

CHANGES IN EDUCATION FOR TEXTILE PRODUCTION IN THE INDUSTRIALISATION PROCESS

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Abstract: *This study deals with the issue of the changes in the professional training of those who participated in textile production during the industrialisation process in the second half of the 19th and early 20th century, when the mechanised factory mass production overshadowed the traditional forms of production and final treatment of textiles based on handiwork. It introduces the newly forming education possibilities, the birth of the system of textile education, the attitude of both the state and non-state officials and, last but not least, also the students of textile schools. In the first part of the study we will present the general tendencies based on knowledge from the Cisleithanian part of the Habsburg Monarchy, while the second part presents a more detailed insight into textile education on the territory of the so-called Austrian Silesia from the mid-19th century until the First World War.*

Keywords: *education, schools, students, industrialisation, Cisleithania, Silesia, 19th century, 20th century.*

1 INTRODUCTION

Training for textile production in the period until the early 20th century is not a commonly dealt with topic among researchers, which, in fact, applies to the entire sphere of professional training. Even the classical works by J. Gruber [1], O. Kádner [2] or Z. Černohorský [3], which today's authors still refer to, reserved only minimal space for textile schools. In addition, this space was given mainly to institutions where Czech was used as the language of teaching. What attracts even less interest is the research of the ties between education and various modernisation processes taking place in the Central European area roughly from the mid-18th century. The role of education in the industrial revolution and industrialisation processes is no exception, as it was taken into account more only by foreign researchers. For the territory of the Austrian part of the Habsburg Monarchy (Cisleithania), which this study is focused on, we can, from this aspect, point out especially the inspirational and factually beneficial works written by the Austrian authors H. Engelbrecht [4], J. Schermaier [5] and K. J. Westritschnig [6]. The last two authors paid more attention even to the development of textile schools. Within the possibilities of its limited extent, this study intends to pursue three aims:

- 1) to outline the development of textile schools in the Cisleithanian part of the Habsburg Monarchy until the First World War;
- 2) to show the transformation of the organisation of these schools and the teaching in the context of changes brought about by the industrialisation process, which developed rather diffidently

in the conditions of the Bohemian Lands from the 1820s;

- 3) to introduce the general trends on the example of Austrian Silesia (in its borders in 1742–1918) and the local educational institutions.

The limited extent of the study causes that its character is more of an input text, the introduction of the basic aspects and introduction into the problem. In conclusion of the introductory input we should add that the text omits the basic competencies which primary school pupils gained in the monitored period as part of lessons on sericulture and the so-called women's handicraft (embroidery, knitting, etc.). As important as the knowledge and skills gained in this way were for those concerned, they could be applied only in the relevant households and family farms.

2 THE TRANSFORMATION OF TEXTILE PRODUCTION DURING THE INDUSTRIAL REVOLUTION AND INDUSTRIALISATION

Much has already been written about the fact that the Bohemian Lands were a traditional base of textile production in the Cisleithanian part of the Habsburg Monarchy. Even more than for the Middle Ages this applied for the later periods. In the pre-industrial era textile production was an important production area, from which a large part of the local population profited and on which it was existentially dependent. In the conditions of the Bohemian Lands two sectors with a long tradition played a key role in this period: linen and woollen fabric production. These were produced from thread supplied either from rural

areas or bought at foreign markets. The fabric was mainly intended for sale at local markets or, exceptionally, at supraregional markets. While at first the weaving and final treatment (bleaching, dying, etc.) of both aforementioned types of fabric was concentrated into towns, during the first half of the 18th century the centre of production in the case of flax weaving was transferred into the countryside, specifically into submontane and mountain border areas in North and North-East Bohemia and Silesia, and the neighbouring North Moravian regions [7-10]. Flax spinning and cloth weaving had the form of cottage industry here (in the households of direct manufacturers, predominantly handiwork with the use of simple hand tools), intended both for one's own consumption and for the market (including taking part in supraregional and foreign trade), which was, in practice, realised through the so-called merchant or putting-out system or, alternatively, as part of the scattered manufactory [11]. In any case it was an important secondary source of the agricultural population's livelihood in periods of vegetation rest, which, together with engaging women and children in labour, was another sign typical of the process of the so-called proto-industrialisation [12]. What played an important role here was the exemption of flax spinning and cloth weaving from the shackles of guild regimentation and their proclamation as free trades in the mid-18th century, which also concerned wool processing and the steadily more used cotton. While flax spinning and weaving (though not the final treatment) typically had the form of scattered rural cottage industry, the production of woollen cloth was traditionally concentrated into towns, where, right until the onset of industrialisation, it was the domain of guilds (e.g. Jihlava, Brno, Bielsko), and, from the 18th century, in some places even of the newly established manufactories (Horní Litvínov and others).

Besides both traditional branches of textile production, in the late 18th century cotton industry started to assert itself in the Habsburg Monarchy, despite the Monarchy's initial efforts to restrict it. In the 19th century cotton industry became the lagship of the industrial revolution and industrialisation. It was precisely in the cotton industry (namely in spinning and the final treatment of the cloth /printing/), fully dependent on the import of the indispensable material from abroad, where the changes borne by the industrial revolution asserted themselves the fastest: the mechanisation of work and factory mass production. This secured the field a decent competition advantage. While the transfer to centralised machine production in both aforementioned branches of the cotton industry was in fact complete by the mid-19th century, cotton weaving remained the domain of work on hand-loom for a long time afterwards [13]. This was also the case of the wool industry, where machine spinning also asserted itself before the mid-19th

century, but in weaving the traditional and mainly guild organised forms of production still prevailed. Although mechanical looms started to be introduced in the wool industry as early as the 1830s, it was only after the mid-19th century that they prevailed in the centres of modern wool production in the Bohemian Lands (the Brno and Liberec regions) [14]. The reasons for the slower advancement of the mechanisation of weaving lay in the relatively high purchase price of a mechanical loom and the need for a source of energy, whether hydraulic or steam.

The slowest advancement of processes brought about by the industrial revolution can be observed in the linen industry, which was already stagnating in the first half of the 19th century as a result of the loss of foreign markets during the continental blockade and the competition of the more easily processed and demanded cotton [15]. This was the reason why some regions converted from processing linen to processing cotton, which manifested itself e.g. in the Liberec and Šluknov regions, in the surroundings of Frenštát pod Radhoštěm, or in the Frýdek and Místek regions [16]. Machine flax spinning prevailed only in the 1850s, while mechanical weaving started to gradually assert itself only from the late 1870s. During the second half of the 19th century the linen industry, inhibited by the resistance of a backward form of weaving, was steadily losing its importance as opposed to the dynamically developing types of textile production, especially the progressive cotton industry, which was also supported by changes in the demand for textile goods and the decline of interest in products made from linen fabric. Last but not least we can also mention the consequences of the liberalisation of economic activities, losses of tariff protection and the detrimental impact of the economic crisis in the 1870s. What was crucial was that the above-mentioned was not only an economic problem, but in the last decades of the 19th and early 20th century it had also become a serious social and political problem, for at the end of the monitored period tens of thousands of people were still existentially dependent on textile production that was technologically backward, uncompetitive as far as quality and price were concerned, and that predominantly operated as a cottage industry. The crisis of the cottage industry in general, in our case mainly flax weaving, carried with it the political risk of pauperism while increasing the undesirable depopulation tendencies in the affected regions [17, 18]. As lax as the initial attitude of the Austrian state towards this problem was, e.g. in comparison with Germany, facing this challenge in the late 19th century was inevitable, on the central as well as the provincial and regional level. As we will see below, a crucial link in this crusade were the efforts to increase and change the qualification of cottage weavers. In other words, what gained importance

both in considerations and specific actions was vocational education, which had until then been ignored. Those that were also forced to react to the changing qualification requirements in the second half of the 19th century were guilds, or later, after their abolition in 1859, trade communities, professional associations and even the owners of the still existing non-factory forms of mass production (manufactories). Finally, in the second half of the 19th and early 20th century, new technologies had taken over even in factories, even though in the lowest stages of production a short initial training to teach the workers (especially women and children) how to operate the machines was enough. As a result, education was not only a means of supporting the dynamically developing textile industry based on machine production in centralised factories, but it also provided aid to a relatively large number of people who represented the traditional forms of textile production, which, at the time, were already without good prospects.

