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## Business Strategies and Adaptation Mechanisms in Family Businesses during the Era of the Industrial Revolution

### The Example of the Klein Family from Moravia

Family businesses are a central topic in the history of business, especially in the early phases of the industrialization process. This case study attempts to identify the business strategies and the adaptation mechanisms used by a family business during the era of the Industrial Revolution. The main aim of the study is to explore which adaptation mechanisms and strategies were used during the Industrial Revolution by large family firms in the Lands of the Bohemian Crown. The study focuses on a model example, the Klein family, which ranked among the foremost entrepreneurial families in the Bohemian Crown Lands. The Kleins initially rose to prominence through their road construction business. They later built private and state railways and also diversified into heavy industry. I delineate the main stages in the development of the family firm, discuss a number of key microeconomic factors which influenced the Kleins' business activities, and describe the factors which ultimately led to the downfall of this once-successful firm.

Keywords: business history, family firm, Industrial Revolution, capitalism, Lands of the Bohemian Crown, business strategies, adaptation mechanisms, Gebrüder Klein, Klein von Wiesenberg

### *The Problem of Continuity and Adaptation*

In his influential study of the family, businesses and capitalism, Jürgen Kocka states that the spirit and practice of capitalism are based on non-capitalist structures and processes which have a long-term influence over capitalism. He identifies the family as one of the key elements which contributed to the formation of capitalism. Kocka writes that family structures, processes and resources encouraged the emergence of industrial capitalism and helped resolve certain problems faced by capitalist industrialization. In his view, this role was particularly evident in the early phase of industrialization.<sup>1</sup>

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1 Jürgen Kocka, "Familie, Unternehmer und Kapitalismus. An Beispielen aus der früher deutschen Industrialisierung," *Zeitschrift für Unternehmensgeschichte* 24 (1979): 99–135.

Many years have elapsed since the publication of Kocka's above-cited article, and many studies have explored the relationships between business and the family. Although scholars may differ in some of their conclusions regarding this relationship, there nevertheless exists a general consensus that the family played an exceptional role in business throughout the nineteenth century.<sup>2</sup> In the European historiography on business history, over the course of the past decade there was a marked increase in the interest in the history of family businesses; many studies of family businesses focus on the nineteenth century, the era which witnessed the formation of modern family business practices. Many phenomena have been analyzed with regard to nineteenth-century family businesses; among the most important are issues of succession within family firms, business strategies applied by family businesses, and the construction of social networks.<sup>3</sup>

The central topic of this study (and indeed this entire issue of the journal) concerns enterprises in adaptation. This topic is intricately intertwined with the question of continuity in business, a question that has not yet been fully addressed by Czech historiography with regard to nineteenth-century businesses. Existing studies suggest that the development of the entrepreneurial classes in the Bohemian Crown Lands was in fact characterized not by continuity, but rather by discontinuity. This finding has been demonstrated by historical research mainly in terms of the transition between business practices in the proto-industrial era and the industrial era. Businesses which emerged under the protectionist conditions that prevailed during the period of enlightened absolutism and the Napoleonic Wars generally found it difficult to adapt to the conditions of economic liberalism that characterized the early phase of industrialization. There were, moreover, certain specific features which affected developments

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2 Andrea Colli, *The History of Family Business 1850–2000* (Cambridge: Cambridge University Press, 2003); Toni Pierenkemper, *Unternehmensgeschichte. Eine Einführung in ihre Methoden und Ergebnisse* (Stuttgart: Franz Steiner Verlag, 2000), 112; Wieland Sachse, "Familienunternehmen in Wirtschaft und Gesellschaft bis zur Mitte des 20. Jahrhunderts. Ein historischer Überblick," *Zeitschrift für Unternehmensgeschichte* 36 (1991): 9–25; Louis Bergeron, "Familienstruktur und Industrieunternehmen in Frankreich (18. bis 20. Jahrhundert)," in *Familie zwischen Tradition und Moderne*, ed. Neithard Bulst, Joseph Goy, and Jochen Hooek (Göttingen: Vandenhoeck & Ruprecht, 1981), 225–37.

3 One finds examples of these approaches in Sandra Zeumer, *Die Nachfolge in Familienunternehmen. Drei Fallbeispiele aus dem Bergischen Land im 19. und 20. Jahrhundert* (Stuttgart: Franz Steiner Verlag, 2012); Adelheid von Saldern, *Netzwerkökonomie im frühen 19. Jahrhundert. Das Beispiel der Schoeller-Häuser* (Stuttgart: Franz Steiner Verlag, 2009); Michael Schäfer, *Familienunternehmen und Unternehmerfamilien. Zur Sozial- und Wirtschaftsgeschichte der sächsischen Unternehmer 1850–1940* (Munich: C.H. Beck Verlag, 2007); Harold James, *Family Capitalism. Wendels, Haniels, Falcks and the Continental European Model* (Cambridge–London: Belknap Press, 2006).

in individual sectors. In some sectors, the technological changes brought by the Industrial Revolution necessitated such hugely increased volumes of investment that it was practically impossible to manage a smooth transition from traditional manufacturing methods to modern mechanized production; many established businesses failed to deal with this challenge. The thesis of the discontinuity between proto-industrial and industrial business practices has been confirmed by Czech historiographical research focusing on the mining and metallurgical industries, and to some extent also by research into textile production.<sup>4</sup> Family firms involved in glassmaking or textile production based on the factor system achieved a higher level of continuity between the proto-industrial and industrial eras; in both these sectors there were some family businesses which spanned several generations. However, even in these industries not all entrepreneurs proved able to adapt to the new circumstances.<sup>5</sup>

The issue of continuity in the entrepreneurial classes of the Bohemian Crown Lands during the era of industrialization has been addressed in Czech historiography by a small number of studies that focus on specific groups of entrepreneurs who were active in particular sectors (M. Myška on metallurgy, J. Matějček on mining, J. Janák and B. Smutný on textile production, J. Janák and F. Dudek on sugar refining). These studies all reveal the dynamic changes

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4 Arnošt Klíma, "The Beginning of the Machine Building Industry in the Czech Lands in the First Half of the Nineteenth Century," *The Journal of European Economic History* 4 (1975): 49–78; Arnošt Klíma, "Industrial Growth and Entrepreneurship in the Early Stage of Industrialization in the Czech Lands," *The Journal of European Economic History* 6 (1977): 549–74; Milan Myška, *Rytíři průmyslové revoluce. Šest studií k dějinám podnikatelů v českých zemích* (Ostrava: Ostravská univerzita, 1997), 30–49; Jiří Matějček, "Majetky, důchody a investiční možnosti v českých zemích v 19. století," *Studie k sociálním dějinám 19. století* 6 (1996): 101–240; Jan Janák, *Hospodářský rozmach Moravy 1750–1918* (Brno: Matices moravská, 1999), 9–28; Bohumír Smutný, *Potštejnská manufaktura na česko-kladském pomezí. Studie o východočeském plátenictví v letech 1754–1761* (Hradec Králové: Vysoká škola pedagogická, 2002).

5 Bohumír Smutný, "Formování podnikatelské buržoasie ve lnářském průmyslu v Podkrkonoší," *Lnářský průmysl* 4 (1981): 95–116; Bohumír Smutný, "Pokus o typologii lnářských podnikatelů na Trutnovsku (na příkladu podnikatelských rodin Klugů a Etrichů)," in *Podnikatelstvo jako předmět historického výzkumu*, ed. Milan Myška (Ostrava: Ostravská univerzita, 1994), 135–43; Bohumír Smutný, "Hrabata pláteníky a pláteníci barony. Společenské a sociální skupiny v čele českého a moravského plátenictví ve 2. polovině 18. století," in *Šlechtic podnikatelem – podnikatel šlechticem. Šlechta a podnikání v českých zemích v 18.–19. století*, ed. Jiří Brňovják and Aleš Zářický (Ostrava: Ostravská univerzita, 2008), 49–61; Milan Myška, "Slezská podnikatelská rodina Grohmannů. Pokus o kolektivní biogram dvou generací podnikatelské rodiny," *Slezský sborník* 92 (1994): 176–94.

experienced by the entrepreneurial classes during the course of the Industrial Revolution.<sup>6</sup>

Research on family businesses may well offer insights into the issue of business continuity during the era of industrialization; this remained the most widespread form of enterprise throughout the nineteenth century. Modern research has shown that, by their very nature, family businesses display a strong tendency towards continuity; this is reflected in the existence of family firms spanning three (or more) generations during the era of industrialization. Among the more recent studies describing this phenomenon is an article by Michael Schäfer that explores the situation in Saxony.<sup>7</sup> However, Czech historiography unfortunately still lacks an equivalent study drawing on broad-based collective biographical research and focusing specifically on family businesses, in spite of the fact that a number of new business encyclopedias offer an excellent information resource.<sup>8</sup> Case studies nevertheless confirm that family firms represented a significant source of business continuity during the era of industrialization in the Bohemian Crown Lands. On the other hand, these studies also suggest that only a few of these family firms managed to maintain their continuity for more than three generations. In most cases, the firms suffered either as a result of a failure to handle generational transitions successfully or as a consequence of external circumstances; this was particularly typical in the turbulent first half of the twentieth century.<sup>9</sup>

