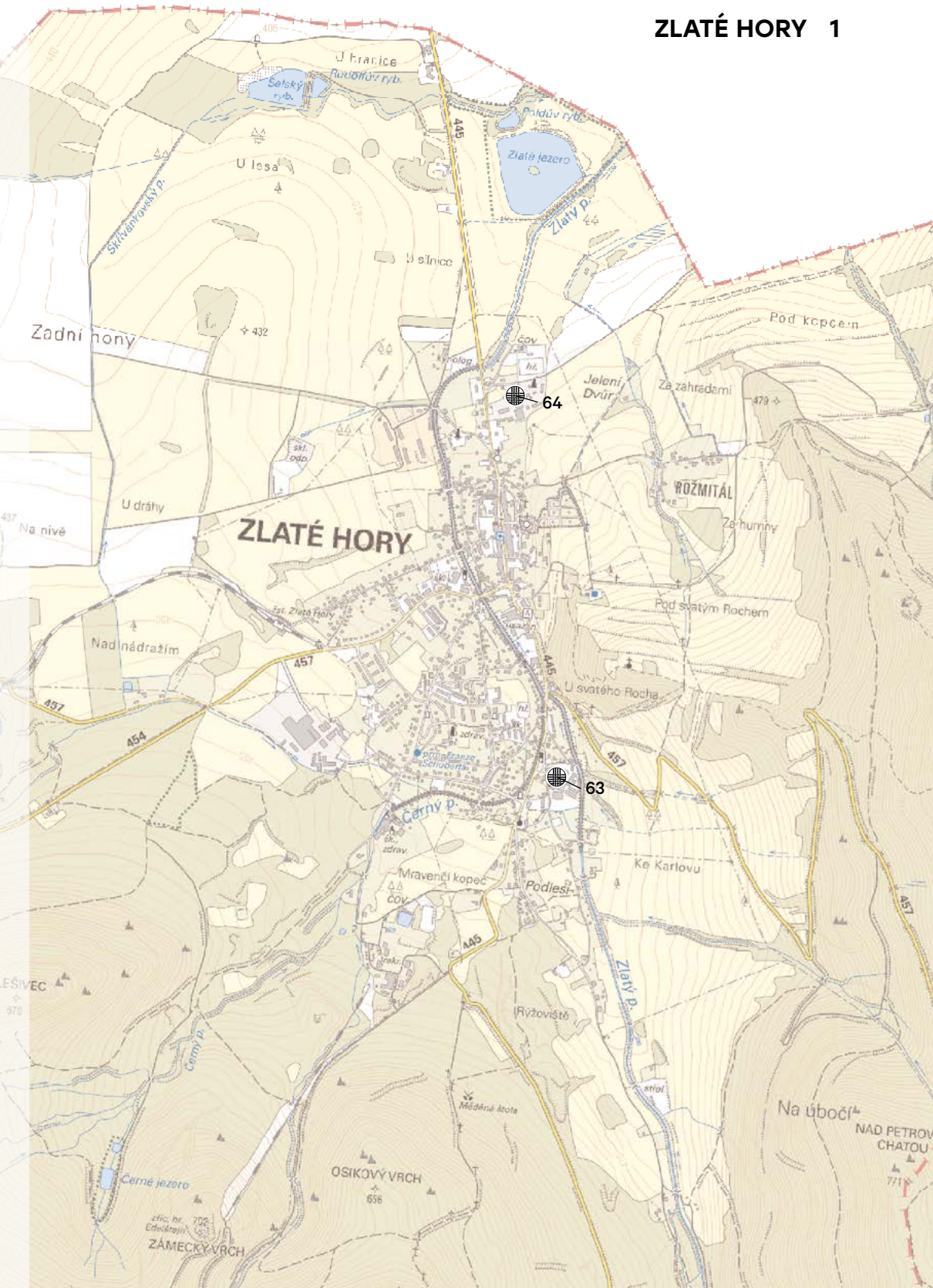
Zábřeh cadastral district Zábřeh							
no.	owners	location	raw material	operation	from	until	notes
60	Julius Lensen (1856–1860) / Julius Lensen & Wilhelm Brass (1860–1871) / Wilhelm Brass (1871–1878) / Wilhelm Brass & Söhne (1878–1945) / United Bohemian and Moravian Cotton Factories (Spojené české a moravské bavlnářské závody), Ústí n. O. (1946–1949) / Vigona (1949–1953) / Perla, Ústí n. O. (1953–1958) / Orban, Žamberk (1958–1967) / Perla, Ústí n. O. (1967–?) / Perla, non-woven textiles	28. října St., no. 2273; area between 28. října St. and the pond	cotton	dyeing plant, spinning mill (operation from 1878), non-woven textile production (operation from 1972)	1856?	spinning mill – until 2005, non-woven textile production continues today	2012–2018 demolished, former dyeing shop preserved, now used for producing non-woven textiles
61	Hermann Schefter / Silk Weaving Mills, Prague (Tkalcovny hedvábí, Praha) / Atlas, Zábřeh / Hedva, Moravská Třebová (from 1958) / ...	Oborník St., no. 31	silk	weaving mill	1901	1996	
62	Josef Sláma (1923–?) / ... / ČEZ	Bezručova St. no. 319	?	weaving mill	1926	1933?	former estate granary

Zlaté Hory cadastral district Zlaté Hory v Jeseníkách							
no.	owners	location	raw material	operation	from	until	notes
63	Josef Adensamer & Cie. (1898–1949) / Arandar, Jeseník / Komsomol, Jeseník / Moravolinen, Šumperk / Zlatex, Zlaté Hory	Tovární St., no. 214	silk, linen, cotton	weaving mill	1898	2011	from 1950 linen; 2014: demolished
64	Ant. R. Heyek & Söhne / Karl Kolesa / Fuchs / ... / Velobel	Polská St., no. 497	?	thread spinning mill, dyeing plant, bleaching plant	1853	1922–1923	from 1923 bicycle production
–	Josef Münzberg / Josef Münzberg & Comp. (1827: merger with Josef Raymann and Regenhart companies)	?	len	weaving manufactory, bleaching plant, processing plant	1811	1844	
–	Pohl Brothers	?	len	weaving manufactory	?	?	

MAPS

Scale 1 : 25,000, order of display (north to south) see the map showing individual register map locations (p. 234).