3 TEXTILE EDUCATION IN THE CISLEITHNIAN PART OF THE HABSBURG MONARCHY UNTIL THE FIRST WORLD WAR

Ever since the Middle Ages there basically existed two ways how to gain knowledge and skills usable in textile production (spinning, weaving, final treatment of the cloth): at home and in field-oriented guilds. In the first case experience was passed on from generation to generation; from today's perspective it was a strictly individual approach based on demonstrations, trying out the individual parts of the process and exercising parental authority. We can doubt the systematic nature and depth of such a presentation, as well as its ability to innovate the educational content. In this respect a more advanced form of education took place in guilds, where the obligations, responsibility and qualification were graded as part of the classic triad apprentice – journeyman – master, which survived (though under different conditions) even the end of the guild organisation in 1859. What was typical for both traditional forms of textile education was the specialisation of each individual on a specific part of the work process (spinning, weaving, etc.) and that these forms significantly influenced the competencies of workers in textile production until the end of the monitored period [19].

The first textile schools (from today's perspective more resembling courses) were established only in the 18th century, ranking among the very oldest vocational institutions in the Habsburg Monarchy. Some of them were established as part of manufactories, which, from 1770, were allowed to have their own apprentices. These schools aimed not only to expand the qualification of the workers, but also to unify the working procedures and quality of the final products. We can also mention

the inspiring deed in the form of industrial education at elementary schools, which, in the late 18th and early 19th century, spread mainly in Bohemia thanks to Ferdinand Kindermann. It was an interesting means linking educational, disciplinary and social goals, which, however, slowly declined during the first half of the 19th century mainly due to a lack of finances, learning space, qualified teachers and too many students in the classes [20, 21].

Finally let us recall the engagement of the Austrian state in the form of initiating the establishment of independently run spinning (wool, cotton, flax and hemp), weaving and bobbin lace schools in royal towns in 1755–1770. They proved successful especially in Bohemia and their character was partially that of several-week-long production workshops intended primarily for youngsters aged 7–15, orphans, poor children and the offsprings of artisans who had not yet mastered the trade; however, even artisans already practising their trade could improve there. Their establishment was connected with the growing competition in the textile product market as well as with spinning and weaving being declared the so-called free trades, which meant, among other things, that they were not subject to the guild organised system of professional training. The purpose of these schools was to improve textile production in the sense of improving the quality and competitiveness of the textile products. According to the state authorities, weaving schools, for example, were to teach weavers how to achieve fine fabric and how to produce the so-called commercial linen, fine and attractive (fashionable) goods [22].

The ambitions to help textile production in this manner came up against certain limits in practice, which lay mainly in that the engagement of the state was restricted only to the initiation level. What was lacking were standardised curricula, a sufficient number of qualified teachers and the essential material support. This was the reason why a number of courses/schools often did not last very long [23].

The indicated educational alternatives of training workers for textile production remained, in essence, identical even in the early stages of industrialisation in the first half of the 19th century. What was typical was the considerable heterogeneity of schools in their quality, focus and facilities, the absence of a general conception and state support, and the persistence of two main lines of education: within guilds and outside them. While on the educational level we cannot speak of any progress, the opposite was true of the situation in the textile production itself, in technology, the organisation of work, and in the transport and trade possibilities. The changes launched and sometimes even completed in textile production in the first half of the 19th century became more intensive after this century had reached its midpoint. The results were increased pressure on the price and quality of the goods,

the rationalisation of the work organisation and managing the growing paperwork. The demands on qualification grew and changed with time, which, in the interest of preserving competitiveness and securing existence, needed to be reacted to adequately. The textile producers themselves realised this much sooner than the state administration. The first impulses to institutionalise the actual professional training, intended to help face the new challenges, therefore came from the 1840s to the 1870s from none other than these producers and their organisations (guilds or, after 1859, professional organisations and associations). Even the local governments and the newly established Chamber of Commerce and Industry (*Handels- und Gewerbekammern*) joined in these self-help efforts. Specifically, this included mainly establishing weaving schools, as the mechanisation of spinning in the prospective branches (cotton and wool industry) was already so widespread in the mid-19th century that with most workers it sufficed to train them in using the corresponding machines. The phase of the final treatment of the cloth was similarly progressive as well.

The first independently run textile schools were opened in Vienna, Liberec, Brno and Bielsko, all thanks to artisan associations. Besides their focus and founders, these schools were also linked by the German language of teaching. Vienna was a specific case, for as part of the existing technical school a weaving school was opened in 1847, which, however, soon closed down. It was renewed only in 1871, focusing at first on teaching its students drawing and designing patterns, while from 1882 it became a more widely conceived educational institution (lessons of weaving, knitting, drawing patterns, etc.) with the name *Lehranstalt für Textilindustrie* [24]. The weaving school in Liberec was established in 1852 by the local drapers' guild, while the Chamber of Commerce and Industry accompanied the establishment of the weaving school in Brno in 1860. The fourth school of this type, which we will describe in more detail in the next chapter, was opened in the early 1860s in the Silesian Bielsko. In the 1850s and 1860s the four aforementioned schools were the only independently running institutions in the Cisleithanian part of the Monarchy which focused on textile education. The number of textile schools remained frozen practically until the early 1870s when the state finally became more noticeably engaged in this educational segment. The first foray of the new founding wave was the establishment of a weaving school in Ústí nad Labem in 1869.

However, let us return briefly to one of the key centres of the Cisleithanian textile production – to Brno. On its case we can document a different way of educating workers employed in textile production that was newly asserting itself in a time

when independently run vocational schools were lacking, i.e. in the 1850s and 1860s. What we have in mind are Sunday and evening courses, which were being established as part of the so-called *Realschulen*. They were schools which, in the aforementioned two decades, had the character of technically oriented secondary schools. Just to illustrate: until the school year 1866/1867, 55 of these schools were established in the Cisleithanian part of the Monarchy [25]. And it was as part of these schools that the popular Sunday and evening courses for artisans, sometimes referred to as *Abend- und Sonntagsschulen*, were opened. What was important was that in the areas where textile production was concentrated, these courses were well attended by persons working in the textile industry (mainly apprentices, journeymen and, sporadically, masters), causing the lessons to be partially adapted to them. In Brno such a course was established as part of the local *Realschule* in November 1852 with the cooperation of the local government, industrialists and Brno's artisan guilds. Brno's Sunday and evening school consisted of a preparatory and vocational department. The latter was further divided by branches into four separate courses, where one of them, planned for two years, was intended specially for spinners and weavers. The lessons focused mainly on refining the students' ability to draw patterns and on thoroughly acquainting the students with the Jacquard loom. Let us add that in some other departments of the school it was possible to develop the competencies for textile production: the so-called free-hand drawing (*Freihandzeichnen*) and drafting was the content of the preparatory course, while dyeing was taught in the department of chemistry. In addition, it was possible to attend even lectures which stood outside the specialised departments: e.g. on accounting, mechanical engineering and civil engineering. It should be added that the Czech language was starting to assert itself in the lessons, which was, however, conditioned by the ethnic composition of the students. This consequently helped those students who did not have a sufficient command of German to get a better fixation and understanding of the presented facts. The example of the Brno school shows that these Sunday and evening courses were well attended. Already in the first year of its existence 1,278 students were enrolled there, from which more than 1/3 were textile producers, mainly weavers [26].

It was only the 1870s that can be considered the real founding period of textile schools. In the Cisleithanian part of the Monarchy a number of schools were opened in that time, so by the early 1880s the Austrian school statistics already registered 30 educational institutions of this kind [27].