This article examines the business strategies and adaptation mechanisms adopted by family firms in the Lands of the Bohemian Crown during the era

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6 Jan Janák, “Počátky podnikatelské aktivity české buržoasie na Moravě (na příkladu cukrovarnictví),” *Časopis Matice moravské* 97 (1978): 291–332; František Dudek, *Vývoj cukrovarnického průmyslu v českých zemích do roku 1872* (Prague: Academia, 1979); Milan Myška, “Das Untermertum im Eisenhüttenwesen in den böhmischen Ländern während der industriellen Revolution,” *Zeitschrift für Unternehmensgeschichte* 28 (1983): 98–119; Jiří Matějček, “Majitelé a podnikatelé v uhelném hornictví na území dnešního Československa v 19. století,” in *K hospodářským a sociálním dějinám 19. a 20. století* (Opava: Slezský ústav ČSAV, 1991), 5–145; Jiří Matějček, “Poznámky k vývoji sociální skupiny průmyslových podnikatelů a vlastníků v českých zemích v 19. století,” *Studie k sociálním dějinám 19. století* 5 (1995): 83–168.

7 Michael Schäfer, *Familienunternehmen und Unternehmerfamilien*, 101–42.

8 Milan Myška et al., *Encyklopedie podnikatelů Čech, Moravy a Slezska* (Ostrava: Ostravská univerzita, 2003); *Ibid.*, vol. 2 (Ostrava: Ostravská univerzita, 2008); Bohumír Smutný, *Brněnský podnikatelé a jejich podniky (1764–1948)* (Brno: Statutární město Brno, 2012).

9 *Pivo, zbraně i tvářičky. Podnikatelé meziválečného Československa ve viru konjunktur a krizí*, ed. Drahomír Jančík and Barbora Štolleová (Prague: Maxdorf, 2014); *Moderní podnikatelské elity. Metody a perspektivy bádání*, ed. Jiří Štaif (Prague: Dokořán, 2007); Milan Myška, “Tlach und Keil. Kapitola z historie slezské rodinné firmy éry industrializace (1809–1918),” *Hospodářské dějiny/Economic history* 26, no. 1 (2011): 68–90.

of the Industrial Revolution.<sup>10</sup> I focus on a model example, the Klein family, which ranked among the foremost entrepreneurial dynasties in the Habsburg Monarchy.<sup>11</sup> In his *Sozialgeschichte Österreichs*, Ernst Bruckmüller describes the Kleins as an Austrian example of the possibility of a quasi-American form of social advancement.<sup>12</sup> This description alludes to the fact that the Kleins represented one of the few examples of self-made men in Central Europe during the Industrial Revolution. Within the span of a single generation they managed to work their way up from relatively humble origins to the pinnacle of the entrepreneurial elite.<sup>13</sup> The present study examines the development of the Kleins' family business with a particular focus on how they responded to the challenges posed by the changing business environment.

### *The Early Years of the Klein Family Business*

Although the early history of many companies is frequently associated with some form of “founding fathers myth,” depicting the first generation of the company's owners in a heroic light and serving a purpose of legitimization, the beginnings of the Klein family firm were not auspicious.<sup>14</sup> The father of the founding generation, Johann Friedrich Klein (1756–1835), attempted to implement numerous business plans, but mostly without success. In addition to his main business as a cloth trader, he also attempted to acquire an inn, which was a traditional source of income. The family's bleak prospects after the state

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10 On the Industrial Revolution in the Bohemian Crown Lands see Milan Myška “The Industrial Revolution: Bohemia, Moravia and Silesia,” in *Industrial Revolution in National Context*, ed. Mikuláš Teich and R. M. Porter (Cambridge: Cambridge University Press, 1996), 247–67.

11 There are two monographs on the Klein family's business activities: Mojmír Krejčířík, *Kleinové. Historie moravské podnikatelské rodiny* (Brno: Archiv města Brna, 2009); Petr Popelka, *Zrod moderního podnikatelstva. Bratři Kleinové a podnikatelé v českých zemích a Rakouském císařství v éře kapitalistické industrializace* (Ostrava: Ostravská univerzita, 2011).

12 Ernst Bruckmüller, *Sozialgeschichte Österreichs* (Vienna–Munich: Herold Verlag, 2001), 235.

13 The scarcity of self-made men among German and Austrian entrepreneurs during the nineteenth century is noted by most researchers. Jürgen Kocka, *Unternehmer in der deutschen Industrialisierung* (Göttingen: Vandenhoeck & Ruprecht, 1975); Hartmut Kaelble, *Soziale Mobilität und Chancengleichheit im 19. und 20. Jahrhundert* (Göttingen: Vandenhoeck & Ruprecht, 1983); Toni Pierenkemper, “Entstehung und Wandel der deutschen Unternehmerschaft im 19. und 20. Jahrhundert,” *Prager wirtschafts- und sozialhistorische Mitteilungen* 8 (2007/2008): 79–94; Popelka, *Zrod moderního podnikatelstva*, 40–57.

14 On the myth of the founding fathers in the business sphere see Kim Christian Priemel, “Heldenepos und bürgerliches Trauerspiel. Unternehmensgeschichte im generationellen Paradigma,” in *Generation als Erzählung. Neue Perspektiven auf ein kulturelles Deutungsmuster*, ed. Björn Bohnenkamp, Till Manning, and Eva Maria Silies (Göttingen: Wallstein Verlag, 2009), 107–28.

bankruptcy in 1811 led Johann Friedrich's sons to leave home at an early age.<sup>15</sup> The first to leave, in 1812, was the eldest son Josef Engelbert (1792–1830), followed soon afterwards by the second eldest son Engelbert (1797–1830). Both worked as laborers on water management projects at the Moravian estate of Eisgrub (today Lednice, Czech Republic), where they gained their first experiences in the construction trade. In 1816, along with their younger brother Franz (1800–1855), they capitalized on their skills, winning their first contract to rebuild a short stretch of road. The contract was relatively minor, but it nevertheless gave the brothers their first experience in road construction. This was soon followed up by a number of other small-scale contracts for road rebuilding, river regulation, minor building work in towns, and similar jobs.<sup>16</sup>

In 1826, Josef Engelbert Klein won the largest contract of his life, and this launched the Kleins' long involvement in building the main road network throughout Moravia and Silesia. The family's first major transport infrastructure project was the construction of a state road in the western part of Austrian Silesia, a contract which generated tens of thousands of gulden in profits. The project was huge in its scale, so it required not only experience in road construction, but also organizational acumen and a good deal of physical strength. Josef Engelbert therefore decided, as he had in the course of previous projects, to involve his younger brothers, including the adolescent Libor Klein (1803–1848). The brothers invested the profits back into their business, but the project brought them much more than just capital; above all, they acquired essential know-how regarding the organization of labor on large-scale road construction projects. They assembled a team of skilled workers and laborers,

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15 Johann Friedrich Klein was born in the North Moravian community of Wiesenberg (today Loučná nad Desnou) to a German Catholic family. He and his wife Marie (who, like him, was of peasant origins) had a total of nine children (eight sons and one daughter), of whom six sons survived into adulthood: Josef Engelbert (1792–1830), Engelbert (1797–1830), Franz (1800–1855), Libor (1803–1848), Albert (1807–1877), and Hubert (1811–1856). All the sons subsequently became involved in business together and created the family firm Gebrüder Klein. Members of the subsequent generations who played an active role in the business were Josef Engelbert's sons Engelbert (1825–1856; he studied at the Vienna Technical University, and his uncle Franz recruited him as a construction site manager in the family firm) and Eduard (1827–1868; he was a co-owner of the family ironworks), Libor Klein's son Libor (1832–1896; he studied at the Prague Polytechnic Institute and was involved in managing the family mining business), and (most notably) the offspring of Franz Klein: Franz II. Klein (1825–1882; after technical studies and his father's death he became the closest business partner of his uncle Albert) and Franz III. Klein (1851–1930; he studied at the Vienna Technical University and managed the family firm Gebrüder Klein until it was dissolved in 1908). For more on the Klein family see Popelka, *Zrod moderniho podnikatelstva*, 145–69.