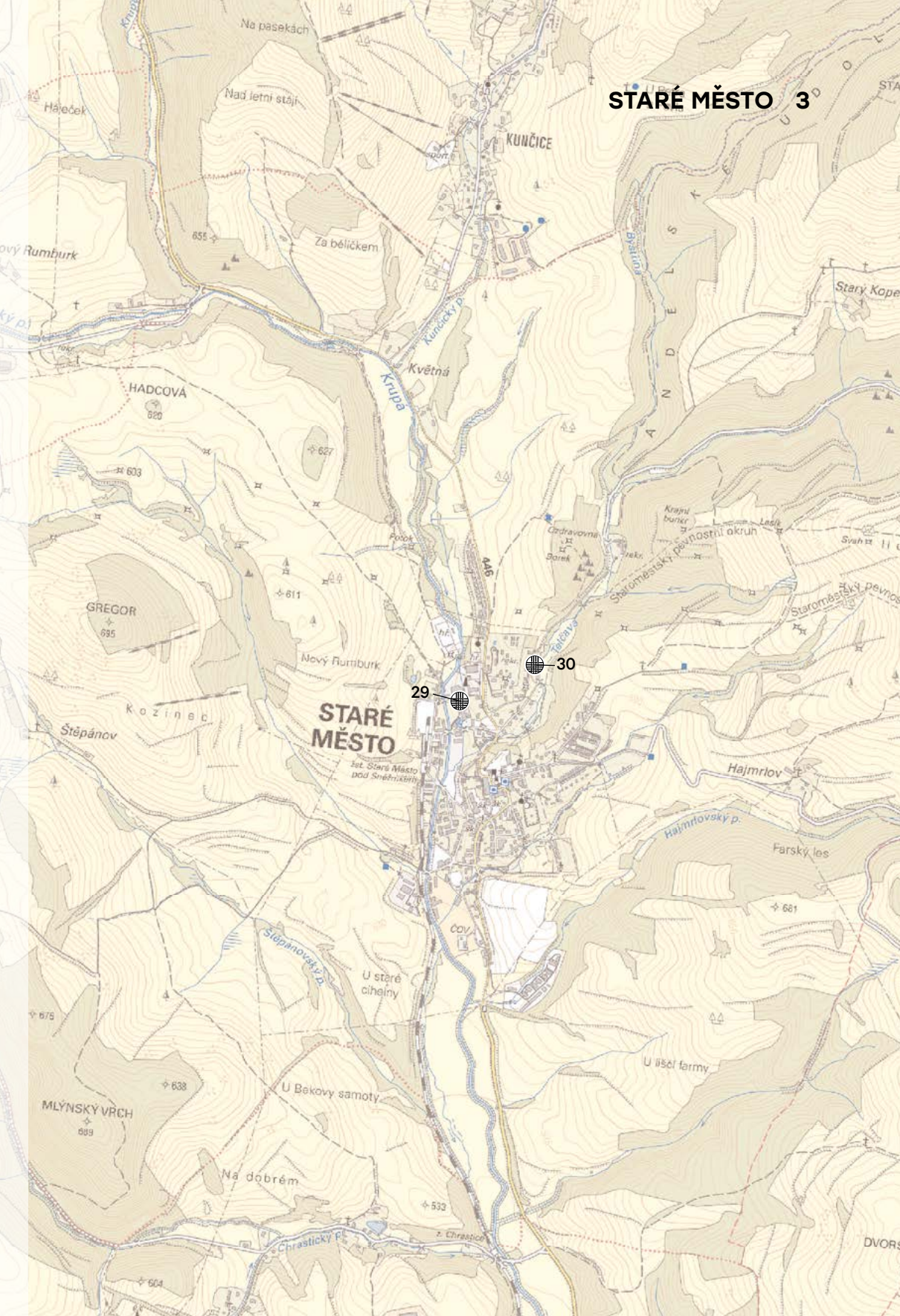
ZLATÉ HORY 1



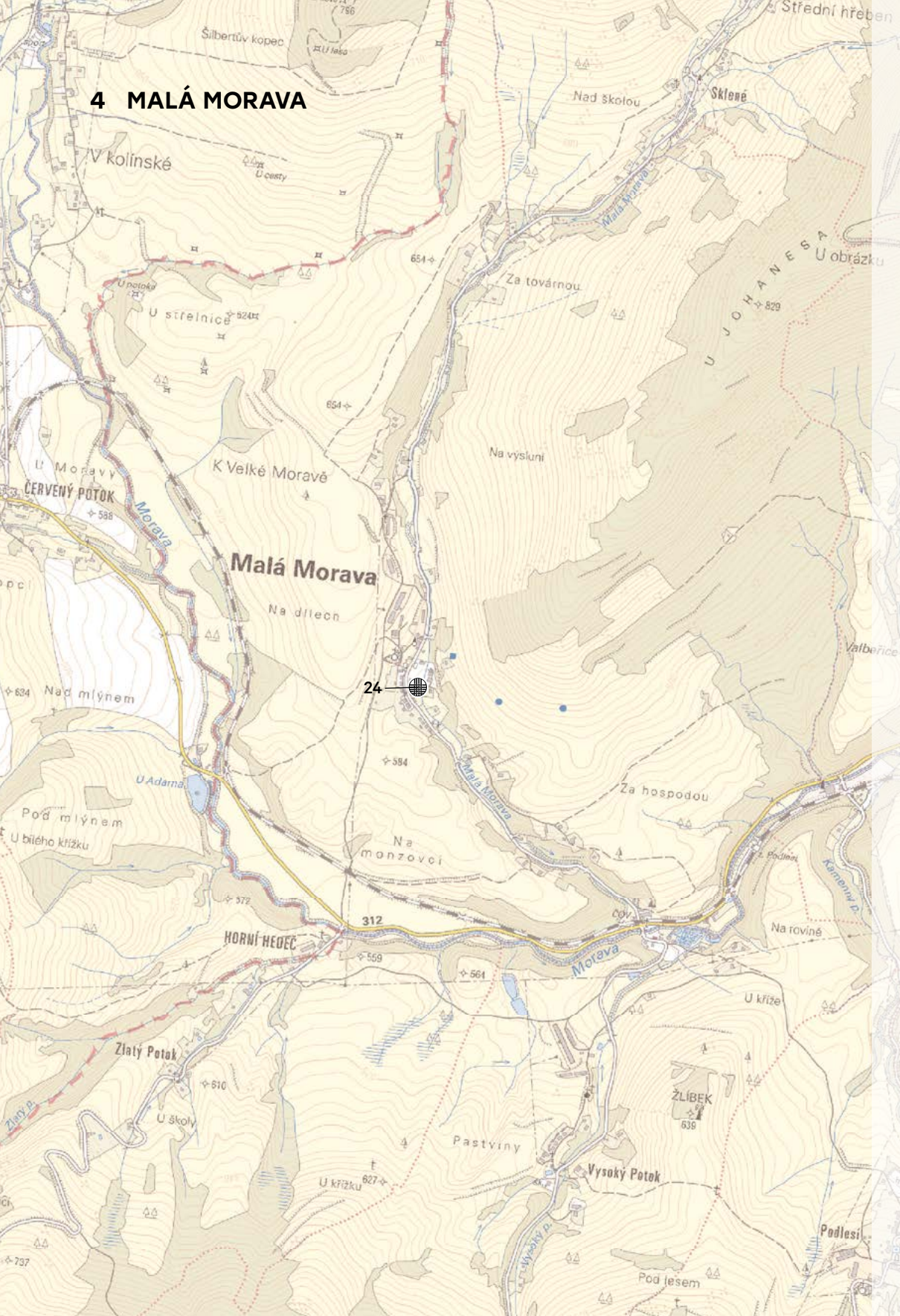
The map shows the town of Jeseník and its surrounding landscape. Key features include:

- Topography:** Contour lines indicating elevation, with peaks like Krížový vrch (566m) and Bukovický vrch (557m).
- Water Bodies:** The Bělá river flowing through the town, and several smaller streams and ponds.
- Urban Areas:** The town of Jeseník, Lázně Jeseník (spa town), and Bukovice.
- Landmarks:** Various hills and mountains, including Krížový vrch and Bukovický vrch.
- Numbered Points:** Points 6 through 13 are marked on the map, indicating specific locations of interest. These points are distributed across the town and surrounding areas.