By looking at their structure we have come up with the following findings:

- 1) they were usually small schools with a maximum of several tens of students (exceptions with more than 100 students: Krnov, Brno, Šternberk, Varnsdorf, Rumburk, Aš and Wien) and only a few teachers (usually from 1 to 4);
- 2) the placement of the schools corresponded to the importance of textile production in the individual lands and regions. A total of 23 schools were located in the Bohemian Lands (Bohemia – 15, Moravia – 5, Silesia – 3); these schools could largely be found in the border regions of North and North-East Bohemia, North Moravia and Silesia;
- 3) a branch-regional differentiation of the schools was applied. While the typical schools for the Hereditary Austrian Lands were bobbin lace schools (*Spitzenklöppeleischulen*), the Bohemian Lands were dominated by classic weaving schools (*Webeschulen*);
- 4) the ethnicity of students attending the schools in the Bohemian Lands corresponded with the placement of the schools and the population characteristic of the individual regions. Most schools were dominated by students whose mother tongue was German; the only exceptions were the institutions in Lomnice nad Popelkou, Polička, Jilemnice and Prostějov. The placement of the schools and composition of their students subsequently corresponded with the predominantly German language of teaching;
- 5) the statistics did not register all schools (courses) focused on training for textile production. Corporate schools, for instance, were demonstrably absent, which we will illustrate on the example of the school in Jeseník in the following chapter.

There are two reasons why the founding boom of textile schools took place precisely in the 1870s. The first of them was the unsustainability of the existing unsystematically organised education of workers in the textile industry, especially weavers, which was underlined even more by the economic crisis that took place after 1873. The dismal situation was registered both by those employed as weavers and by their employers. It was precisely the organisations of artisans (producers) and industrialists (employers) that became the driving force of establishing textile schools. The second reason was the change in the approach of the, until then, inactive state, which, besides economic motives, also pursued social-political goals, i.e. using its educational policy to try and eliminate the risk of pauperism and potential social unrest. In this period the state generally started to engage more in the field of professional training, textile education included. In this case the engagement of the Ministry of Trade was essential, as it supported the establishment of new schools by means of subsidies. As a result, this activated

those considering the establishment of a school even more. Textile schools fell within the competence of the Ministry of Trade itself until as late as 1882, when the Ministry of Cult and Education took them into its management. Let us add one characteristic aspect of the state engagement in the field of textile schools from the 1870s: putting schools under state management or, alternatively, the direct establishment of schools by the state. This pursued two main objectives. Firstly the state's motive was to secure a basic network of textile schools. Secondly, in the interest of maintaining the quality and competitiveness of the domestic textile production, the state's ambition was to control this segment of education and to form it to its liking, which, however, was realised only in the following decades.

Although in the 1870s the number of textile schools was growing dynamically, what remained a long-term problem was their different organisation, quality, educational content and, last but not least, the different educational goals of the individual institutions. In the following section we will focus on the largest group of textile schools, i.e. weaving schools. In late 1880 and early 1881 their total was 21, all of them located on the territory of the Bohemian Lands. Most of them were two-year institutions with lessons taking place during the day. Schools with only a one-year day school could be found in Brno and Liberec, while Sunday or evening courses were held at schools in Aš and Moravský Beroun [28]. We can only speak of a really systematic care of weaving schools with the aim of unifying their organisation and curriculum in the period when the superintendence of these schools had been taken over by the Ministry of Cult and Education. It must be added that this process was neither simple nor fast and direct. This is confirmed by the fact that this process was only completed in the early 20th century. The first important step on the way to the systemisation and unification of textile education was the issuing of the so-called normal curriculum (*Normal-Lehrplan*) for the teaching of free-hand drawing (*Freihandzeichnen*) and technical drawing at two-year weaving schools in 1884. Five years later (1889) came a bigger intervention with the issuing of the so-called normal curriculum and instructions for technology studies at two-year schools with day-to-day courses and in one-year evening and Sunday courses, which set the spectrum of compulsory subjects and their number of lessons per week [29]. What can be referred to as an intervention of crucial importance was the issuing of the so-called normal curriculum in 1901, which comprehensively covered all education taking place at weaving schools. Based on this curriculum, effective until a new regulation was issued in 1910, education at weaving schools could be divided into four groups of subjects: professionally theoretical (technological) subjects,

drawing, professionally practical education (almost 1/3 of all lessons) and generally industrial and trade subjects. It was precisely in the removal of deficiencies in trade competencies and in the intensification and expansion of technical education where the path to the improvement of production and the sales of textiles was believed to lie [30].

We have stated that the total number of weaving schools in the early 1880s was 21. By the school year 1913/1914 this number had increased to 34 (including schools with departments for knitters and spinners), whereas the total number of state schools on the eve of the First World War was 30 (29 in the Bohemian Lands and 1 in Vienna) and non-state schools 4 (all in Galicia). The base of these schools were one- to two-year schools with day-to-day courses, which were, based on the possibilities and local preferences, joined by other courses and departments. These often included for example evening and Sunday trade courses, courses of mechanical weaving, special courses for drawing designs, the study of promissory notes, etc. It will probably not be surprising that most state weaving schools for which the relevant dates are available were schools with the German language of teaching. However, from the late 19th century there was a considerable increase even in the number of schools with the Czech language of teaching. In this period, the traditional Czech schools in Lomnice nad Popelkou, Prostějov a Jilemnice were joined by schools in Frenštát pod Radhoštěm, Rychnov nad Kněžnou, Humpolec, Náchod, Dvůr Králové nad Labem, Strakonice and Ústí nad Orlicí. By the First World War the ratio of German and Czech schools therefore settled at 20:10 [31]. Considering both the material and the organisational (an extraordinarily high number of affiliated courses) and capacity aspect, there was one school that stood out above all others – the school in the centre of the textile industry in Liberec. Let us add that the advancement of the industrialisation process also manifested itself in the need to establish institutions where one could gain higher vocational education in the textile industry. In the Cisleithanian part of the Monarchy this was possible at the German schools in Aš, Brno and Bielsko. While at the turn of the 20th century (1899 and 1903 respectively) the first two institutions transformed from the original weaving schools into four-year higher vocational schools for the textile industry (*K. k. Lehranstalt für Textilindustrie*; the school in Aš with special emphasis on commercial education), the school in Bielsko was, already in the early 1880s, incorporated into the local reorganised state technical school. At these three schools there studied mainly the middle technical and white-collar cadres and foremen (weaving, spinning and final treatment). However, there were also various courses affiliated to them, which provided education

to other interested parties, namely in spinning, weaving, knitting, final treatment and trade subjects (e.g. accounting).

It now seems appropriate to ask what the role of weaving schools in the late 19th and early 20th century actually was. In the mid-1880s the purpose of these schools was aptly described by a contemporary, Eduard Magner, the then ministry official and specialist on the issue of textile production. According to Magner it was necessary to distinguish between the purposes of schools based on whether hand or mechanical weaving was concerned. In the case of hand weaving he stressed that weaving schools should not prolong the battle of cottage weavers with the constantly spreading machine weaving. The schools' primary task was to commence and facilitate the transition to mechanical weaving by explaining the substance of the matter, rejecting shallow work and providing direct instructions for mechanical weaving. If needed, the students of these schools were to be reoriented into a production area where no machines were used – artistic weaving in the broadest sense of the word. In the case of mechanical weaving, which was to become a part of school education in regions with a developed production of this type, the education included both that of highly qualified workforces (fitters, foremen, etc.) for factory mass production and the so-called preliminary education (*Vorbildung*) of blue-collar employees for mechanical weaving [32]. In the late 19th and early 20th century weaving schools had to reflect the structural changes in textile production, namely the process of the mechanisation of cloth weaving. While the numbers of hand-loom were decreasing considerably, the numbers of mechanical looms were growing dynamically. For weaving schools to become a functional part of the industrialisation process they first had to be adequately equipped. In practice this meant not only a revision of the curriculum (strengthening the theoretical knowledge regarding machines and the practical training in operating them) and the corresponding training of the teachers, but also providing the schools with the necessary premises and technologies. Specifically, this meant mainly the acquisition of costly looms. Progress in this respect was evident. While as late as 1885 of the 29 weaving schools only 5 were equipped with mechanical weaving workshops, in 1909 they could be found in 30 of the 32 schools. The only exceptions were schools in Horní Benešov and Lanškroun, where at this time the latter had already launched the process of installing mechanical weaving. The above-mentioned does not mean that the graduates of weaving schools which lacked mechanical looms did not have the opportunity to expand their knowledge in this respect. If they were interested, they could make use of scholarships enabling them to study at schools

which had already had mechanical looms installed. For example for the graduates of schools in Horní Benešov and Rýmařov there existed scholarships for studying mechanical weaving at the school in Krnov [33]. It should be added that the investments in the acquisition of mechanical looms for schools resulted in a considerable increase of the budget of this educational segment. While the state spending on textile schools amounted to a total of 115,500 Gulden in 1884, in 1906 it was already 971,780 crowns [34].