16 Krejčířík, *Kleinové*, 25–73.

and they acquired the necessary tools, horses and carts. They also learned how to negotiate with the state authorities, and they gradually built up a network of influential social contacts.<sup>17</sup> This gave them a comparative advantage over competing bidders for similar public contracts. Helped by their policy of offering generous discounts and their growing reputation as reliable operators, the Kleins managed to participate in the majority of important road construction projects in Moravia and Silesia during the 1830s and 1840s.<sup>18</sup>

The Kleins' experience in road construction in the first half of the nineteenth century was an important factor that helped them win contracts in an area that proved to be much more lucrative, namely railway construction. The family firm was involved in a number of projects connected with the first steam railway built in the Habsburg Monarchy, the Emperor Ferdinand Northern Railway (Kaiser Ferdinands-Nordbahn). The projects involved earthworks and the construction of both brick and timber structures. The Kleins had many years' experience in this kind of job thanks to their road construction contracts. However, nobody in Austria had any experience in rail-laying, so this work was initially carried out by experts from abroad. From 1837 to 1856, the Kleins built around 340 km of railways for the Kaiser Ferdinands-Nordbahn, plus a number of station buildings and guard-houses.<sup>19</sup>

When the Austrian state decided to invest its own funds in the construction of a network of major rail routes, it was able to choose from a number of established contractors. In addition to the Klein brothers, other key firms operating in this sector included companies owned by the Bohemian entrepreneur Adalbert Lanna, the Italian businessman Felice Tallachini, and the Moravian Fleischmann brothers.<sup>20</sup> However, this small circle of firms gradually lost its monopoly in the 1840s. The railway construction sector became highly competitive, and some of the later state contracts were divided up among several companies. Despite the fierce competition that developed in the sector, the Kleins managed to retain a highly influential position in the following decades – helped not only

17 Petr Popelka, "Sociální začleňování špičkových měšťanských podnikatelů éry průmyslové revoluce na příkladu moravské podnikatelské rodiny Kleinů," *Slezský sborník* 108 (2010): 204–33.

18 Petr Popelka, *Zrod moderní dopravy. Modernizace dopravní infrastruktury v Rakouském Slezsku do vypuknutí první světové války* (Ostrava: Ostravská univerzita, 2013), 58–72; Petr Popelka, "Firma 'Gebrüder Klein' jako příklad rodinného velkopodnikání éry průmyslové revoluce," *Hospodářské dějiny/Economic History* 26, no. 1 (2011): 40–44.

19 Popelka, *Zrod moderního podnikatelstva*, 175.

20 Paul Mechtler, "Bauunternehmer und Arbeiter in der ersten Staatsbahnperiode Österreichs (1842–1858)," *Österreich in Geschichte und Literatur* 12 (1968): 317–30.

by their know-how, but also by their skill at forming consortiums with other major building contractors, especially Adalbert Lanna, Johann Schebek, and Karl Schwarz. The smaller contractors found it very difficult to compete with these strong, established firms, and the Klein brothers continued to be involved in numerous major railway projects throughout the Habsburg Monarchy from the late 1830s to the mid-1870s. In this period, the Kleins participated in the construction of over 3,500 km of railways throughout the Habsburg Monarchy.<sup>21</sup>

The Kleins' early entrepreneurial activities bear most of the hallmarks of the business strategies that were widespread during the early phase of industrialization. During this era, businesses' strategies were rooted in close cooperation among family members, who provided a mutual support network and thus helped mitigate the initial risks associated with business ventures. The family also played a key role in the transfer of business know-how; the knowledge and skills that were put to use in many sectors were acquired empirically. Another important role of the family was in financing; the individual members of the family offered mutual financial support, and capital was generally loaned within the family or borrowed from individual creditors. Bank loans were taken out only if very large investments were necessary.<sup>22</sup> Close cooperation among the brothers enabled the Kleins to win building contracts and successfully implement large projects which would have been beyond the capabilities of individuals acting alone.

### *The Investment Strategies of the First Generation of Kleins*

During the early phases of industrialization, certain sectors were characterized by a marked lack of equality in business opportunities. This was not only an issue of starting capital; in the period leading up to 1848, business in the Austrian Empire was still heavily influenced by the existence of feudal structures. Well into the first half of the nineteenth century, ownership of a large aristocratic estate represented an important competitive advantage in many sectors of business. Among the most significant advantages were priority access to raw material resources (e.g. iron ore and coal); a monopoly on the ownership of forests, which were the primary source of fuel; the right to use water resources; and the ownership of large tracts of land. Ownership of raw materials meant that estate

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21 *Geschichte der Eisenbahnen der österreichisch-ungarischen Monarchie* (Vienna–Teschen–Leipzig, 1898).

22 Petr Popelka, "Podnikání a životní styl špičkových měšťanských podnikatelů éry průmyslové revoluce ve světle pozůstalostních spisů. Příklad moravské velkopodnikatelské rody Kleinů," *Časopis Matice moravské* 129 (2010): 45–77.



owners were not dependent on the fluctuating prices of these commodities. Estate owners could also exercise their rights vis-à-vis their subjects; in the first half of the nineteenth century, subjects were still required to perform compulsory labor duties (Fronarbeit) or carry out forced labor for inadequate wages.<sup>23</sup> Estate owners also had easier access to credit, as the estate could be pledged as collateral on loans.

At the end of the eighteenth century and during the first half of the nineteenth, many capital-rich merchants, financiers and other businessmen in the Bohemian Crown Lands invested part of their profits in the purchase of estates.<sup>24</sup> In the case of entrepreneurs during the early phases of industrialization, this did not necessarily represent a form of feudalization.<sup>25</sup> For some entrepreneurs the acquisition of estates not only represented a safe way of investing their capital for the benefit of future generations; it was also a means of supporting their business activities. This motivation is clearly evident in several case studies of entrepreneurs in the first half of the nineteenth century,<sup>26</sup> and the Kleins were no exception. Thanks to their successful road construction and (especially) railway construction business, the family was able to accumulate a huge quantity of capital in a relatively short period of time; by the 1840s, the Kleins had amassed many hundreds of thousands of gulden. This not only enabled the family members to embrace a new lifestyle, it also opened the door to new business plans.<sup>27</sup>

The Kleins' investment strategy in the 1840s and 1850s was unusual when compared with the strategies adopted by other entrepreneurs, not only in its extent, but also in the family's attempts to diversify into numerous different areas of activity. By hiring capable managers, the Kleins were able to expand

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23 Milan Myška, *Proto-industriální železářství v českých zemích. Robota a jiné nucené práce v železářských manufakturách* (Ostrava: Ostravská univerzita, 1992); Milan Myška, "Šance a bariéry měšťanského podnikání v báňském a hutním průmyslu za průmyslové revoluce (na příkladu olomouckého podnikatele Josefa Zwierziny)," *Vlastivědný věstník moravský* 36 (1984): 261–76.

24 Zdeněk Pokluda, "Pronikání buržoasie do sféry deskového velkostatkářského vlastnictví na Moravě v polovině 19. století," *Vlastivědný věstník moravský* 33 (1981): 165–78.

25 On the concepts of aristocratization and feudalization see Hartmut Kaelble and Hasso Spode, "Sozialstruktur und Lebensweisen deutscher Unternehmer 1907–1927," *Scripta Mercaturae* 24 (1990): 132–78; Hans Ulrich Wehler, *Deutsche Gesellschaftsgeschichte III. Von der "Deutschen Doppelrevolution" bis zum Beginn des Ersten Weltkrieges 1849–1914* (Munich: C.H. Beck, 1995), 718–23.

26 Milan Myška, "Hermann Dietrich Lindheim. Kladský podnikatel a počátky moderní industrializace v habsburské monarchii," in Milan Myška, *Rytíři průmyslové revoluce, 172–210*; Myška, "Tlach und Keil," 68–90.

27 Popelka, "Podnikání a životní styl," 45–77.

their activities into sectors in which bourgeois families had not traditionally played a major role, yet which were of crucial importance in the burgeoning Industrial Revolution.

Inspired by their success in the highly lucrative railway construction sector, the Kleins decided to become involved in one of the most complex and capital-intensive industries of all: metallurgy. The decision to invest in metallurgical production forced entrepreneurs to implement adaptive changes in both the organization and financing of their businesses. The Kleins' railway projects had put them in contact with some of the leading industrial managers of the era, employed in the services of both the state and private companies. These included the renowned expert on mining and metallurgy Franz Laurenz Riepl.<sup>28</sup> In the 1830s, Riepl was appointed manager of the ironworks owned by the Austrian Chancellor Anton Friedrich Mittrowsky at the estate in Wiesenberg (today Loučná nad Desnou, Czech Republic). In 1844, with Riepl's encouragement, the Kleins purchased the Wiesenberg estate (where they had been born as subjects) and, with the assistance of Riepl as the works manager, began to modernize the local ironworks in order to produce rails and other material for railway construction. By the middle of the century, the Kleins had modernized the local engineering works so effectively that they were capable of producing all types of machines with the exception of locomotives. The family hired a number of leading experts, and the ironworks and engineering works on the Wiesenberg estate ranked among the most important factories of their kind in the Bohemian Crown Lands for two decades.<sup>29</sup>

The Kleins' involvement in metallurgical production in the 1840s and 1850s was exceptionally successful. In addition to building up a production base on their own estate, they also established new ironworks in Stefanau (today Štěpánov, near Olomouc, Czech Republic), in the close vicinity of the Kaiser Ferdinands-Nordbahn. The family made a huge investment in the Kladnoer Eisengewerkschaft at Kladno near Prague; together with Adalbert Lanna they

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28 Nikolaus Reisinger, *Franz Riepl und seine Bedeutung für die Entwicklung des österreichischen Eisenbahnwesens*, PhD diss. (Graz: Karl-Franzens-Universität Graz, 1999); Nikolaus Reisinger, "Franz Riepl und die Anfänge des österreichischen Eisenbahnwesens," in *Forschungen zur Geschichte des Alpen-Adria-Raumes*, ed. Herwig Ebner (Graz: Karl-Franzens-Universität Graz, 1997), 307–32.