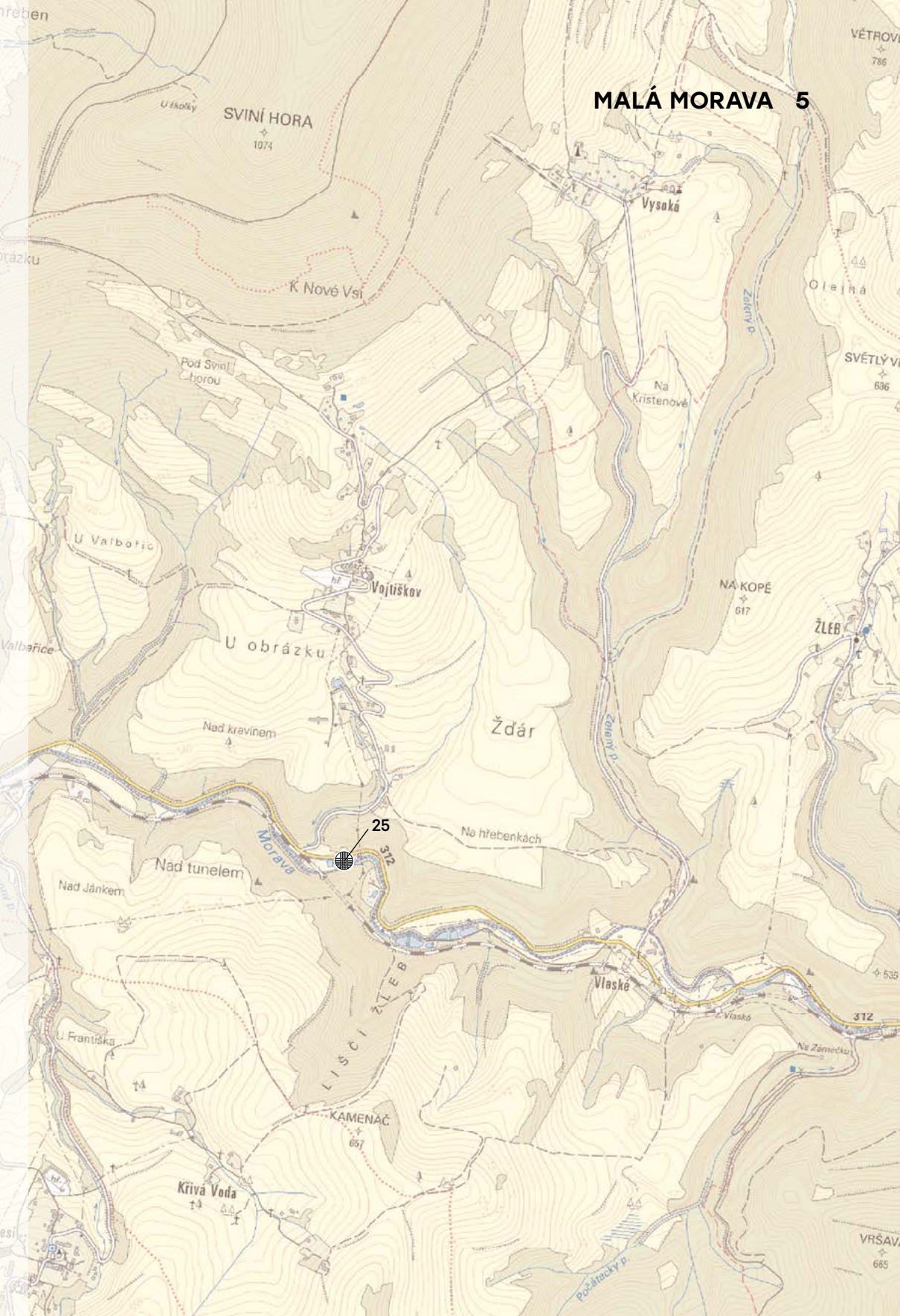
STARÉ MĚSTO 3



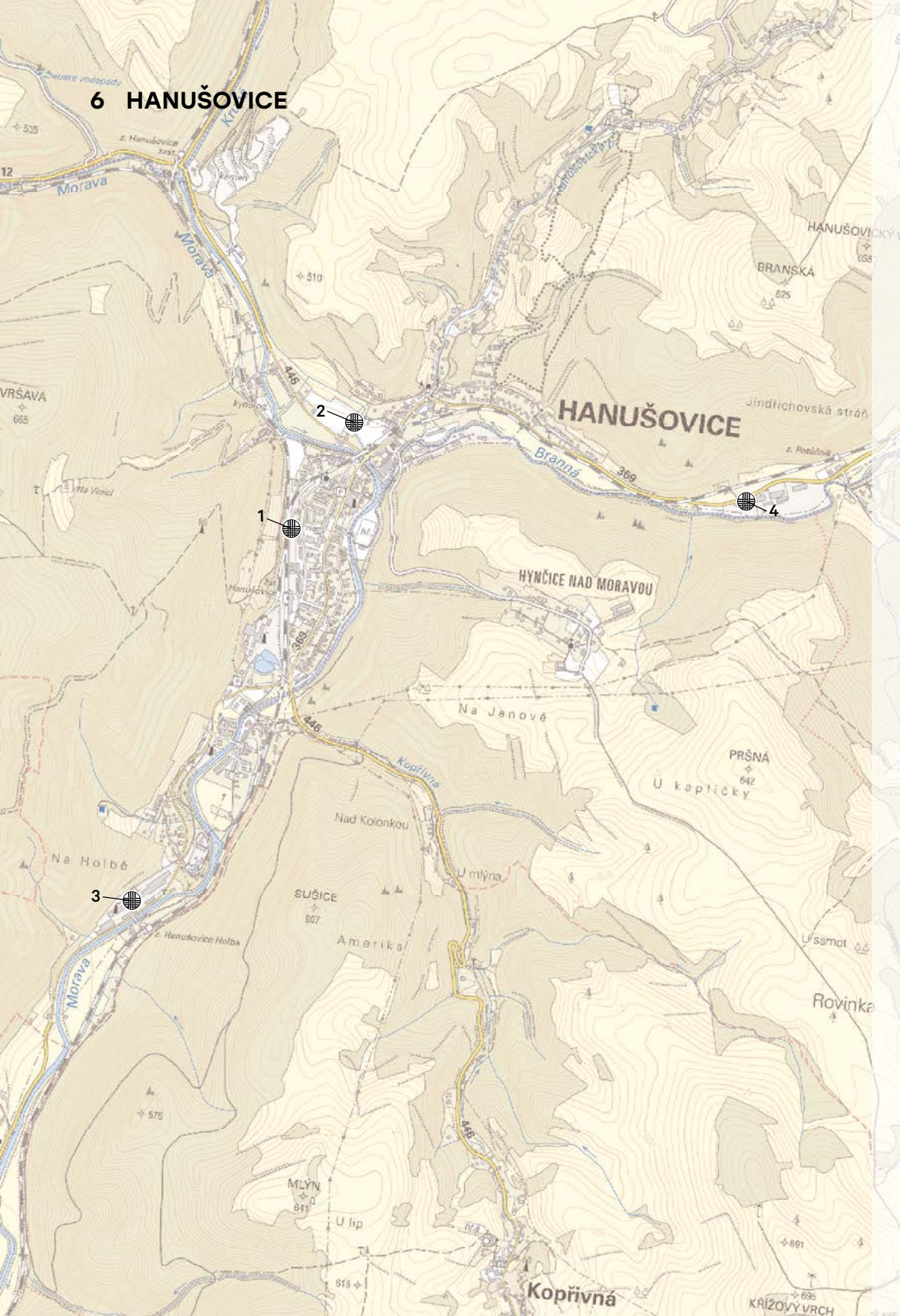
4 MALÁ MORAVA



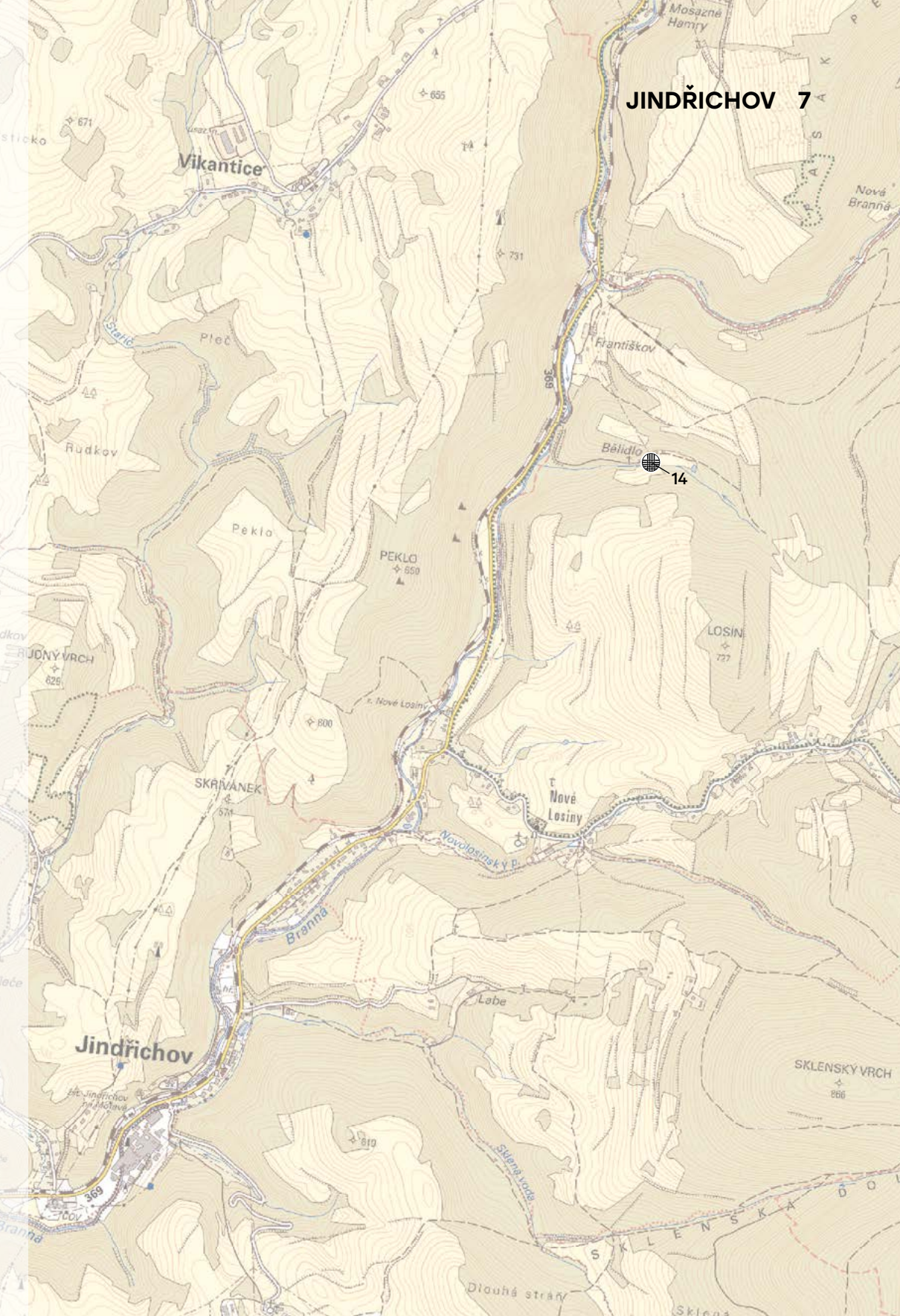
MALÁ MORAVA 5



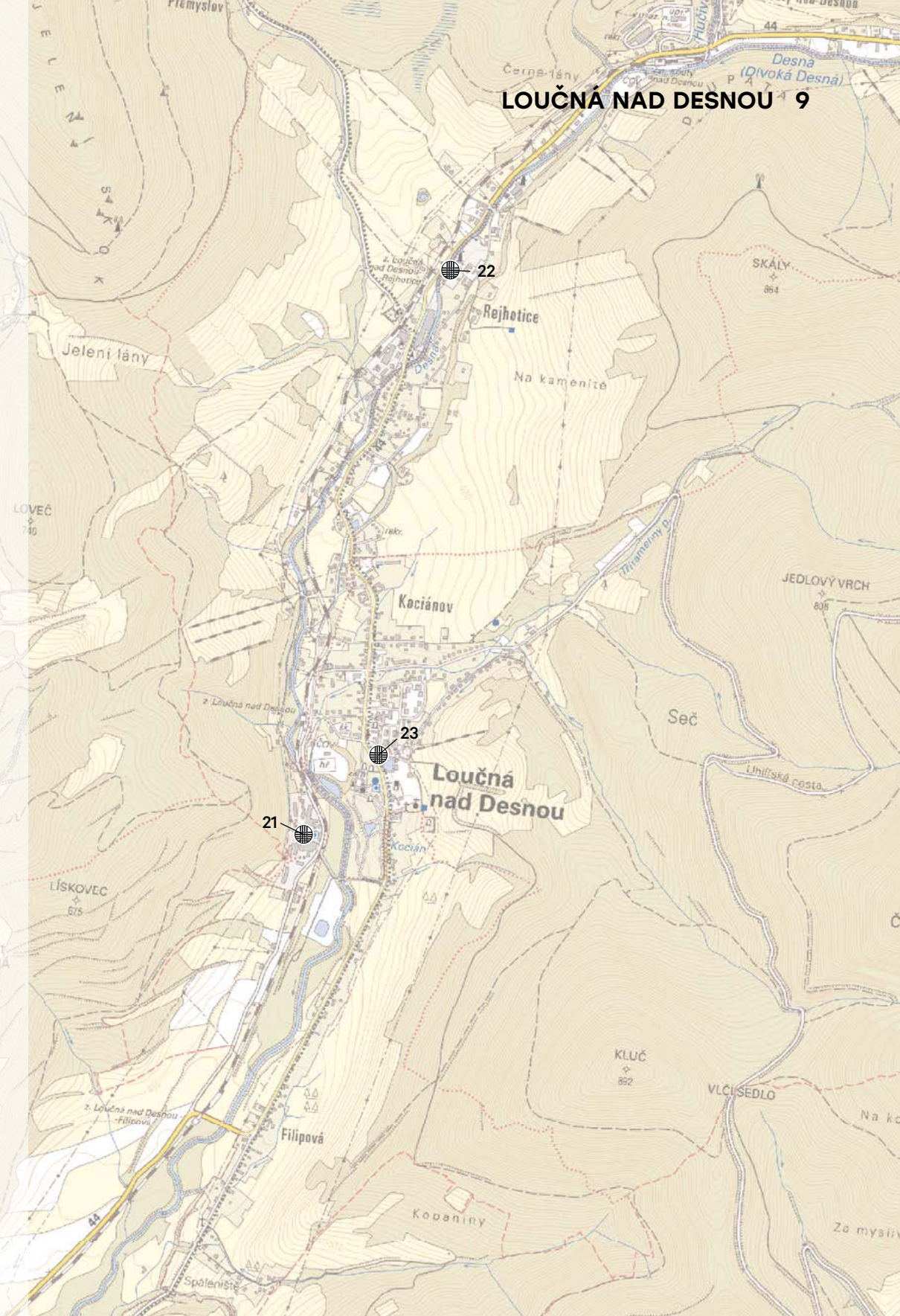
6 HANUŠOVICE



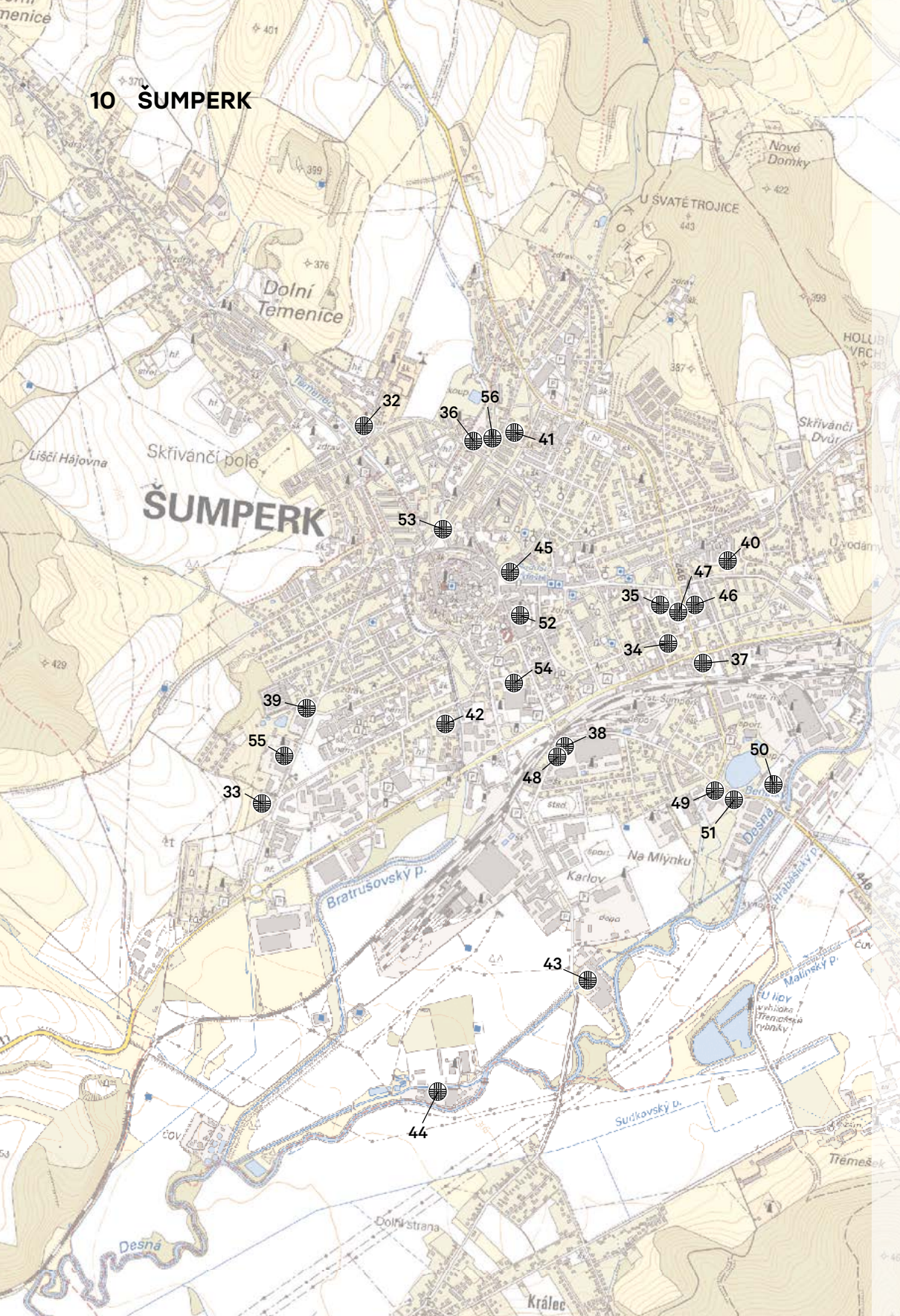
JINDŘICHOV 7

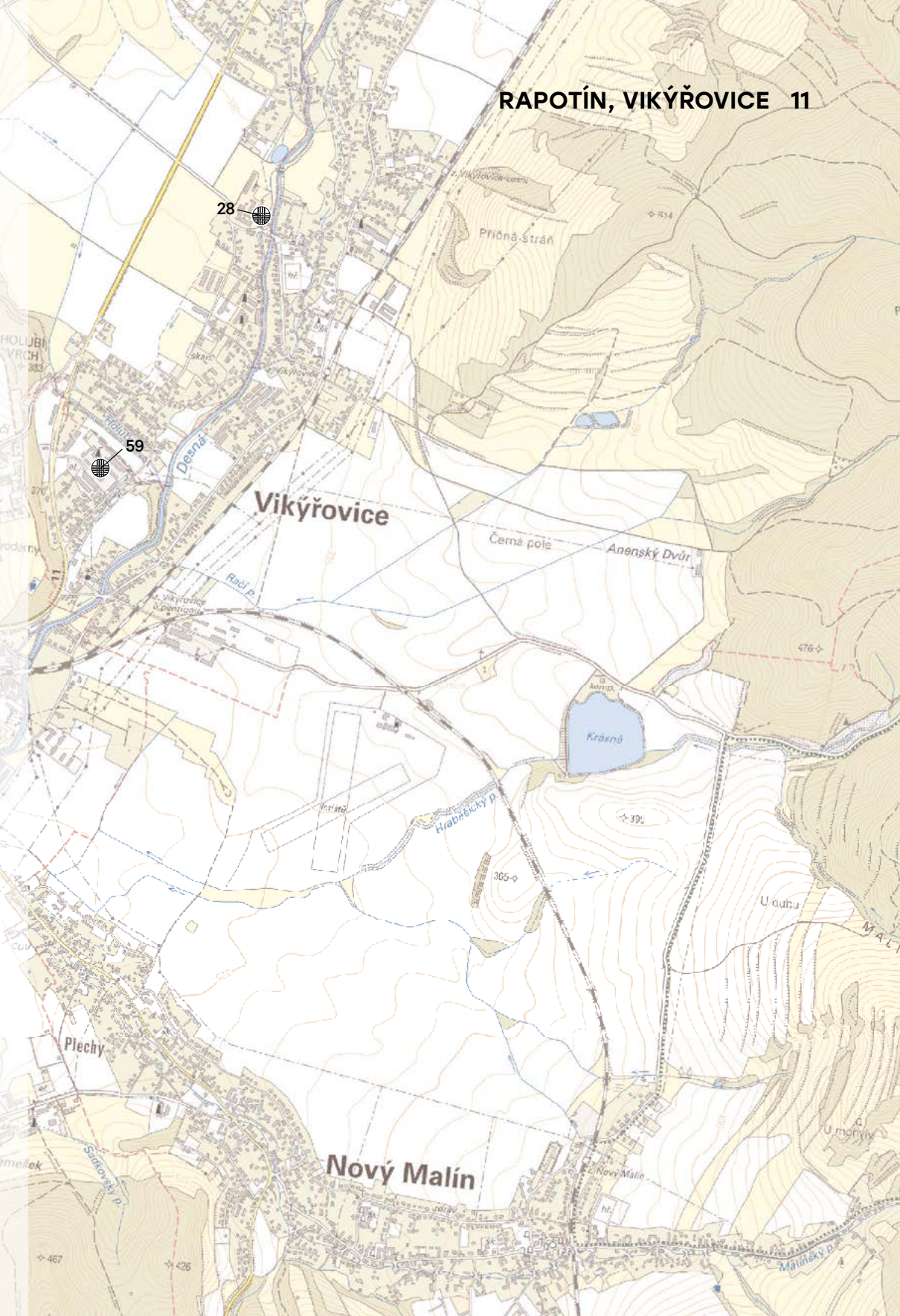