It would be too much of a simplification and very far from the real state of things if we evaluated the state of textile education in the early 20th century strictly positively. Despite the demonstrable progress there was also dissatisfaction both with the organisation and content of the lessons and with the employment possibilities of textile school graduates. This is documented by, among other things, the negotiations that were part of the so-called Central Commission of the advisory body for questions of education within the Ministry of Cult and Education (later the Ministry of Public Works, under whose competence textile schools had fallen before the First World War) from 1902 and 1904. As the so-called normal curriculum for weaving schools from 1901 was classified as insufficient, it was agreed to draw up a new reform programme. It is essential that this was preceded by a detailed analysis of the existing situation at schools and a questionnaire survey targeted at industrial corporations and organisations, complemented by findings about the situation at similar educational institutions abroad. The actual outcome of the reform efforts was the issuing of a new curriculum in 1910, whose content we will deal with in more detail below on the example of Silesia.

What we find interesting is the information which resulted from the conducted analysis, as it gives evidence of the state of Cisleithanian textile schools and their students at the turn of the 20th century. In a presentation at the meeting of the Central Commission on 5th November 1909 it was introduced to those present by the proposer of the reform, Wilhelm Hamann, and we consider it useful to briefly present here the main findings [35]. In connection with the prevailing dissatisfaction with the lessons, qualification profile and employment possibilities of the graduates, Hamann recommended two possible alterations in the organisation of schools:

- 1) preserving the existing purpose of the schools, i.e. providing broad-spectrum education, which would require extending the studies by at least another year;
- 2) a specialisation of the schools, which would reflect the professional, local and individual needs.

As part of the statistical survey a valuable analysis was conducted of the students and graduates of schools for the textile industry for the school years from 1893/1894 to 1902/1903. Although some schools are lacking data for certain criteria, this set of data (covering a total of 8,400 persons) can be considered as sufficiently informative about the composition of textile school students and the employment possibilities of their graduates. Based on the presented data, textile schools accepted 99% of the applicants, while the rest were usually rejected due to lack of places. More than $\frac{3}{4}$ of the students for whom we have the relevant data were accepted between the ages of 14 and 16. This corresponds with the findings about the previous education of the accepted students, as most of them (approx. 82%) came to textile schools straight from elementary schools (more than a half from the so-called *Bürgerschulen*). Around 13% of students transferred to textile schools from the lower years of Austrian *Gymnasien* and *Realschulen*. The textile school students usually lacked previous professional experience in the field, which was the case of 87% of individuals. The rest had usually had one- to two-year professional experience, and it was only exceptionally that students with longer previous professional experience came to the schools. The data about the territorial origin give clear evidence that textile schools were mainly filled with students straight from the locations or, alternatively, regions of the corresponding schools (60%). This finding is rather well reflected in the fact that the schools could be found in places where the production activities of this industry were concentrated, and where there existed a demand for professional workers, whether for the positions of producers or clerks. The social origin of textile school students reflected the self-recruitment tendencies of workers in the textile industry only partially – around only 39% of students had at least one parent employed in the textile industry. Almost $\frac{1}{4}$ of students were the offsprings of various sole traders, while the parents of 38 % of the students did not fall into any of the above-mentioned categories. It should be added that the situation at the individual schools often varied in this respect. A special statistical survey was devoted to textile school graduates, where the corresponding set of data for the monitored period included almost 7,000 persons. The results showed that on average there were approximately 11 graduates for one school and school year. Although even in this case the situation at the individual schools was different, the presented data indicate that the major part of the graduates found employment in their home country (90%). Around 82% of the graduates remained active in the textile industry, while the remaining 18% found other jobs. The purpose of textile schools and the advancement of mechanisation in textile production are confirmed

by the ratio of graduates who found employment in enterprises with machine and hand production. At the turn of the 20th century this ratio was 72:28. From those who remained in textile production, 61% were technical employees, 15% did administrative work in trade and 16 % worked as independent producers. The remaining graduates pursued, within the textile industry, mainly related trades or a teaching career, or continued studying at higher vocational schools [36]. On the one hand the conducted analysis showed the wide-ranging employment possibilities of the graduates, but on the other also the fact that most of them occupied lower positions than for which they were predestined by the education mediated by textile schools. In other words, in practice the graduates did by no means use the qualification potential which they had gained at the textile schools. That is exactly why Hamann proposed to take the path of rationalising and specialising the education. Practically the schools were to be divided into two main stages: a one-year lower stage (general weaving and technical education) and a higher stage (specialisation in technology, drawing /both one-year-long courses/ or trade /half a year long/). The entrance conditions were also to be altered (newly the schools required a minimum age of 16, the completion of the lower stage of a vocational school and a minimum professional experience of one year), where exceptions were allowed only during the five-year transition period following the launching of the reform. Furthermore, emphasis was placed on changes in the system of the financial support of students and teacher training (special courses were added and study trips were supported). Let us add that the proposed changes were approved by the Central Committee in November 1909, which used them as the base for its proposal to the Ministry of Public Works about the reorganisation of textile schools, which was carried out in practice based on Ministry Decree no. 442/18-XXIa of 5th May 1910 [37]. This document was the last more noticeable intervention into textile education until the end of the existence of the Habsburg Monarchy.

4 SILESIA TEXTILE SCHOOLS AND THEIR STUDENTS

In the monitored period Silesia was a land where textile education had a special economic significance. The most important branch was traditionally the production of linen fabric, which found its buyers both at local and foreign markets. Just like in the wider Central European linen region, decentralised production forms also dominated in Silesia. Especially in the period of vegetation rest, spinning flax employed tens of thousands of persons here. This also partly applied in the case of weaving linen fabric, where the local weavers were either organised in guilds or worked outside them. While for

the linen production in Silesia a decentralised form of production was typical (mainly the Jeseníky, Javorníky and Frydek regions), the local wool production concentrated into towns. Besides guilds it was also centralised manufactories which gained significance here, whose products were, from the end of the 18th century, starting to replace products made by guild masters. Until the mid-19th century cotton production was only marginally important in Silesia, though around the middle of the century it quickly started to assert itself mainly in the Frydek region, to the detriment of the traditional linen production (completed in the 1870s) [38].

From the 1850s the share of the textile industry in the total value of the local industrial production was gradually declining in Silesia (1855: 64%, 1880: 51%). However, until the early 20th century textile production still remained an important production sphere, which provided a living to tens of thousands of people in the land. Those branches that maintained the most important position within textile production were the wool industry (a 67% share in 1880) and the linen industry (a 21% share in 1880). The growth of the cotton industry in Silesia, slowed down by the Civil War in the USA, was renewed in the 1870s, and in 1880 the cotton industry already shared by 10% in the Silesian textile production [39].

In the second half of the 19th century Bielsko became the most important centre of the Silesian wool industry, overshadowing – together with the neighbouring Galician Biala – the other centres of the local wool production such as Krnov, Opava, Bílovec or Odry [40]. The example of the linen industry in Silesia gives evidence of regional differentiation taking place as part of industrialisation, as mechanical looms found their way into this branch much more slowly in the eastern part of the land than in the western one [41]. In addition, the composition of the linen production changed considerably: originally it was pure linen fabric that dominated the production of linen goods (mainly the so-called smooth fabric); however, gradually the share of mixed fabric (the so-called half-linen) grew. In connection with the increasing demand for fashionable fine fabric, the production of damask and moleskin in Silesia started to grow [42].