29 Miloň Dohnal, "Tradice železářství na Sobotínsku a podnikatelská účast hraběte Antonína Friedricha Mitrowského a prof. F. X. Riepla na vzniku a výstavbě Sobotínských železáren," *Sborník prací Filozofické fakulty Ostravské univerzity* 208 (2003): 59–67; František Spurný, "Příspěvek k dějinám sobotínských železáren v 50. – 70. letech 19. století. Biografie Aloise Scholze," *Rozprawy Národního technického muzea* 77 (1980): 81–90.

established a modern ironworks which ultimately grew to become one of the largest such facilities in the Bohemian Crown Lands.<sup>30</sup> In the mid-1840s, inspired by their close collaborator Franz Riepl, they expanded their activities into Hungary's Temes County (today Timiș County, Romania), co-founding the Zsidowaer Eisenwerk Gewerkschaft (later the Nadrager Eisen-Industrie Gesellschaft). They satisfied momentary demand for metallurgical products by leasing and operating ironworks, particularly near Würbenthal in the western part of Austrian Silesia (today Železná, near Vrbno pod Pradědem, Czech Republic).<sup>31</sup> The Kleins' ironworks remained highly profitable for the family up until the economic crisis of the 1870s, ranking alongside their construction business as their primary source of income.

The Kleins' activities in the iron industry led them to invest in another important sector, namely coal mining. Their attempts to acquire mines in the Ostrava-Karviná coalfield in order to supply coal for their Moravian ironworks ultimately proved unsuccessful, weakening the family's position in the Moravian iron industry.<sup>32</sup> This failure was caused not by inept strategy, but rather by the serious financial problems which the family faced as a result of the bankruptcy of the Viennese merchant Demetrius Zinner in 1855, to whom they had lent a large quantity of their liquid funds.<sup>33</sup> The Kleins enjoyed greater success in the Kladno coalfield, where, in a joint venture with other bourgeois businessmen, they established the largest metallurgical conglomerate in Bohemia, including ironworks, coal mines and iron ore mines. The family also maintained a long-term presence in several mining companies operating in the Rossitz-Oslavan (today Rosice-Oslavany, Czech Republic) coalfield and the South Moravian lignite field; most of the coal was supplied to the family's own businesses. From the 1840s onwards, the Kleins also began to establish new business ventures in other economic sectors, establishing modern mills, sugar refineries and textile factories on their own estate.

Another important facet of the family's business activities was the purchase of various types of real estate, a practice they adopted even in the early years. The strategy of investing part of their available funds in real estate may have

30 Ivo Kruliš, *Sto let kladenských železáren* (Prague: Práce, 1959), 22–24.

31 Pavla Bílková, "Podnikání bratří Kleinů v Železně u Vrbna pod Pradědem (1852–1875). Neznámá kapitola z dějin severomoravské podnikatelské rodiny," *Severní Morava* 40 (1980): 10–16.

32 Milan Myška, "Ostravská epizoda v počátcích podnikatelské činnosti bratří Kleinů," *Slezský sborník* 90 (1992): 189–201.

33 Krejčířík, *Kleinové*, 336–41.

been related to their mental patterns of behavior, which were shaped by their experience of the state bankruptcy of 1811. The real estate thus acquired functioned not only as a store of value and a means of displaying the family's wealth; it was also frequently used as collateral for loans taken out to finance the family's new business ventures or to fund the family business directly. One important group of properties owned by the family consisted of the apartment blocks and building plots purchased in Vienna in the early 1870s, when the Gebrüder Klein empire was at its peak.<sup>34</sup>

### *Organizational Changes in the Family Business as an Adaptation Strategy*

Organizational changes were essential for the successful development of family business. These changes can be traced on two levels: firstly in terms of the changing legal forms of the business and secondly in terms of the professionalization of management, as companies began to appoint managers from outside the family.

The Kleins' business activities expanded rapidly during the 1840s, to the point where it was no longer possible for senior management positions in the family's companies to be occupied solely by family members. This soon led to the type of transformation that has been described by Alfred D. Chandler: personal enterprise, in which the owner holds the leading position in the company, gave way to entrepreneurial enterprise, in which the owner takes the strategic decisions but delegates control over the company's day-to-day operations to hired managers.<sup>35</sup>

This shift occurred most rapidly in the sectors in which the family members lacked the necessary experience and which required specialized knowledge in order to succeed. In such cases the Kleins recruited some of the most capable managers available. In addition to Franz Laurenz Riepl, these managers also included Alois Scholz and later Friedrich Klein in the iron industry and Anton

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34 The properties consisted of six apartment blocks and building plots at Landstrasse, two houses in Erdberg, three houses in Leopoldstadt, and two houses at Praterstrasse. The building at Praterstrasse 42 was the official head office of Gebrüder Klein from 1878. In the mid-1880s, the Kleins owned a total of 18 buildings in Vienna. In addition to their Vienna properties, the members of the family also used numerous other properties. Franz II. Klein and his family used a large house in Brno (Brünn) and the chateau in Loučná (Wiesenberg), while Albert Klein used the chateaux in Sobotín (Zöptau) and Jindřichov (Hennersdorf).

35 Alfred Dupont Chandler, *Strategy and Structure. Chapters in the History of the Industrial Enterprise* (Cambridge, MA: MIT Press, 1970); Hartmut Berghoff, *Moderne Unternehmensgeschichte. Eine themen- und theorieorientierte Einführung* (Paderborn: Ferdinand Schöningh Verlag, 2004), 63–82.

Péč in the mining industry.<sup>36</sup> Even in their construction business, which formed the basis of the family empire, the Kleins found it necessary to hire capable managers with technical qualifications. The shift from road construction to railway construction required the assembly of a stable team of technical and administrative employees, especially engineers and construction assistants. The Kleins recruited mainly talented graduates of technical colleges who already had some experience working in the construction industry, offering them considerable freedom in decision-making and ensuring their loyalty by paying better salaries than they would have earned in public-sector jobs. Many of these recruits became capable businessmen in their own right, who continued to collaborate with the Kleins even after they had left the company and set up their own firms. They included Johann Schebek (1815–1889), Karl Schwarz (1817–1898), the Theuer brothers, Osvald Životský (1832–1920) and Jan Muzika (1832–1882).<sup>37</sup> Given the diversity of the Kleins' business activities, they implemented the same policy of appointing experienced managers in most of their other companies, including the family estate and other large estates acquired at a later date.

Although the transition to professional management took place during the 1840s and 1850s, family members remained personally involved in supervising the business until the 1870s. This was the case both with the longest-lived member of the founding generation, Albert Klein (1807–1877), and with his nephew, Franz II Klein (1825–1882). The last construction project to be directly managed by a member of the family was the Buštěhrad railway near Kladno (1854–1855). Later, Albert and Franz II devoted their attentions solely to the high-level management of the family business, particularly issues of business strategy and financing. From the mid-1850s, construction contracts were generally undertaken in collaboration with other companies, with Gebrüder Klein responsible for the financial side of the project and providing the technical and administrative staff.

It is remarkable how long the Klein family business continued to exist in the form of a consortium (a loose association of individual family members rather than a distinct legal entity in its own right). The rules governing the family business were formally established in a family contract concluded in 1847; this

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36 Spurný, "Příspěvek k dějinám sobotínských železáren," 81–90; František Spurný, "Friedrich Klein a poslední pokusy o záchranu severomoravského železářství," *Rozpravy Národního technického muzea* 82 (1981): 131–35; Václav Štěpán, "Důlní podnikání bratří Kleinů v Ostravě a montanista Anton Péč (1822–1895)," *Ostrava. Příspěvky k dějinám a současnosti Ostravy a Ostravska* 18 (1997): 293–307.