LOUČNÁ NAD DESNOU 9

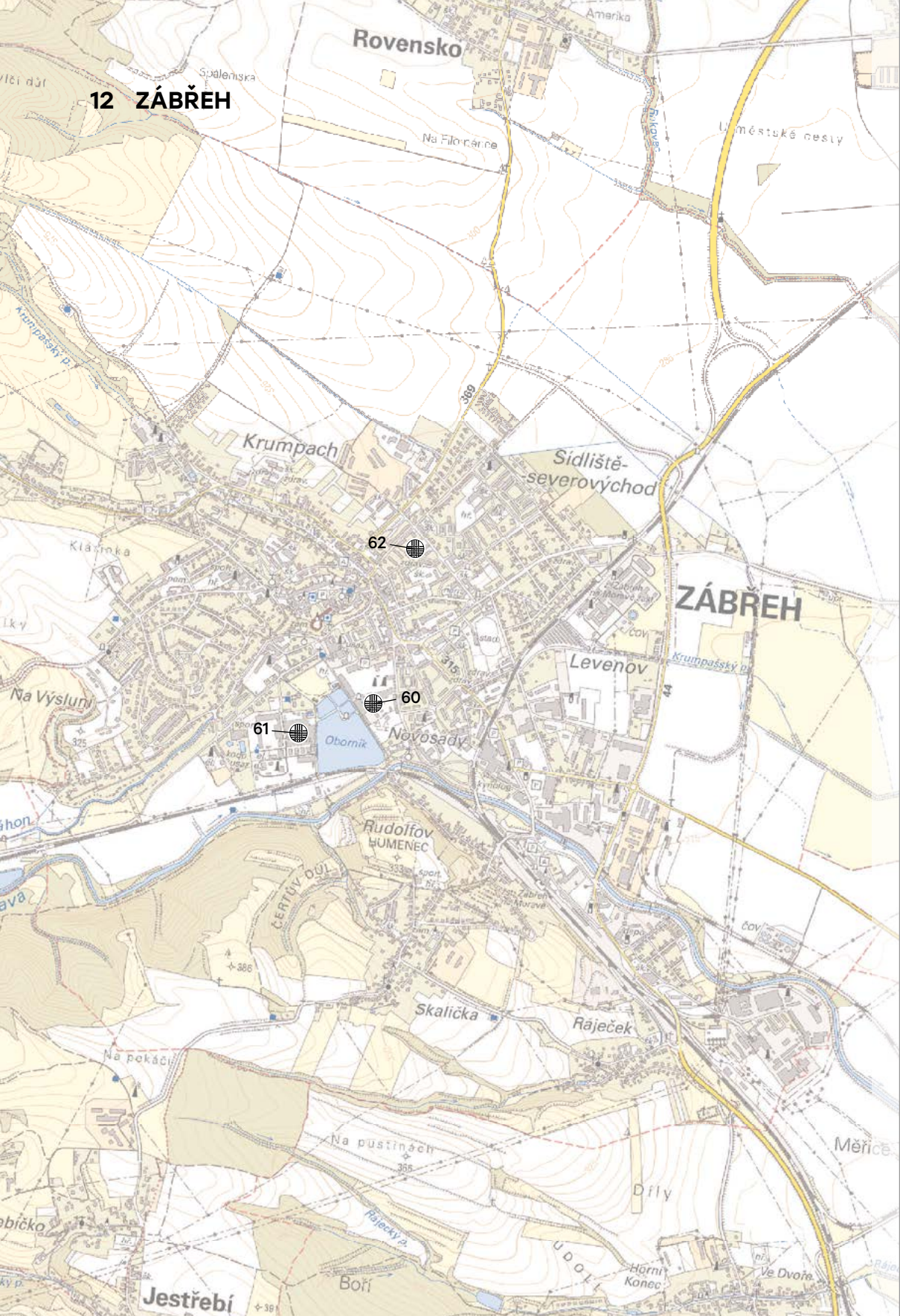


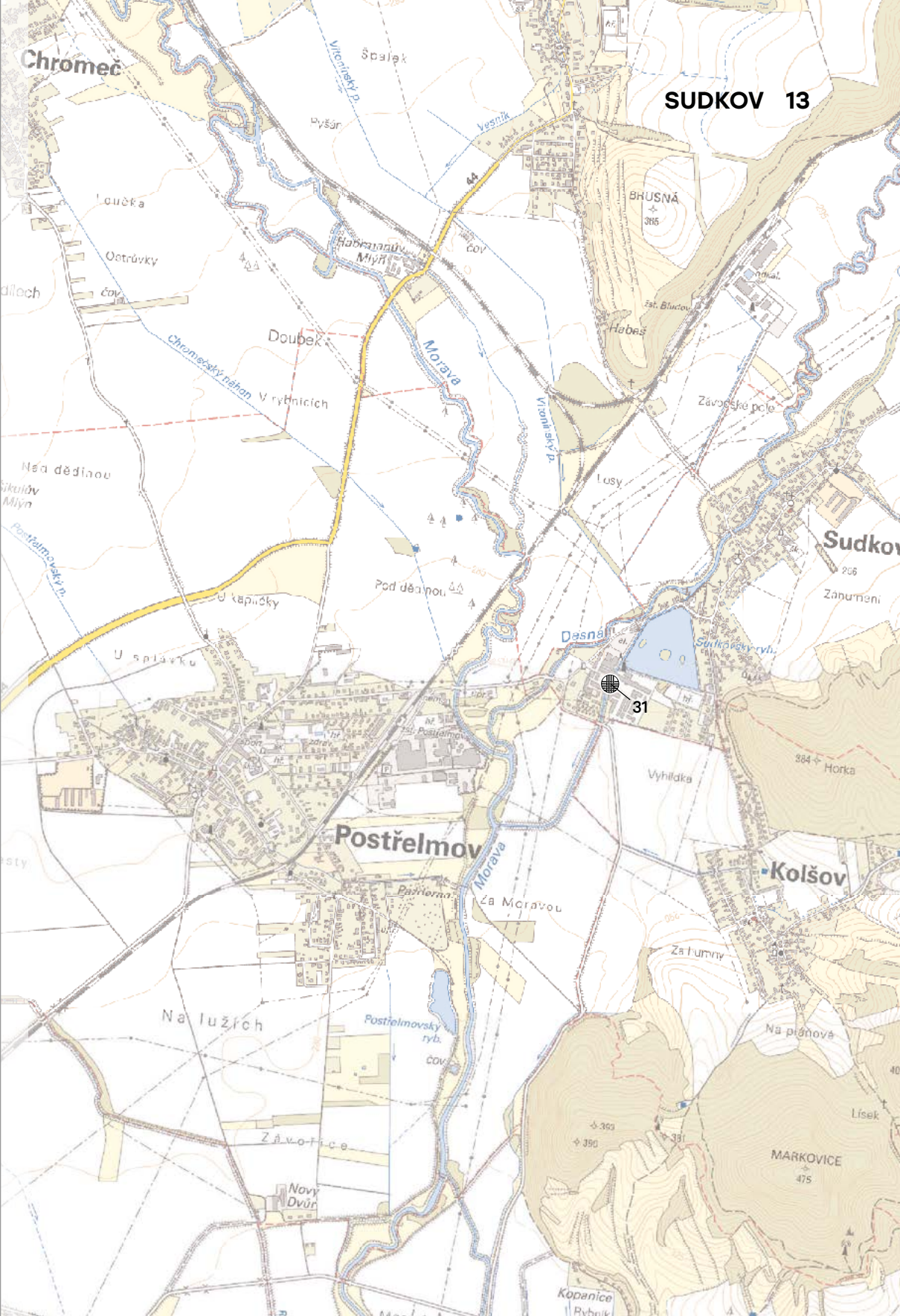
10 ŠUMPERK





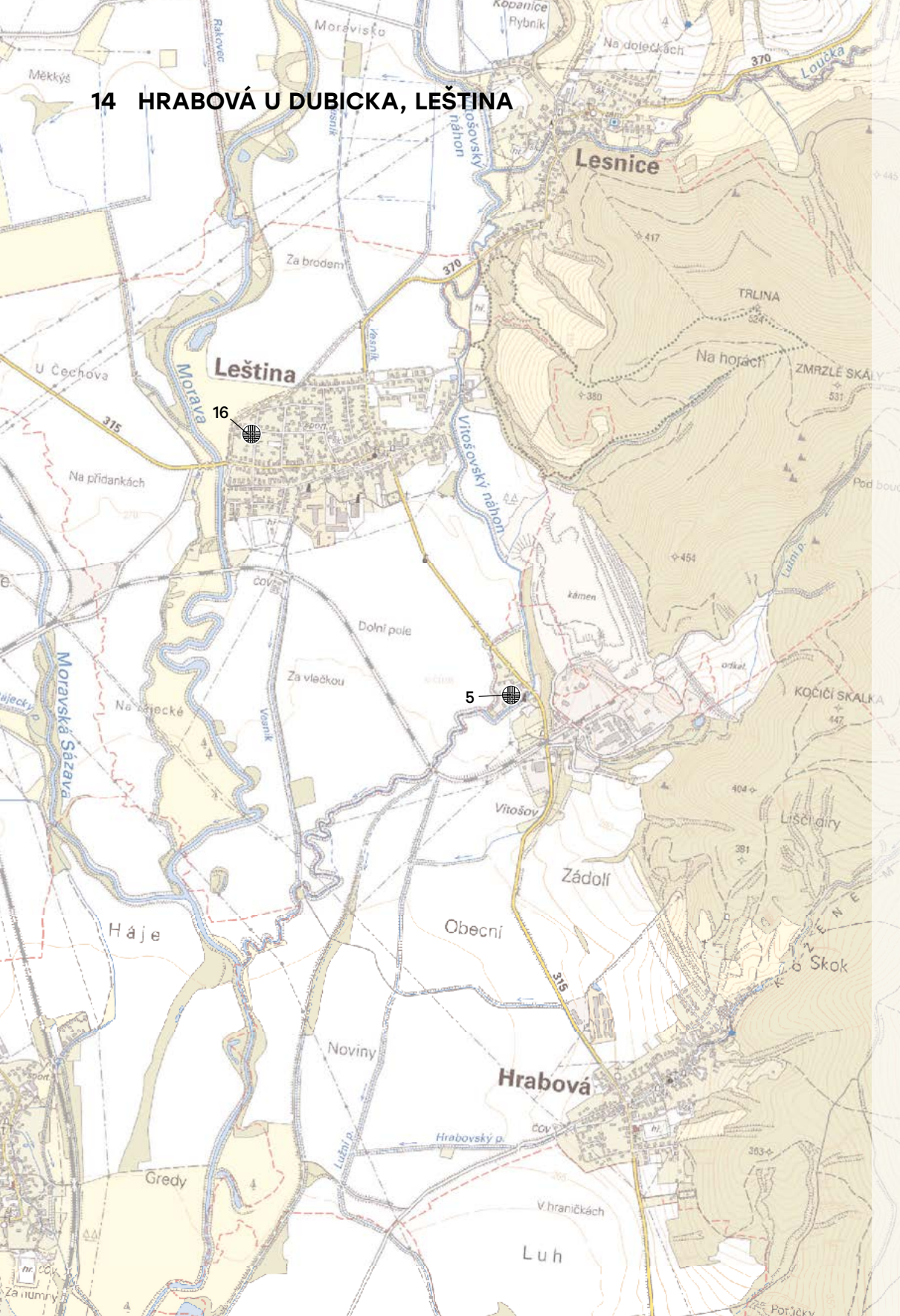
12 ZÁBŘEH



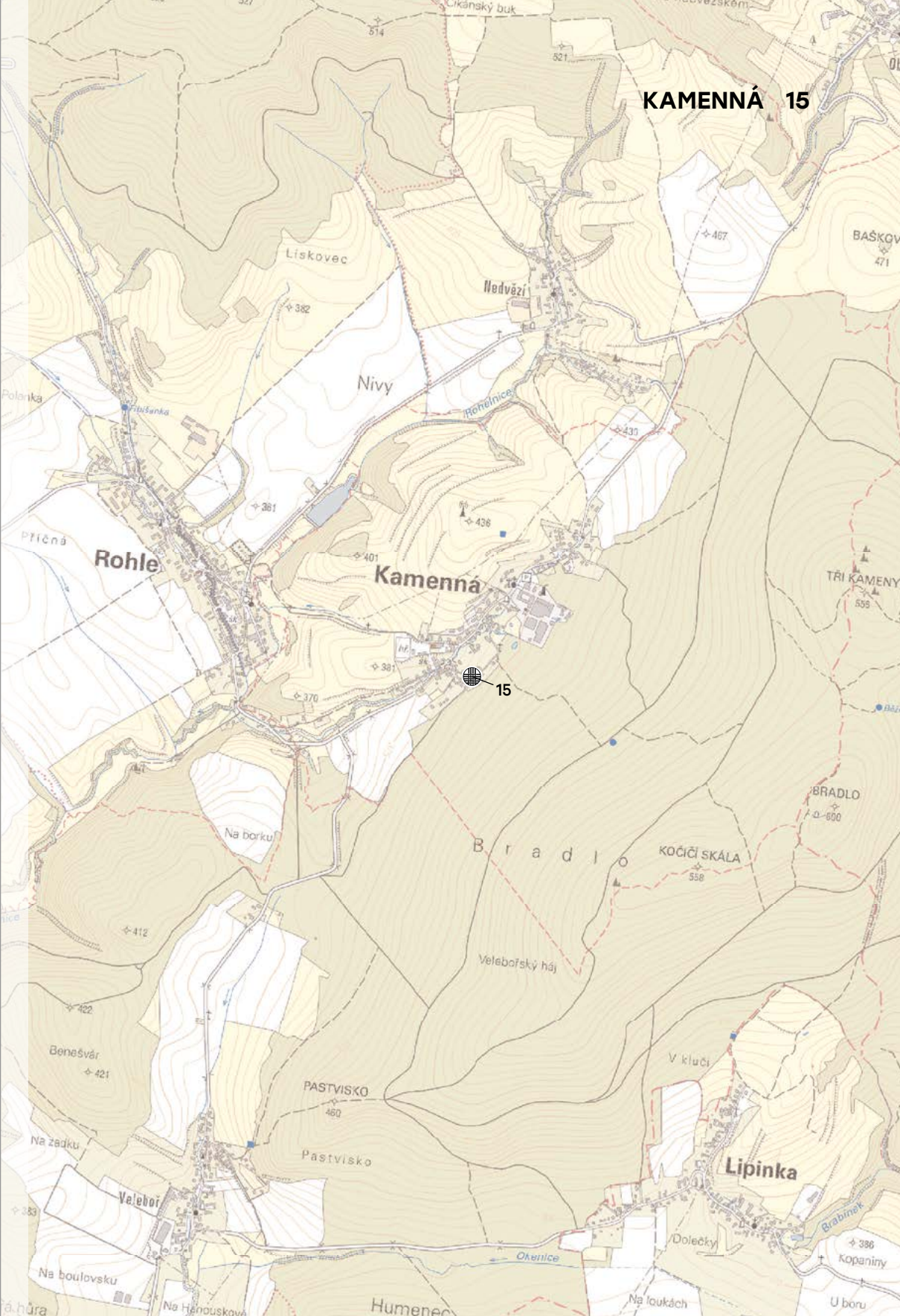


31

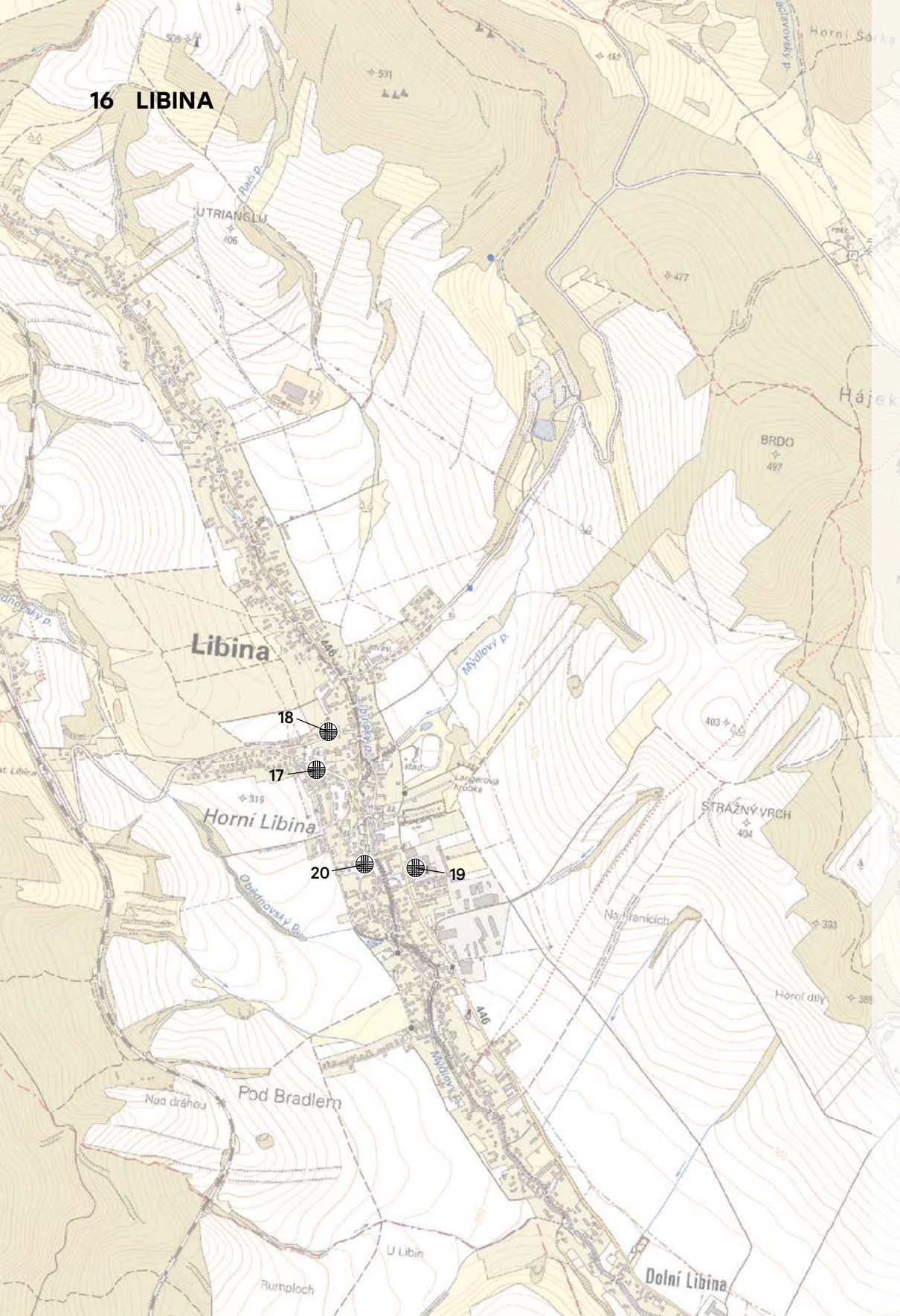
14 HRABOVÁ U DUBICKA, LEŠTINA