Just like in other lands, despite the progress in the industrialisation process and the ever more popular factory mechanised production, in the late 19th and early 20th century scattered cottage industry still played an important role in Silesia. That is why in this period the crisis of the domestic industry came to be a burning issue, whose solution became the subject of negotiations of Silesian political elites. From a large part this was a problem connected precisely with textile production, especially with the still insufficiently mechanised weaving. It was therefore no coincidence that the regions most hit

by the crisis included the weaving regions of Zlaté hory, Jeseníky, Bruntál, Odry and the Frýdek part of Silesian Beskydy. One of the solutions to the crisis was seen in the producers associating into organisations and in the related care regarding the weavers' education and training [43].

Similarly to Bohemia or Moravia, even in Silesia traditional methods were first applied in textile education: education at home or in guilds. Also in this land the establishment of spinning schools occurred; these schools, however, never became too widespread here. An example of this can be the spinning school in Jablunkov for rural flax spinners from the surrounding areas [44]. In connection with the fact that with the advancement of industrialisation the hand production of thread was quickly losing its importance, in the mid-19th century the establishment of new spinning schools in Silesia was stopped [45]. The support of establishing educational institutions designed in a more modern way was therefore directed to weaving, which was even more evident after the increase in competition given by the liberalisation of economic activities and the abolishment of the guild organisation in 1859. The first ever weaving school in Silesia was a school established in the first half of the 1860s in the traditional centre of cloth production, Bielsko. In the previous chapter we have stated that it was one of the oldest schools of its kind in all of Cisleithania. However, the school was somewhat atypical. From 1862 the local weaving masters first ran a three-month weaving course here with evening classes. However, in connection with Bielsko a school is usually mentioned only from 1865, probably in relation to the standardisation of its management and lessons [46].

Other weaving schools were opened in Silesia only in the 1870s in Krnov (1875), Bruntál (1877), Jeseník (1879) and Horní Benešov (1880). Except for Bielsko, these schools were concentrated into the western part of the land, a region with a cottage linen industry tradition (only in Krnov wool production was important). The concentration of the establishment of schools into the 1870s was not coincidental, as it was a reaction to the changes induced by the economic crisis in the labour and goods market as well as in the position of the cottage textile producer. The intention of the founders was clear: to produce quality goods rationally, effectively and in compliance with the period taste and demand. What all schools had in common was the German language of teaching and the non-state initiative accompanying their birth. Those who played the key role here were those who were engaged in textile production directly: the weaving masters and their organisations.

A specific case is a school opened in today's Jeseník (author's note: previously Frývaldov). It was an educational institution established by the local company Regenhart & Raymann, which focused

on the production of smooth fabric, handkerchiefs and table linen. In this way the enterprise, which combined factory production with the cottage weaving industry on hand-loom, reacted to the dissatisfaction with the professional training of apprentices in weaving flax. The local school, which had more of a character of apprentice workshops, was attended by boys over the age of 14, who had completed the compulsory school attendance. Studying at this school was free of charge, just like the lodgings, meals and clothing. After one year of studies the apprentices were even paid a wage. Investment in education was strategic and advantageous for the enterprise in the long run. There was no need to train or retrain new workers, or to eliminate some unsuitable work habits the workers had adopted earlier. All this gives indirect evidence of the fact that the distribution of adequate professional training in the late 1870s was insufficient in the region, as well as the focus and quality of extracurricular educational activities. By introducing their own education the enterprise formed a workforce to its liking, of the appropriate quality and specialisation. This is also documented by the fact that approximately over 60% of this small school's graduates (in 1879–1890 the school accepted 169 apprentices) finally found employment in the company itself [47].

We have provided information about the purpose of the school in Jeseník above. What was generally emphasised in the other schools was systematic and basic theoretical and practical weaving education. At first the schools in Bielsko a Krnov focused on weaving woollen goods, which corresponded with the needs of production in the related locations and neighbouring regions. In contrast, the schools in Bruntál and Horní Benešov predominantly taught how to weave flax and cotton fabric (artistic weaving), though the lessons also partly focused on weaving silk and sheep's wool [48]. However, as we will see below, weaving schools – including the affiliated courses – were not restricted only to teaching weaving. The extent of the presented knowledge and skills was considerably wider and included e.g. drawing patterns or subjects usable in business activities (accounting, trade-focused arithmetic). The purpose of the schools was therefore not only education aimed at running one's independent weaving trade or updating the students' knowledge in this field, but also the education of various kinds of employees in textile enterprises (from common workmen, pattern drafters, handlers, clerks and foremen to masters) [49, 50].

The development of the individual weaving schools in Silesia, despite its specific forms, copied certain general trends of the development of weaving education in other lands. Besides the changes in the content of the lessons and the composition of the students, which we will discuss below, we have in mind mainly organisational transformations,

changes in the relationship between the state authorities and these schools and the question of financing. For instance, for many years the schools in Krnov and Horní Benešov had functioned as private schools, financed by their founders. Those who helped to fill the income aspect of their budget were other authorities: municipalities, Opava's Chamber of Trade and Commerce, the land or the state. They became state schools only in 1884 and 1893 respectively. A separate chapter is the institute in Bielsko. The local weaving school was originally of a private character and those that contributed to it at the beginning, besides the Ministry of Trade, were the Silesian Land Diet, the municipalities of Bielsko and Biala, drapers' associations in both municipalities and the local *Gewerbeverein*, and from 1880 even Opava's Chamber of Commerce and Trade. In the school year 1882/1883 it merged with the local reorganised technical school, though under special conditions – at first the state provided it only with subsidies, without taking over all obligations. This model lasted until the end of the monitored period. In contrast, the school in Bruntál was established by the Ministry of Trade, while the corporate school in Jeseník was left entirely to its own devices. While Opava's Chamber of Commerce and Trade was not, with the exception of the school in Krnov, an active supporter of weaving education in Silesia until the very end of the 1870s, from the early 1880s it contributed to all institutions with the exception of Jeseník. From as early as the 1870s the support of Silesian weaving education was therefore of a broad-spectrum and long-term character, which underlines the importance of this economic sector for the local population and its elites. It should be added that not even after being transferred under state management did the existence of weaving schools get by without the support of the land, municipalities, Opava's Chamber of Commerce and Trade, or other donors [51].

As the years went by weaving schools were undergoing organisational changes, which met both the current needs of textile production in the respective locations and regions and the conceptions of the state, which was becoming ever more influential in this educational segment. What can be referred to as the unifying elements of changes was the specialisation of the schools, the expansion of the study options with various courses, and gradually also the state controlled unification of the curriculum. All this depended, to a certain extent, not only on sufficient demand, but also on the spatial and financial possibilities of the schools, and the number and composition of their teaching staff. As an example we can name the school in Bruntál, which at first functioned as a one-year school with day-to-day tuition of weaving, to which a two-year evening course was connected. In the 1890s the school already offered

a two-year day school, further divided into departments for drawing patterns and weaving. In addition, like at other Silesian schools, there existed a two-week preparatory course as a part of this school, intended, before the beginning of the school year, for those lacking previous professional experience in the field. Besides this the school offered a one-year evening and Sunday course, which was compulsory for the weaving apprentices from Bruntál. The school maintained the outlined organisation even in the early 20th century with the difference that it had expanded its offer of evening and Sunday courses. Besides the so-called advanced educational course (*Fortbildungskurs*) for weaving, three other special educational courses were held as part of the school: 1) the study of bindings and decomposition for weavers, 2) mechanical weaving, 3) trade subjects. To this we also have to add a hall with lessons of drawing that was open to the public outside the standard lesson times [52].

At weaving schools theory and practice were to be interwoven in a suitable way. A glance into the curriculum of these schools gives evidence of the fact that this was indeed happening. We have stated that at first the education at weaving schools was not unified, i.e. there were no differences in the extent or content of the lessons at the individual schools. We can illustrate the organisation of the education in the early 1880s on the example of the school in Krnov. At this time the school was divided into three main parts:

- 1) a two-year day school for future independent producers, company managers and masters;
- 2) a two-year evening and Sunday course for foremen, artisans and workmen;
- 3) a preparatory course for apprentices.