37 Krejčířik, *Kleinové*, 208.

contract codified the existing system of mutual relationships among the brothers involved in the business. This came at a time when the founding generation had already managed to diversify the family's range of business interests significantly. The contract stipulated that the oldest adult male member of the family was to be the head of the family business and act as its authorized legal representative.<sup>38</sup> He was to exercise overall control not only of the family's jointly purchased estates, but also all their jointly conducted business activities, including the family ironworks. He was authorized to use jointly held funds in order to raise yields on the family estate and increase production at the ironworks. However, the head of the family business could be voted out of this post, and the position was not hereditary. If the head of the business died or was voted out, the new head was to become the next oldest adult male family member, i.e. the next eldest brother. The 1847 family contract effectively codified the practices that already existed within the family business, and it did not change the manner in which the business was conducted; this remained, as before, based on voluntary cooperation within a family consortium.

It was not until 1853 that the family firm was formally established. This can undoubtedly be viewed as an adaptation strategy, as the family was forced to take this step by external circumstances. A contract established the company "Gebrüder Klein," whose field of activity was defined as all types of construction work. Throughout its existence, the company had the form of a general partnership, with the family members holding the position of partners.<sup>39</sup> In the contract, the brothers undertook to run the business as a single entity, sharing both costs and profits; profits were to be distributed proportionately on the basis of the sums invested by each partner. The partners were liable to the full extent of their assets. However, the partners were not permitted to transfer to the company any liabilities in connection with their own private business activities. The head of the company was to be the eldest of the brothers. On the basis of this contract, the company was registered in Brünn (Brno), Vienna and Prague. Until 1878, the registered head office was in Brünn; in 1878 it was then relocated to Vienna.

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38 This provision was fully in line with the usual practice of family businesses at the time. Rudolf Boch, "Unternehmensnachfolge in Deutschland. Ein historischer Rückblick," *Zeitschrift für Unternehmensgeschichte* 44 (1999): 164–65.

39 The legal form of general partnerships was particularly popular among family businesses. Sachse, "Familienunternehmen in Wirtschaft und Gesellschaft," 16.

Although Gebrüder Klein was a mere general partnership and never became a joint-stock company, until the second half of the 1870s it ranked among the largest and most capital-rich construction companies in the Habsburg Monarchy. It functioned as an umbrella organization for all the family's business activities, not only its construction business, but also its activities in other sectors (the timber trade, coal mining, and the Viennese apartment blocks). This broad range of activities was reflected in the company's financial profile. When established, it already had assets running into millions of gulden, and by 1870 its total assets exceeded 10 million. Gebrüder Klein's strong capital base proved particularly essential to the development of the company's core business, railway construction.<sup>40</sup>

However, not all of the family's business activities were conducted via Gebrüder Klein. Leaving aside the numerous private business ventures of individual family members, unrelated to the family business as a whole, another important arm of the family business also remained separate from the company from the very outset: the ironworks in Zöptau (today Sobotín, Czech Republic) and Stefanau (today Štěpánov, Czech Republic). When these ironworks were at their peak (i.e. up until the early 1870s), they were the second highest producer of iron in Moravia (after the Vítkovice Ironworks) and the third largest producer of rails in the entire Habsburg Monarchy.<sup>41</sup> In 1865, the ironworks (along with the family's North Moravian iron ore mines) were reorganized in order to cope with rising production; they were removed from the control of the family estate to become the Zöptauer und Stefanauer Bergbau- und Eisenhütten Gewerkschaft. The family members remained the exclusive owners of stakes in the business, though they had no direct involvement in the day-to-day management; the ironworks, engineering works and iron ore mines were all entrusted to professional managers.

This organizational change in the family business laid the foundations for its further development. However, the firm soon had to contend with two major issues: a deep economic crisis and a generational transition.

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40 Opava Provincial Archives (=OPA), Olomouc branch, fonds "Rodinný archiv Kleinů," cart. 1, inv. no. 35; Popelka, "Firma 'Gebrüder Klein' jako příklad rodinného velkopodnikání," 54–58.

41 Krejčířik, *Kleinové*, 377.

## *The Loss of the Ability to Adapt: the Crisis of the 1870s and Its Impact*

The second half of the 1860s can be characterized as the peak of the Industrial Revolution in the Bohemian Crown Lands; this was a period of rapid economic growth. The economic boom enjoyed by the Habsburg Monarchy in 1867–1873 (the so called *Gründerzeit*) was a hugely important time in the state's development. It was accompanied by political consolidation, an increase in economic productivity, a banking boom, the formation of many joint-stock companies, and the rapid development of transport and communications infrastructure. The sectors of heavy industry that were involved in railway construction (namely mining, metallurgy, and mechanical engineering) enjoyed particular prosperity. Railway construction was the primary motor of the economy during this period.<sup>42</sup>

However, 1873 brought a turning point, which ultimately had an impact on all areas of the economy, but especially those areas that had prospered most during the preceding boom years. The railway fever which gripped the Habsburg Monarchy in the late 1860s and early 1870s came to a sudden halt in 1873. Although the railway companies soon felt the negative effects of the recession, existing railway construction projects continued under their own momentum until the 1870s. However, 1877 marked the end of this period; the railway construction projects that had already been underway when the recession began were now completed and entrepreneurs showed no interest in new projects of this type, which made significant demands on capital yet represented a high-risk proposition in the new economic climate.<sup>43</sup> Construction companies, which had profited tremendously from the railway boom of the late 1860s and early 1870s, now faced an entirely different situation. In a very short time they were forced to adapt rapidly and deal with a slump in demand for transport-related

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42 Herbert Matis, *Österreichs Wirtschaft 1848–1913* (Berlin: Duncker & Humblot, 1972), 170–98; *Dějiny hospodářství českých zemí od počátků industrializace do konce habsburské monarchie*, ed. Ivan Jakubec and Zdeněk Jindra (Prague: Karolinum, 2006), 169–72; an analysis is given in Milan Myška, “Vliv výstavby železniční sítě na rozvoj hutnictví železa v habsburské monarchii a v českých zemích (1830–1914),” *Rozprawy Národního technického muzea* 118 (1989): 104–86; Milan Myška, “Eisenbahnen – Eisenhüttenindustrie – Wirtschaftswachstum: Der Einfluss des Ausbaus des Eisenbahnnetzes auf die Entwicklung des Eisenhüttenwesens in der Habsburgermonarchie 1830–1914,” *Prager wirtschafts- und sozialhistorische Mitteilungen* 7 (2004–2005): 9–47; Milan Myška, *Die mährisch-schlesische Eisenindustrie in der industriellen Revolution* (Prague: SPN, 1970).

43 Alfred Niel, “Die österreichischen Eisenbahnen von der zweiten Staatsbahnperiode bis zum Ersten Weltkrieg,” in *Verkehrswege und Eisenbahnen*, ed. Karl Gutkas and Ernst Bruckmüller (Vienna: Institut für Österreichkunde, 1989), 87–99; Alois Czedit, *Der Weg von und zu den Österreichischen Staatsbahnen*, vol. 1 (Vienna–Teschen–Leipzig: n.p. 1913), 207–23.



projects, which had previously represented a major source of income. Most large construction firms experienced severe problems; in addition to Gebrüder Klein, other companies in the Bohemian Crown Lands which battled with an uncertain future included Adalbert Lanna, Karl Schwarz and Johann Schebek.

Throughout the boom years, Gebrüder Klein had benefited from its activities in key industrial sectors, but the company now faced a difficult situation. Until the mid-1870s the firm was still able to profit from its ongoing railway construction contracts. The last railway project in which the company is known to have been involved was the Salzkammergutbahn (1875–1877). The problem was that once the worst of the crisis was over, at the turn of the 1880s, Gebrüder Klein proved incapable of adapting to the new circumstances and reestablishing its former primacy as a railway builder. The company played no part at all in the construction of the new local railways. This inability to adapt appears to have been due to the generational transition within the company, which ushered in an entirely new situation at the turn of the 1880s.