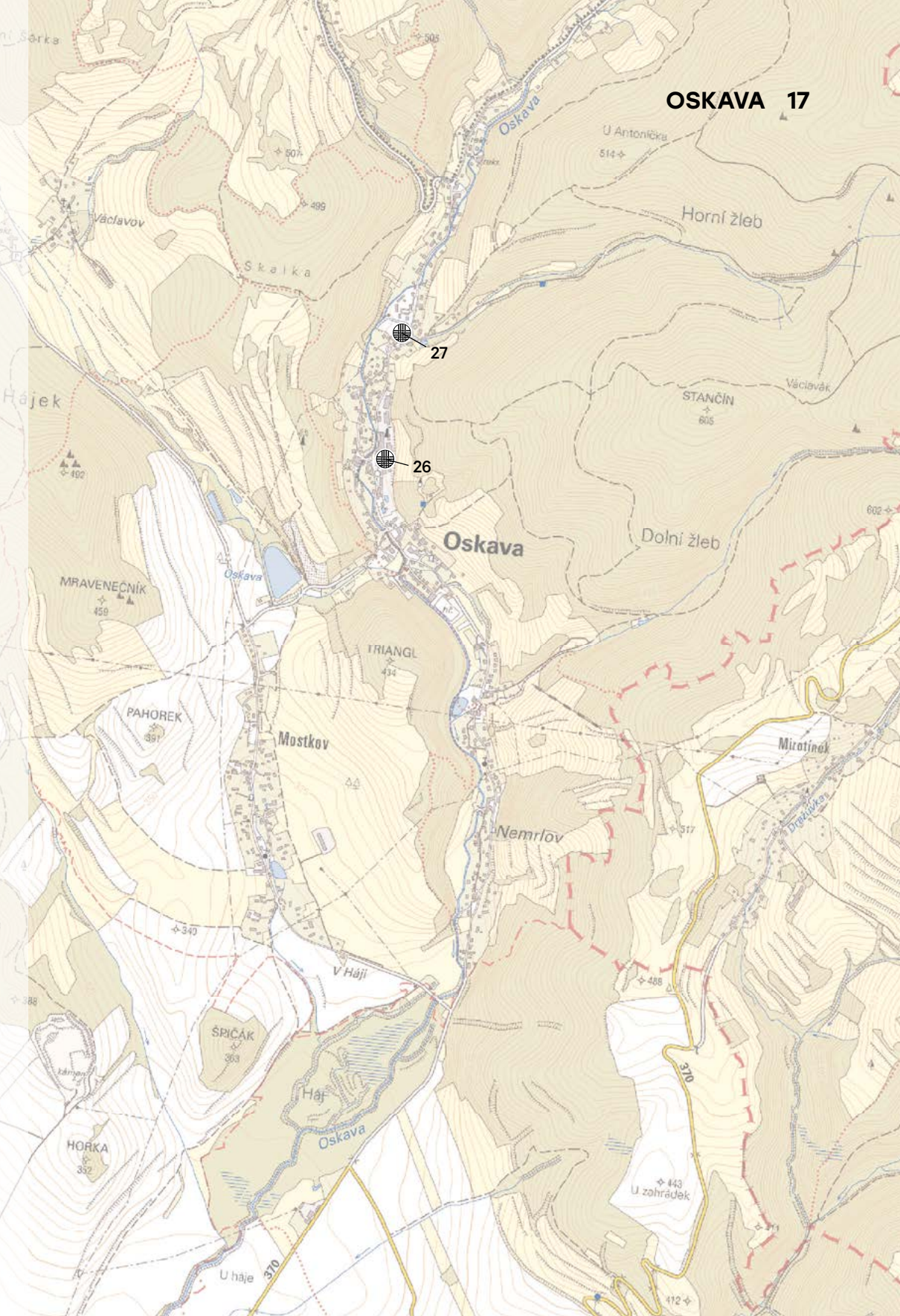
KAMENNÁ 15



16 LIBINA



OSKAVA 17



LITERATURE AND SOURCES

LITERATURE

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Archiv obce Holba (AO Holba) / Holba Municipal Archives

Okresní úřad Šumperk (OÚ Šumperk) / Šumperk District Authority

Okresní úřad Zábřeh (OÚ Zábřeh) / Zábřeh District Authority

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G. A. Buhl, Spojené přádelny a textilní závody, Staré Město pod Sněžníkem / G. A. Buhl United spinning mills and textile factories, Staré Město pod Sněžníkem

Norbert Langer a synové, továrna na lněné, bavlněné a hedvábné zboží, Libina / Norbert Langer & Söhne, linen, cotton and silk goods factory, Libina

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Johann Ospald, bělidlo a úpravna Oskava / Johann Ospald, bleachery and finishing shop, Oskava

C. Siegl sen., tkalcovna, bělidlo, úpravna lněného a bavlněného zboží, Šumperk / C. Siegl Sr., weaving mill, bleaching shop, finishing shop for linen and cotton goods, Šumperk

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INDUSTRIAL HERITAGE

THE LINEN, COTTON AND SILK INDUSTRIES IN THE ŠUMPERK AND JESENÍK REGIONS

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