Education in a day school included a total of 35 lessons per week, 21 of which were devoted to practical weaving in each year. The remaining part was formed by theoretical presentations about decomposition (4 lessons), composition (2 lessons), technical drawing (*Manufakturzeichnen*) (4 lessons), the study of fabrication and calculation (2 lessons) and the study of tools and calculation (2 lessons). Education in the evening course consisted of two subjects with a total of four lessons per week (decomposition with calculation, composition with the study of tools). Lastly, in the preparatory course, whose attendance was compulsory for the local draper apprentices, three subjects were taught: practical weaving (2 lessons per week), simple mathematics (1 lesson) and the study of tools (1 lesson). Let us add that besides the aforementioned subjects the so-called mercantile subjects (accounting, trade-focused arithmetic) were already taught at the school at that time. They were given a time space of two lessons per week and were attended by students of the second year

of the day-to-day and evening courses. Besides them these subjects were also open to anyone who was interested outside of school (naturally for a fee) [53].

The importance of professional experience at weaving schools was a general phenomenon. Even the data for the school in Bielsko from the early 1890s confirm that. This educational institution, with respect to the connection with a prestigious state industrial school, was the best evaluated of all weaving schools as the most favourable place to study when taking into account its facilities and the composition or, alternatively, qualification of the local teaching staff. What was typical of this school from the very beginning was the high number of lessons per week and the specific composition of subjects. Chemistry, physics, machine and pattern drawing, geography, German or accounting were all a part of the school's curriculum. The result was a high number of lessons per week which, for both years of the day school, included 45 lessons. Special emphasis was placed on teaching drawing (free-hand, geometric, designing, technical), which was taught, in the individual semesters, from 10 to 18 lessons per week. The progressively decreasing number of drawing lessons was replaced with a growing number of lessons of practical weaving, which increased from 3 lessons in the first semester up to 16 lessons in the final semester [54].

An example of a school in Silesia where only hand weaving was taught was, in the early 20th century, the one-year institution in Horní Benešov. The teaching here was based on the so-called normal school curriculum from 1901, although the number of lessons rather differed from this regulation. What followed from this was that the above-mentioned regulation was designed for two-year schools. Thus, for one-year educational institutions certain corrections were necessary to achieve the adequate qualification profile of their graduates. For instance, in the school year 1907/1908 a total of 42 lessons per week were taught here, which were distributed among these eleven subjects: the technology of spinning (the study of the material), the technology of hand weaving, the study of the binding of fabric, the analysis and calculation of fabric, free-hand drawing and pattern drawing, drafting and projections, technical drawing, practical hand weaving (using the Jacquard loom and dobby), trade-focused arithmetic, trade documents, and the study of promissory notes (taught together with accounting) [55].

In conclusion of the brief introduction of the curricula of Silesian weaving schools, let us mention in short what the impact of the weaving education reform from 1910 on the organisation of education was. Let us document the above-mentioned on the school in Krnov in the school year 1910/1911 [56]. In compliance with the reform the local school was divided into two main parts: 1) general vocational

weaving schools (one year long), 2) special vocational schools (further divided into the technological /one year long/ and trade department /one semester/). All departments were connected by the same number of lessons per week, which were 42 lessons. The purpose of the general school, where the entrance was conditioned by a certificate documenting the completion of compulsory school attendance and by the minimum age of 14 (at the same time with the preference of those with professional experience in the textile field), was to provide general practical and theoretical weaving-technical education usable in the local textile production. Professional experience both in hand and mechanical weaving also played a crucial role here. It took up exactly 1/3 of the weekly lessons. Taking into account both hand and mechanical weaving also manifested itself in theoretical subjects. Students spent more than 1/4 of the lessons in a total of four subjects devoted to various types of drawing, which were traditionally highly emphasised at industrial and especially at weaving schools. In the curriculum of general schools, these subjects were complemented by the study of materials, binding, decomposition and the technology of the final treatment. The entrance into a special school, whose purpose was to provide special vocational education of a technological and business orientation in the textile field, was conditioned by the graduation from a general vocational school. In the technological department of the special school almost the same space remained for the practice of both hand and mechanical weaving; however, a certain reduction affected the other subjects, especially drawing. The created space was used for teaching the study of machines, technology of spinning, civics, trade and craftsmanship, and the strengthening of technical drawing. In the half-year trade department the major part of teaching was formed by subjects usable in practical business practice. Exceptional space was given to accounting (10 lessons per week), trade- and craft-focused arithmetic (6 lessons) and to trade documents taught alongside business geography (5 lessons). From other subjects which formed the spectrum of competencies usable in business let us mention the study of business and promissory notes, stenography and calligraphy. Several lessons per week (9 lessons in total) were devoted to subjects of a technological orientation: the technology of spinning, decomposition, the study of binding and the technology of the final treatment.

What played an important role at weaving schools were field trips, i.e. illustrative demonstrations of the practical use of materials and machines during regular enterprise operation. As an example we can mention the field trips carried out at the school in Horní Benešov. For instance, at the turn of the 20th century its students visited, under the supervision

of the teachers, the Moritz Hansel & Söhne company, Julius Ricker's mechanical cotton and flax weaving mill, Göbel & Komp's match factory in Moravský Beroun, Josef Kohlmeyer's flax weaving mill, Josef Glammer's bleaching plant in Horní Benešov, J. Grohmann's spinning mill of linen thread, Adolf Richter's glassworks and R. Rudolf's lace factory in Leskovec nad Moravicí [57, 58].

The weaving schools (sections with day-to-day courses) in Silesia were attended exclusively by boys. The overall data for the turn of the 20th century, presented in W. Hamann's work, show us that the characteristics of the occupants of Silesian institutions were rather different from the average of all of Cisleithania, where significant differences existed even among the individual Silesian schools. While the schools in Horní Benešov and Bruntál were usually attended by the graduates of *allgemeine Volksschulen* (77 and 68% respectively), in Bielsko these graduates formed only 11% and in Krnov 38% of newcomers. On the other hand, the graduates of *Bürgerschulen*, who prevailed across all of Cisleithania, participated in the composition of the Silesian schools in the range of only 10% (Krnov) to 32% (Bielsko). The school in Bielsko was atypical by its high attendance of former *Gymnasien* students (14%) and the graduates of lower *Realschulen* (37%) which exceeded the Cisleithanian average many times. The above-mentioned reflected not only the higher prestige of the school but also, in comparison with other Silesian institutes, its somewhat different purpose. The majority of students entering the day-to-day form of weaving school studies lacked previous professional experience, which corresponded with the situation in other lands. This was the most evident in the case of Horní Benešov (91%) and the least evident in Bruntál (60%). If the students from Bielsko had one-year professional experience at the most (28%), then approximately 1/5 of their Bruntál counterparts had already been professionally active for three or more years before entering the school, which significantly exceeded the average rate in Cisleithania (4%). Thus, at the turn of the 20th century, the day-to-day weaving schools served primarily to educate a new qualified workforce, not to increase the qualification of those who were already professionally active. That was, after all, the purpose of various evening and Sunday courses [59].

The number of students in the Silesian weaving schools did not usually exceed several tens in the individual years. The only exception was the institution in Krnov, whose number of students often exceeded one hundred and sometimes even oscillated around 150. In general it applied that the majority of the occupants of weaving schools was formed by the students of evening and Sunday courses, i.e. professionally active individuals, who wanted to use the school to increase their qualification. The composition of their students was

mainly based on the composition of the population of the respective locations and regions. The school in Horní Benešov, 95% of whose students were individuals born in this town, corresponded with the character of a regional vocational school the most. In contrast, the school in Krnov, where the locals together with the inhabitants of other municipalities of the Krnov political district represented, in the same time segment, approximately 57% of the students, was of supraregional significance. With a few exceptions, the attendants of weaving schools were individuals from a German-speaking Catholic milieu, joined at some of schools (Bielsko, Krnov) mainly by Protestants. It seems that the profession of the father played a crucial role in the choice of school, as roughly half of the students of weaving continued the family tradition, while another 1/4 of the students came from the families of sole traders specialising in different trades and crafts [60, 61].