During the economic crisis of the 1870s, large construction companies attempted to seek out new, alternative avenues for their business. The most promising areas included water management projects, infrastructure projects involving the modernization of urban areas, and trade. Adalbert Lanna's company sought to compensate for the slump through its involvement in the river regulation projects on the Vltava and Labe (Elbe),<sup>44</sup> while in 1878 Gebrüder Klein actually managed to win one of the largest contracts in the firm's history, playing the leading role in a canal construction and land reclamation project in the northern Italian province of Ferrara. On completion of the work, Gebrüder Klein established an Italian subsidiary, L'Azienda Gallare, which operated the drainage system until the turn of the twentieth century. The second main area in which both the Kleins and Lanna invested during the recession was the timber trade. In the early 1870s, in connection with the building of the Erste Siebenbürger Eisenbahn, the Kleins became aware of huge areas of forested land in Arad County (formerly Hungary, now Romania). In 1873, Albert and Franz Klein (together with the Viennese entrepreneur Johann Sepper and Baron Peter Atzél de Borosjenő) established a timber company, and in 1879 they

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44 Ivan Jakubec, "Tři generace podnikatelské rodiny Lannů: Adalbert Lanna senior, Adalbert Lanna junior, Adalbert Franz Lanna," in *Historie a cestovní ruch. Perspektivní a podnětné spojení*, ed. Jan Štemberk and Miroslava Manová (Prague: Vysoká škola obchodní, 2009), 35–47.

purchased several estates around the town of Borosjenő (today Ineu, Romania), where they remained involved in the logging trade until the mid-1880s.<sup>45</sup>

However, the Kleins' business activities in the late 1870s and 1880s represented the swansong of this once-successful company. The family proved unable to replace the lost income from railway construction and the firm's profits gradually dwindled. The company began to owe large sums to banks, and, unlike in previous years, it also issued numerous promissory notes to other businesses. Nevertheless, Gebrüder Klein's decline was a gradual process. In the early 1880s, the company still owned assets totaling around 7 million gulden, primarily real estate (coal mines, large estates, Vienna properties), securities (mainly shares in rail companies), and money owed by various debtors.<sup>46</sup>

In addition to the recession, another major problem with which the company had to contend was the generational transition, the Achilles' heel of family businesses.<sup>47</sup> This transition came at the most inconvenient time. In 1877, Albert Klein died. The last living member of the founding generation, he had built up a network of excellent social connections and he possessed an undoubted business acumen. This loss was followed four years later by the death of Albert's nephew and long-term collaborator Franz II Klein. Their sons had all the necessary qualities to take over the family business successfully: a university education, strong financial capital, and social prestige.<sup>48</sup> However, they proved incapable of implementing the necessary innovations in the business and the company failed to adapt to the changing circumstances.<sup>49</sup> This inability to adapt exacerbated two latent problems that were also present in many other family businesses besides Gebrüder Klein: the lack of new capital, and unresolved legal and property relations among the heirs.<sup>50</sup>

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45 Krejčířík, *Kleinové*, 368–69.

46 OPA, Olomouc branch, fonds "Rodinný archiv Kleinů," cart. 1, inv. no. 35; Popelka, "Podnikání a životní styl," 45–77.

47 Andreas Paulsen, "Das 'Gesetz der dritten Generation,'" *Der praktische Betriebswirt. Die aktive betriebswirtschaftliche Zeitschrift*, May 21, 1941, 271–80; Kocka, "Unternehmer in der deutschen Industrialisierung," 53.

48 Popelka, *Zrod moderního podnikatelstva*, 147–258.

49 Petr Popelka, "Sociální začleňování špičkových měšťanských podnikatelů éry průmyslové revoluce na příkladu moravské podnikatelské rodiny Kleinů," *Slezský sborník* 108 (2010): 226–29.

50 On the situation in Moravia see Aleš Zářický, "Moravskoostravští měšťanští podnikatelé na cestě od rodinných firem k nadnárodním společnostem. K problematice změn forem podnikání na konci 19. a na počátku 20. století," in *Královská a poddanská města od své geneze ke protoindustrializaci a industrializaci*, ed. Jiří Jurok (Ostrava–Nový Jičín–Příbor: Ostravská univerzita, 2002), 221–49.

During the 1880s, the remaining family members withdrew from playing an active role in the business; this was reflected in the gradual decline of the various components of the firm's assets. The Kleins even reduced their role in activities which were clearly prospering ventures. In 1887, for example, the family withdrew from the Viennese construction firm "Gebrüder Klein, A. Schmoll und E. Gaertner," which had been established in 1869 as a joint venture combining the know-how of the Viennese structural engineers Adolph Schmoll and Ernst Gaertner with the capital provided by the Kleins. The company specialized in road and railway bridges, river and canal embankments, and quays and docks. The Kleins sold their stake in the firm at a time when it was still working on contracts to build railway bridges for the Hungarian Northern Railway.<sup>51</sup>

The inability of Gebrüder Klein to respond quickly to changing circumstances was also reflected in the company's organizational structure. Especially in capital-intensive sectors, the recession led to a significant degree of economic concentration, which also brought changes in the legal forms preferred by businesses. Former family firms, which had often operated as general partnerships, began to restructure themselves into capital-based companies, usually joint-stock companies or limited partnerships, and later also limited liability companies. In some cases these companies continued to operate in the same way as the previous family firm, merely with a change of legal status. Nevertheless, Jürgen Kocka views this change of legal form as a significant step towards the loosening of the ties between business and the family.<sup>52</sup> Gebrüder Klein remained a general partnership until the firm's eventual liquidation, and the company's iron production business changed its legal form only belatedly, at the turn of the twentieth century.

The Kleins' traditional domain—iron production—was particularly severely affected by the economic crisis. The recession of the 1870s dealt the final blow to small or obsolescent ironworks which had failed to keep step with the ongoing development of modern production technologies. By the early 1870s, the Kleins' stake in the highly viable Kladno ironworks (cofounded by the Kleins in the 1850s) had been bought out by the Credit Anstalt für Handel und Gewerbe. Not even the skilled manager Friedrich Klein was able to modernize the ironworks operated by the Zöptauer und Stefanauer Bergbau- und Eisenhütten Gewerkschaft. The rapid obsolescence of these ironworks, and their increasing

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51 Popelka, "Firma 'Gebrüder Klein' jako příklad rodinného velkopodnikání," 59–65.

52 Sachse, "Familienunternehmen in Wirtschaft und Gesellschaft," 17–18.

failure to keep step with the competition, was exacerbated from the late 1870s by a combination of factors, chief among them the family members' unwillingness to invest in modern technologies and a shortage of operating capital. In the 1880s, Friedrich Klein built coking ovens at both ironworks, despite the opposition of family members, who feared that the new coal-fired ovens would cause a slump in demand for the timber from their estates. However, this partial modernization merely postponed the rapid decline in the ironworks' fortunes. The works were located at a considerable distance from coal deposits, and they suffered from high transport costs and poor-quality iron ore. This made the operation uncompetitive, though the company's inevitable failure was staved off for several years by the introduction of a new product range. In 1901, the ironworks business was transformed into a joint-stock company (the Zöptauer und Stefanauer Bergbau- und Hütten- Aktiengesellschaft) with a basic capital of 3 million Krone (krona), but not even this step could save it. In 1910, pig iron production in Zöptau ceased, followed in 1913 by iron production at the Stefanau works. Both sites subsequently focused solely on processing iron produced elsewhere.<sup>53</sup>

By the turn of the twentieth century the Kleins' once-famous firm was reduced to a mere shadow of its former self. It ceased to exist entirely at the end of 1908, when it was officially dissolved. In the run-up to World War I, the Kleins' business activities focused solely on their hereditary estates and their holdings of shares in several joint-stock companies. By this point, the Kleins were no longer members of the Austro-Hungarian business elite.<sup>54</sup>

### *Conclusion*

In the period following the Napoleonic Wars, the Bohemian Crown Lands witnessed the emergence of its first generation of modern entrepreneurs, who made a major contribution to the industrialization of the region. Some of these entrepreneurs came from prominent dynasties of merchants and bankers (e.g. the Rothschilds, Gutmanns, Herrings, Zdekauers and Lämmels), but others worked their way up from modest beginnings as small business owners (e.g. the Liebig, Lanna and Starck families). This case study, based on an analysis of

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53 František Procházka, "Vznik a zánik železáren v Sobotíně," *Sborník krajského vlastivědného muzea Olomouc* 4 (1956–1958): 209–10; Spurný, "Friedrich Klein," 131–35.

54 Peter Eigner, *Die Konzentration der Entscheidungsmacht. Die personellen Verflechtungen zwischen den Wiener Grossbanken und Industrieaktiengesellschaften 1895–1940* (PhD diss., Univ. Wien, 1997).

the Klein family business, has demonstrated the exceptionally important role played by families in entrepreneurial activities during the era of the Industrial Revolution. These structures helped mitigate the initial risks associated with business ventures, and families also played a key role in the transfer of business know-how. In the road construction industry, in which the Kleins' family firm first rose to prominence, close cooperation among family members enabled the family to win building contracts and successfully implement large projects which would have been beyond the capabilities of individuals acting alone.

Several business strategies were used by Gebrüder Klein during the course of its existence. The core business strategy during the Industrial Revolution involved the creation of social networks, which brought major benefits both socially and economically. These networks were not generally built up in a calculated way; far more frequently they simply emerged naturally in response to the company's ongoing trajectory of development. One specific business strategy used by some entrepreneurs during the era of the "old regime" was the purchase of large estates. In the Kleins' case, the family's investment in such an estate was connected with their plans to become involved in the iron industry. However, even after the abolition of the patrimonial system, entrepreneurs continued to consider the purchase of large estates a good form of investment that represented a safe and tangible store of value and a symbol of social prestige.