With the graduates of the Silesian weaving schools it applied that most of them found professional engagement in the land where they had graduated. These schools were therefore beneficial for Silesia, as, after all, between 73% (Bielsko) and 91% (Horní Benešov) of these schools' graduates found employment here. With the exception of the school in Krnov, usually approximately 3/4 of those who successfully passed through the Silesian weaving institutions remained active in the textile field. A larger part of them (approximately 60%) filled various positions in textile companies, which corresponded with the Cisleithanian average. Less frequently the graduates managed to assert themselves as independent producers. It happened the most often in the case of the former students of the school in Bielsko (26%) and the least in the case of their counterparts from Krnov (13%). Another more significant place of employment was administrative practice in textile business (book accounting), which, for the most part, concerned the graduates from Bruntál (20%), while the graduates from Bielsko used this opportunity the least (6%). From other professions let us mention teaching, which, however, was only pursued by individuals [62].

5 CONCLUSIONS

There is no doubt that, during the industrialisation process, vocational education for textile production was an important part of the professionally-educational system. What is also undeniable is the significance of textile professional training in connection with the changes brought about by industrialisation, despite the fact that the role of textile education was demonstrably ambivalent. On the one hand, the specialised schools and courses supported the transfer to mechanisation and centralised factory mass production, but on the other

they helped those whose existence was dependent on traditional cottage industry with the use of simple tools and handicraft to adapt to the changed conditions in the labour and goods market.

With respect to the advancement of industrialisation, the transformation of weaving education played a crucial role. The attention of all interested parties was focused precisely on establishing vocational schools and courses specialised in this way. In this case the state started to be engaged relatively late. It took its first steps towards the conceptual grasp of the support and organisation of weaving schools only under the economic, social and political pressure of the 1870s. We can say that by the outbreak of the First World War the state took control of this educational segment, which allowed it to realise its unification and, above all, to form it to its liking. Practically this manifested itself mainly by the transfer of schools into the state's management and by the issuing of generally effective curriculums. A sign of the fact that even on the eve of the First World War there was dissatisfaction with the state of weaving schools and the employment possibilities of their graduates was the striving for reform, which was put into effect at schools in 1910. Generally it can be said that in the late 19th and early 20th century the significance of classical day schools increased at the expense of evening/Sunday courses, despite the fact that these courses were still well attended and played a significant role in the further education of those who were already professionally active.

In many aspects the Silesian example confirmed the general Cisleithanian trends (e.g. the importance of non-state authorities in the process of the establishment and development of schools), but in some cases the local specifics (the composition of students, the employment of graduates, etc.) were manifested. Also in Silesia the question of the crisis of the cottage industry became a hot topic, within which the local political elites also discussed the support of weaving schools. It should be added that in this case certain limits, brought by contemporary nationalism, were reached. As an example we can mention the obstacles which were laid at the Silesian Land Diet during the approval of scholarships for studies at the weaving school with the Czech language of teaching in Frenštát pod Radhoštěm, which was well attended even by Czech and Polish students from the Cieszyn region [63].

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6 REFERENCES

1. Gruber J.: Politika odborného školství.; Česká politika, Díl 5: Kulturní, zvláště školské úkoly české politiky (The Policy of Vocational Education, In: The Czech Policy, Volume 5: The Cultural, Especially Educational, Tasks of the Czech Policy) Tobolka, Z.V. (ed.), Praha, 1913, pp. 607-840
2. Kádner O.: Vývoj a dnešní soustava školství (The Development and Today's System of Education), I, Praha 1929, pp. 352-358
3. Černohorský Z.: Vývoj učňovského školství v Československu (The Development of Vocational Education in Czechoslovakia), Praha 1973
4. Engelbrecht H.: Geschichte des österreichischen Unterrichtswesens: Erziehung und Unterricht auf dem Boden Österreichs, Band 3 a 4 (The History of Austrian Education: Education and Teaching in the Austrian Lands, Volumes 3 and 4), Wien, 1984, 1986
5. Schermeier J.: Fachschulen in Österreich – Schulen der Facharbeiterausbildung. Die Fachschulen für einzelne gewerbliche Zweige. Ein Beitrag zur Geschichte und Gegenwart des berufsbildenden mittleren Schulwesens in Österreich (Vocational Schools in Austria – Schools for the Education of Skilled Manpower. Vocational Schools for the Individual Industrial Branches. A paper on the history and present of secondary vocational education in Austria), Frankfurt am Main etc., 2009
6. Westritschnig K.J.: Berufsbildung in Österreich während der Habsburgermonarchie 1848-1918. Bildungsebenen – Bildungsarten – Bildungsprinzipien (Vocational Education in Austria in the Period of the Habsburg Monarchy in 1848–1918. The Stages of Education – the Forms of Education – the Principles of Education), Norderstedt, 2015
7. Klíma A.: Manufakturní období v Čechách (The Manufactory Period in Bohemia), Praha, 1955
8. Mainuš F.: Plátenictví na Moravě a ve Slezsku v XVII. a XVIII. století (The Linen Industry in Moravia and Silesia in the 17th and 18th Century), Ostrava, 1959
9. Mainuš F.: Vlnářství a bavlnářství na Moravě a ve Slezsku v XVIII. století (The Wool and Cotton Industry in Moravia and Silesia in the 18th century), Praha, 1960
10. Myška M.: K charakteristice výrobních vztahů a forem v předání lnu ve slezsko-moravské "proto-industriální oblasti" v 16. až polovině 18. století (Příspěvek k diskusi o tzv. protoindustrializaci) [Regarding the Characteristic of the Production Relations and Forms in Flax Spinning in the Silesian-Moravian "Proto-Industrial" Region from the 16th to the Mid-18th Century (A paper on the discussion about the so-called proto-industrialisation)]. Časopis Slezského muzea (The Silesian Museum Journal), 1984, 33, pp. 253-270
11. Myška M.: Nákladnický systém a decentralizovaná manufaktura (Teoretická úvaha o podstatě těchto ekonomických kategorií na příkladu textilního průmyslu). I. setkání historiků textilního a oděvního průmyslu [The Putting-Out System and the Decentralised Manufactory (A theoretical essay on the substance of these economic categories on the example of the textile industry). The 1st meeting of historians of the textile and clothing industry], Ústí nad Orlicí, 1985, pp. 84-104

12. For basic information regarding the paradigm of proto-industrialisation, including references to further reading, see Myška M.: Problémy a metody hospodářských dějin. Metodické problémy studia dějin sekundárního sektoru (The Problems and Methods of Economic History. The Methodological Problems of Studying the History of the Secondary Sector), Ostrava, 2010, pp. 104-126
13. Jindra Z., Jakubec I. et al.: Hospodářský vzestup českých zemí od poloviny 18. století do konce monarchie (The Economic Rise of the Bohemian Lands from the Mid-18th Century Until the End of the Monarchy), Praha, 2015, pp. 260-262
14. Hlavačka M. et al.: České země v 19. století. Proměny společnosti v moderní době I (The Bohemian Lands in the 19th Century. The Transformation of the Society in the Modern Period I), Praha, 2014, pp. 311-312
15. Jindra Z., Jakubec I. et al.: Hospodářský vzestup (Economic Rise), p. 264
16. Myška M.: Lnářský a bavlnářský průmysl na Frýdecku a Místecku do počátků tovární výroby (Opožděná industrializace) [The Linen and Cotton Industry in the Frýdek and Místek Regions until the Beginnings of Factory Production (Delayed Industrialisation)], Frýdek-Místek, 2013, pp. 40-42
17. Myška M.: Region a industrializace. Studie k dějinám industrializace Slezska (1800-1918) [The Region and Industrialisation. A Study on the History of Industrialisation of Silesia (1800-1918)], Ostrava, 2014, pp. 77-79, 106-112
18. Dokoupil L., Nesládková L., Lipovski R.: Populace Rakouského Slezska a severovýchodní Moravy v éře modernizace (od 60. let 19. století do první světové války) [The Population of Austrian Silesia and North-East Moravia in the Modernisation Era (from the 1860s until the First World War)], Ostrava, 2014, pp. 199-200, 401
19. For more details regarding the guild training for professions see Weigner L.: K charakteristice cechovního učednictví (Regarding the Characteristic of Guild Apprenticeship). Obzor národohospodářský (National Economic Horizon), 1917, XXII, pp. 426-431, 464-469
20. Gruber J.: Politika (The Policy), pp. 680-682
21. Engelbrecht H.: Geschichte, Band 3 (The History, vol. 3), pp. 174-176
22. Magner E.: Die österreichischen Webeschulen (Austrian Weaving Schools). Zentralblatt für das gewerbliche Unterrichtswesen in Österreich (The Central Paper for Technical Education in Austria), 1885, IV, pp. 143-144
23. Schermaier J.: Fachschulen (Vocational Schools), pp. 41-43
24. Magner E.: Die österreichischen Webeschulen (Austrian Weaving Schools), p. 149
25. Zeitschrift für die österreichischen Gymnasien, 1867, Heft XII, Beilage: Statistische Übersicht über die österreichischen Gymnasien und Realschulen am Schlusse des Schuljahres 1866/1867 (A Journal for Austrian Gymnasien, 1867, no. 12, Appendix: A statistical overview of Austrian Gymnasien and Realschulen at the end of the school year 1866/1867), p. 26
26. Programm der k. k. Ober-Realschule in Brünn. Veröffentlicht am Schlusse des Schuljahres 1853, Brünn 1853 (The annual report of the Imperial-Royal Ober-Realschule in Brno. Published at the end of the school year 1853, Brno, 1853), pp. 19-26
27. Oesterreichische Statistik, Band III, Heft 2: Statistik der Unterrichts-Anstalten der im Reichsrathe vertretenen Königreichen und Ländern für das Jahr 1881/82, Wien 1884 (Austrian statistics, vol. 3, no. 2: The statistics of educational institutions in the Reichsrat of the represented kingdoms and lands for the school year 1881/82, Vienna, 1884), pp. 65-67
28. Centralblatt für das gewerbliche Unterrichtswesen in Österreich (The Central Paper for Technical Education in Austria), 1883, I, p. 67
29. Westritschnig K.J.: Berufsbildung (Vocational Education), pp. 201-202
30. Schermaier J.: Fachschulen (Vocational Schools), pp. 50-52
31. Zentralblatt für das gewerbliche Unterrichtswesen in Österreich (The Central Paper for Technical Education in Austria), 1915, XXXIII, pp. 251, 256, 264-271
32. Magner E.: Die österreichischen Webeschulen (Austrian Weaving Schools), p. 140
33. Zemský archiv v Opavě, fond Zemská vláda slezská v Opavě (Land Archive in Opava, collection The Silesian Provincial Government in Opava), box 2157
34. Hamann W.: Referat über die Reorganisation der Textilfachschulen (A paper on the reorganisation of textile vocational schools), Zentralblatt für das gewerbliche Unterrichtswesen in Österreich (The Central Paper for Technical Education in Austria), 1910, XXVIII, p. 64
35. Hamann W.: Referat (A paper), pp. 63-118
36. Hamann W.: Referat (A paper), pp. 69-80
37. Zentralblatt für das gewerbliche Unterrichtswesen in Österreich (The Central Paper for Technical Education in Austria), 1911, XXIX, p. 102f
38. Myška M.: Lnářský a bavlnářský průmysl (The Linen and Cotton Industry), p. 40
39. Myška M.: Lnářský průmysl ve Slezsku v průmyslové revoluci (Nástin hospodářského vývoje v letech 1840-1880), In: Lnářský průmysl, svazek 5 [The Linen Industry in Silesia during the Industrial Revolution (An Outline of the Economic Development in Silesia in the Period 1840-1880), In: The Linen Industry, vol. 5], Trutnov 1984, pp. 117-118
40. Gawrecki D. et al.: Dějiny Českého Slezska I: 1740-2000 (The History of Bohemian Silesia I: 1740-2000), Opava 2003, p. 208
41. Myška M.: Region (The Region), p. 179
42. Zářícký A.: Vývoj průmyslu v letech 1742-1914 (The Development of Industry in the Period 1742-1914), p. 16. - yet unpublished text for the prepared collective monograph about the modernisation process of Silesia
43. Myška M.: Lnářský a bavlnářský průmysl (The Linen and Cotton Industry), pp. 155-162
44. Myška M.: Region (The Region), p. 178
45. Zářícký A.: Vývoj (The Development), pp. 15-16

46. Panic I. (ed.): Bielsko - Biała. Monografia miasta, Tom III: Bielsko od wojen śląskich do zakończenia I wojny światowej (1740-1918) [Bielsko - Biała. A Monograph of the Town, vol. 3. Bielsko in the Period from the Silesian Wars until the End of the First World War (1740-1918)], Bielsko - Biała, 2010, p. 287
47. Statistischer Bericht über die volkwirtschaftlichen Verhältnisse Schlesiens im Jahre 1890 (A Statistical Report on the Economic Situation in Silesia in 1890), Troppau, 1894, p. 365
48. E.g. Das gewerbliche Schulwesen in Schlesien (Industrial Education in Silesia), Troppau, 1887, Opava 1887], p. 18
49. Jahres- Bericht der k. k. Webereischule in Freudenthal pro 1883/4 (An annual report of the Imperial-Royal weaving school in Bruntál for the school year 1883/4), Freudenthal, 1884, pp. 1-2
50. Dreiundzwanzigster Jahresbericht der k. k. Fachschule für Weberei in Jägerndorf. Schuljahr 1896/1897 (An annual report of the Imperial-Royal weaving school in Bruntál for the school year 1896/1897), Jägerndorf, 1897, p. 1
51. Zemský archiv v Opavě, fond Zemská vláda slezská (Land Archive in Opava, collection The Silesian Provincial Government), boxes 2135, 3691
52. The information was drawn from the annual reports of the weaving school in Bruntál for the school years 1883/1884, 1899/1900 and 1907/1908
53. Achter Jahresbericht der k. k. Fachschule für Weberei in Jägerndorf 1882 (The 8th annual report of the Imperial-Royal vocational school for weaving in Krnov), Jaegerndorf, pp. 4-5
54. Jahres- Bericht der k. k. Staats- Gewerbeschule in Bielitz (Österreichisch Schlesien). Schuljahr 1890/91 [An annual report of the Imperial-Royal technical school in Bielsko (Austrian Silesia). School year 1890/91], Bielitz 1891, pp. 51-53
55. K. k. Fachschule für Weberei in Bennisch. Österr.-Schlesien. Bericht für das Schuljahr 1907/08 (The Imperial-Royal vocational school for weaving in Horní Benešov. Austrian Silesia. A report for the school year 1907/08), s. l. 1908, p. 1
56. Bericht über das Schuljahr 1910/1911. K. k. Fachschule für Weberei in Jägerndorf (A report for the school year 1910/1911. The Imperial-Royal vocational school for weaving in Krnov), Jägerndorf, 1911, pp. 1-3
57. K. k. Fachschule für Weberei in Bennisch. Bericht über das Schuljahr 1899/1900 (The Imperial-Royal vocational school for weaving in Horní Benešov. A report for the school year 1899/1900), s. l. 1900, pp. 1-2
58. K. k. Fachschule für Weberei in Bennisch. Österr.-Schlesien. Bericht über das Schuljahr 1907/08 (The Imperial-Royal vocational school for weaving in Horní Benešov. Austrian Silesia. A report for the school year 1907/08), s. l. 1908, p. 6
59. Hamann W.: Referat, Beilage 3 (A paper, appendix 3)
60. Hamann W.: Referat, Beilage 5, 6 (A paper, appendices 5, 6)
61. Zemský archiv v Opavě, fond Zemská vláda slezská (Land Archive in Opava, collection The Silesian Provincial Government), box 3691
62. The source are data about the graduates of textile schools (their parts with day-to-day courses) in Bílsko from the school years 1884/1885-1903/1904 (145 persons), Horní Benešov from the years 1880/1881-1903/1904 (120), Bruntál from the years 1878/1879-1903/1904 (182) and Krnov from the years 1875/1876-1903/1904 (241) printed in: Hamann, W.: A paper, appendices 7-8, 11-12]
63. Myška M.: Region (The Region), p. 127