Before the collapse of the "old regime" in Austria, the Kleins managed to implement effective business strategies, enabling them to respond to the changing economic circumstances in this late feudal state. Above all this involved a considerable degree of diversification in the family's business activities. Even under the founding generation, the family portfolio included investments in all of the important sectors of the burgeoning Industrial Revolution. This business strategy was implemented with demonstrable success by a number of other leading bourgeois entrepreneurs in the Bohemian Crown Lands. The Kleins were also quick to invest in securities, initially in government bonds and later in company shares. Their share portfolio was highly diversified, including railway companies, textile factories, sugar refineries and insurers.<sup>55</sup>

A major adaptation strategy involved organizational changes. These changes can be traced on two levels: firstly in terms of the changing legal forms of the businesses and secondly in terms of the professionalization of management, as companies began to appoint managers from outside the family. The transition

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55 Popelka, "Firma 'Gebrüder Klein' jako příklad rodinného velkopodnikání," 37–67.

to professional management took place relatively quickly in the Kleins' various family businesses during the 1840s and 1850s, though it was not until 1853 that the family firm itself (originally run as a loose consortium) was restructured as a general partnership, with the partners directly involved in company management. However, this change in legal form was somewhat inflexible, and it did not fully reflect the transition to a system of professional management. The family's ironworks business first existed as a family firm; it was not restructured as a joint-stock company until the turn of the twentieth century, though this was not enough to save it.

The close connection between business and the family is demonstrated by the fate of the Kleins' company during the crisis years of the 1870s. The construction company Gebrüder Klein was severely impacted by the recession, like other large family firms in the Industrial Revolution era, and although it began to implement a viable adaptation strategy, this process was interrupted by the death of key family members who had played a central role in guiding the company's development during its rise to prosperity. Their heirs were unwilling to continue in business, and this led to a gradual decline in the firm's activities, accompanied by a lack of interest in new developments and trends.

### *Archival Sources*

Opava Provincial Archives (=OPA)

Olomouc branch, fonds "Rodinný archiv Kleinů" [Klein family archives], cart. 1, inv. no. 35.

### *Bibliography*

Bergeron, Louis. "Familienstruktur und Industrieunternehmen in Frankreich (18. bis 20. Jahrhundert)." In *Familie zwischen Tradition und Moderne*, edited by Neithard Bulst, Joseph Goy, and Jochen Hooek, 225–37. Göttingen: Vandenhoeck & Ruprecht, 1981.

Berghoff, Hartmut. *Moderne Unternehmensgeschichte. Eine themen- und theorieorientierte Einführung*. Paderborn: Ferdinand Schöningh Verlag, 2004.

Bílková, Pavla. "Podnikání bratří Kleinů v Železné u Vrbna pod Pradědem (1852–1875). Neznámá kapitola z dějin severomoravské podnikatelské rodiny" [The Business Activities of the Klein Brothers in Železná near Vrbno pod Pradědem (1852–1875)].

- An Unknown Chapter from the History of a North Moravian Entrepreneurial Dynasty]. *Severní Morava* 40 (1980): 10–16.
- Boch, Rudolf. “Unternehmensnachfolge in Deutschland. Ein historischer Rückblick.” *Zeitschrift für Unternehmensgeschichte* 44 (1999): 164–71.
- Bruckmüller, Ernst. *Sozialgeschichte Österreichs*. Vienna–Munich: Herold Verlag, 2001.
- Chandler, Alfred Dupont. *Strategy and Structure. Chapters in the History of the Industrial Enterprise*. Cambridge, MA: MIT Press, 1970.
- Colli, Andrea. *The History of Family Business 1850–2000*. Cambridge: Cambridge University Press, 2003.
- Czedik, Alois. *Der Weg von und zu den Österreichischen Staatsbahnen*, vol. 1. Vienna–Teschen–Leipzig: Hofbuchdruckerei Karl Prochaska, 1913.
- Dohnal, Miloň. “Tradice železářství na Sobotínsku a podnikatelská účast hraběte Antonína Friedricha Mitrowského a prof. F. X. Riepla na vzniku a výstavbě Sobotínských železáren” [The Tradition of Iron Production in the Sobotín Area and the Role of Count Anton Friedrich Mittrowsky and Prof. F. X. Riepl in the Establishment and Construction of the Sobotín Ironworks]. *Sborník prací Filozofické fakulty Ostravské univerzity* 208 (2003): 59–67.
- Dudek, František. *Vývoj cukrovarnického průmyslu v českých zemích do roku 1872* [The Development of the Sugar Industry in the Bohemian Crown Lands up to 1872]. Prague: Academia, 1979.
- Eigner, Peter. *Die Konzentration der Entscheidungsmacht. Die personellen Verflechtungen zwischen den Wiener Grossbanken und Industrieaktiengesellschaften 1895–1940*. PhD diss. Univ. Wien, 1997.
- Geschichte der Eisenbahnen der österreichisch-ungarischen Monarchie*. Vienna–Teschen–Leipzig: Hofbuchdruckerei Karl Prochaska, 1898.
- Jakubec, Ivan, and Zdeněk Jindra, eds. *Dějiny hospodářství českých zemí od počátků industrializace do konce habsburské monarchie* [Economic History of the Bohemian Crown Lands from the Beginnings of Industrialization to the End of the Habsburg Monarchy]. Prague: Karolinum, 2006.
- Jakubec, Ivan. “Tři generace podnikatelské rodiny Lannů: Adalbert Lanna senior, Adalbert Lanna junior, Adalbert Franz Lanna” [Three Generations of the Lanna Family of Entrepreneurs: Adalbert Lanna Sr., Adalbert Lanna Jr., Adalbert Franz Lanna]. In *Historie a cestovní ruch. Perspektivní a podnětné spojení* [History and Tourism. A Stimulating Connection with Future Perspectives], edited by Jan Štemberk and Miroslava Manová, 35–47. Prague: Vysoká škola obchodní, 2009.
- James, Harold. *Family Capitalism. Wendels, Haniels, Falcks and the Continental European Model*. Cambridge–London: Belknap Press, 2006.

- Janák, Jan. “Počátky podnikatelské aktivity české buržoasie na Moravě (na příkladu cukrovarnictví)” [The Early Business Activities of the Czech Bourgeoisie in Moravia (The Example of the Sugar Industry)]. *Časopis Matice moravské* 97 (1978): 291–332.
- Janák, Jan. *Hospodářský rozmach Moravy 1750–1918* [Moravia’s Economic Boom 1750–1918]. Brno: Matice moravská, 1999.
- Jančík, Drahomír, and Barbora Štolleová, eds. *Pivo, zbraně i tvarůžky. Podnikatelé meziválečného Československa ve víru konjunktury a krizí* [Beer, Weapons and Cheese. Entrepreneurs in Inter-war Czechoslovakia amid Boom and Crisis]. Prague: Maxdorf, 2014.
- Kaelble, Hartmut. *Soziale Mobilität und Chancengleichheit im 19. und 20. Jahrhundert*. Göttingen: Vandenhoeck & Ruprecht, 1983.
- Kaelble, Hartmut, and Hasso Spode. “Sozialstruktur und Lebensweisen deutscher Unternehmer 1907–1927.” *Scripta Mercaturae* 24 (1990): 132–78.
- Klíma, Arnošt. “The Beginning of the Machine Building Industry in the Czech Lands in the First Half of the nineteenth Century.” *The Journal of European Economic History* 4 (1975): 49–78.
- Klíma, Arnošt. “Industrial Growth and Entrepreneurship in the Early Stage of Industrialization in the Czech Lands.” *The Journal of European Economic History* 6 (1977): 549–74.
- Kocka, Jürgen. *Unternehmer in der deutschen Industrialisierung*. Göttingen: Vandenhoeck & Ruprecht, 1975.
- Kocka, Jürgen. “Familie, Unternehmer und Kapitalismus. An Beispielen aus der früher deutschen Industrialisierung.” *Zeitschrift für Unternehmensgeschichte* 24 (1979): 99–135.
- Krejčířík, Mojmír. *Kleinové. Historie moravské podnikatelské rodiny* [The Kleins. History of a Moravian Entrepreneurial Family]. Brno: Archiv města Brna, 2009.
- Kruliš, Ivo. *Sto let kladenských železáren* [One Hundred Years of the Kladno Ironworks]. Prague: Práce, 1959.
- Matějček, Jiří. “Majitelé a podnikatelé v uhelném hornictví na území dnešního Československa v 19. století” [Owners and Entrepreneurs in the Coal Mining Industry on the Territory of Today’s Czechoslovakia during the Nineteenth Century]. In *K hospodářským a sociálním dějinám 19. a 20. století* [On Economic and Social History in the Nineteenth and Twentieth Centuries], vol. 1, edited by Jana Macháčová and Jiří Matějček, 5–145. Opava: Slezský ústav ČSAV, 1991.
- Matějček, Jiří. “Poznámky k vývoji sociální skupiny průmyslových podnikatelů a vlastníků v českých zemích v 19. století” [Notes on the Development of the Social Group of Industrial Entrepreneurs and Owners in the Bohemian Crown Lands in the Nineteenth Century]. *Studie k sociálním dějinám 19. století* 5 (1995): 83–168.



- Matějček, Jiří. “Majetky, důchody a investiční možnosti v českých zemích v 19. století” [Property, Income and Investment Opportunities in the Bohemian Crown Lands during the Nineteenth Century]. *Studie k sociálním dějinám 19. století* 6 (1996): 101–240.
- Matis, Herbert. *Österreichs Wirtschaft 1848–1913*. Berlin: Duncker & Humblot, 1972.
- Mechtler, Paul. “Bauunternehmer und Arbeiter in der ersten Staatsbahnperiode Österreichs (1842–1858).” *Österreich in Geschichte und Literatur* 12 (1968): 317–30.
- Myška, Milan. *Die mährisch-schlesische Eisenindustrie in der industriellen Revolution*. Prague: SPN, 1970.
- Myška, Milan. “Das Unternehmertum im Eisenhüttenwesen in den böhmischen Ländern während der industriellen Revolution.” *Zeitschrift für Unternehmensgeschichte* 28 (1983): 98–119.
- Myška, Milan. “Šance a bariéry měšťanského podnikání v báňském a hutním průmyslu za průmyslové revoluce (na příkladu olomouckého podnikatele Josefa Zwierziny)” [Opportunities and Barriers to Bourgeois Entrepreneurs in the Mining and Metallurgical Industries during the Industrial Revolution (The Example of the Olomouc Entrepreneur Josef Zwierzina)]. *Vlastivědný věstník moravský* 36 (1984): 261–76.
- Myška, Milan. “Vliv výstavby železniční sítě na rozvoj hutnictví železa v habsburské monarchii a v českých zemích (1830–1914)” [The Influence of the Construction of the Railway Network on the Development of the Iron Industry in the Habsburg Monarchy and the Bohemian Crown Lands (1830–1914)]. *Rozprawy Národního technického muzea* 118 (1989): 104–86.
- Myška, Milan. “Ostravská epizoda v počátcích podnikatelské činnosti bratří Kleinů” [The Ostrava Episode in the Early Business Activities of the Klein Brothers]. *Slezský sborník* 90 (1992): 189–201.
- Myška, Milan. *Proto-industriální železářství v českých zemích. Roboty a jiné nucené práce v železářských manufakturách* [The Proto-industrial Iron Industry in the Bohemian Crown Lands. Fronarbeit and Other Forced Labour in Iron Industry Workshops]. Ostrava: Ostravská univerzita, 1992.
- Myška, Milan. “Slezská podnikatelská rodina Grohmannů. Pokus o kolektivní biogram dvou generací podnikatelské rodiny” [The Grohmanns, a Silesian Family of Entrepreneurs. Attempt at a Collective Biography of two Generations of an Entrepreneurial Family]. *Slezský sborník* 92 (1994): 176–94.
- Myška, Milan. “The Industrial Revolution: Bohemia, Moravia and Silesia.” In *Industrial Revolution in National Context*, edited by Mikuláš Teich and R. M. Porter, 247–67. Cambridge: Cambridge University Press, 1996.

- Myška, Milan. “Hermann Dietrich Lindheim. Kladský podnikatel a počátky moderní industrializace v habsburské monarchii” [Hermann Dietrich Lindheim. An Entrepreneur from Glatz and the Beginnings of Modern Industrialization in the Habsburg Monarchy]. In idem. *Rytíři průmyslové revoluce. Šest studií k dějinám podnikatelů v českých zemích* [Knights of the Industrial Revolution. Six Studies on the History of Entrepreneurs in the Bohemian Crown Lands], 172–210. Ostrava: Ostravská univerzita, 1997.
- Myška, Milan. *Rytíři průmyslové revoluce. Šest studií k dějinám podnikatelů v českých zemích* [Knights of the Industrial Revolution. Six Studies on the History of Entrepreneurs in the Bohemian Crown Lands]. Ostrava: Ostravská univerzita, 1997.
- Myška, Milan. “Eisenbahnen – Eisenhüttenindustrie – Wirtschaftswachstum: Der Einfluss des Ausbaus des Eisenbahnnetzes auf die Entwicklung des Eisenhüttenwesens in der Habsburgermonarchie 1830–1914.” *Prager wirtschafts- und sozialhistorische Mitteilungen* 7 (2004/2005): 9–47.
- Myška, Milan, et al. *Encyklopedie podnikatelů Čech, Moravy a Slezska* [Encyclopedia of Entrepreneurs in Bohemia, Moravia and Silesia]. Ostrava: Ostravská univerzita, 2008.
- Myška, Milan. “Tlach und Keil. Kapitola z historie slezské rodinné firmy éry industrializace (1809–1918)” [Tlach und Keil. A Chapter from the History of a Silesian Family Firm during the Era of Industrialization (1809–1918)]. *Hospodářské dějiny/Economic history* 26, no.1 (2011): 68–90.
- Niel, Alfred. “Die österreichischen Eisenbahnen von der zweiten Staatsbahnperiode bis zum Ersten Weltkrieg.” In *Verkehrswege und Eisenbahnen*, edited by Karl Gutkas and Ernst Bruckmüller, 87–99. Vienna: Institut für Österreichkunde, 1989.
- Paulsen, Andreas. “Das ‘Gesetz der dritten Generation.’” *Der praktische Betriebswirt. Die aktive betriebswirtschaftliche Zeitschrift*. May 21, 1941. 271–80.
- Pierenkemper, Toni. *Unternehmensgeschichte. Eine Einführung in ihre Methoden und Ergebnisse*. Stuttgart: Franz Steiner Verlag, 2000.
- Pierenkemper, Toni. “Entstehung und Wandel der deutschen Unternehmerschaft im 19. und 20. Jahrhundert.” *Prager wirtschafts- und sozialhistorische Mitteilungen* 8 (2007/2008): 79–94.
- Pokluda, Zdeněk. “Pronikání buržoasie do sféry deskového velkostatkářského vlastnictví na Moravě v polovině 19. století” [The Penetration of the Bourgeoisie into the Ownership of Large Estates in Moravia during the Mid-nineteenth Century]. *Vlastivědný věstník moravský* 33 (1981): 165–78.
- Popelka, Petr. “Podnikání a životní styl špičkových měšťanských podnikatelů éry průmyslové revoluce ve světle pozůstalostních spisů. Příklad moravské

- velkopodnikatelské rody Kleinů” [The Business Activities and Lifestyle of Leading Bourgeois Entrepreneurs during the Industrial Revolution Era in the Light of Probate Documentation. The Example of the Klein Family of Entrepreneurs from Moravia]. *Časopis Matice moravské* 129 (2010): 45–77.
- Popelka, Petr. “Sociální začleňování špičkových měšťanských podnikatelů éry průmyslové revoluce na příkladu moravské podnikatelské rodiny Kleinů” [The social Integration of Leading Bourgeois Entrepreneurs in the Industrial Revolution Era: the Example of the Klein Family from Moravia]. *Slezský sborník* 108 (2010): 204–33.
- Popelka, Petr. “Firma ‘Gebrüder Klein’ jako příklad rodinného velkopodnikání éry průmyslové revoluce” [The Gebrüder Klein Company as an Example of a Large-scale Family Business in the Industrial Revolution Era]. *Hospodářské dějiny/Economic History* 26, no. 1 (2011): 37–64.
- Popelka, Petr. *Zrod moderního podnikatelstva. Bratři Kleinové a podnikatelé v českých zemích a Rakouském císařství v éře kapitalistické industrializace* [The Birth of the Modern Entrepreneurial Class. The Klein Brothers and Entrepreneurs in the Bohemian Crown Lands and the Austrian Empire during the Era of Capitalist Industrialization]. Ostrava: Ostravská univerzita, 2011.
- Popelka, Petr. *Zrod moderní dopravy. Modernizace dopravní infrastruktury v Rakouském Slezsku do vypuknutí první světové války* [The Birth of Modern Transport. The Modernization of Transport Infrastructure in Austrian Silesia up to the Outbreak of World War I]. Ostrava: Ostravská univerzita, 2013.
- Priemel, Kim Christian. “Heldenepos und bürgerliches Trauerspiel. Unternehmensgeschichte im generationellen Paradigma.” In *Generation als Erzählung. Neue Perspektiven auf ein kulturelles Deutungsmuster*, edited by Björn Bohnenkamp, Till Manning, and Eva Maria Silies, 107–28. Göttingen: Wallstein Verlag, 2009.
- Procházka, František. “Vznik a zánik železáren v Sobotíně” [The Beginning and End of the Ironworks in Sobotín]. *Sborník krajského vlastivědného muzea Olomouc* 4 (1956–1958): 2191–212.
- Reisinger, Nikolaus. “Franz Riepl und die Anfänge des österreichischen Eisenbahnwesens.” In *Forschungen zur Geschichte des Alpen-Adria-Raumes*, edited by Herwig Ebner, 307–32. Graz: Karl-Franzens-Universität Graz, 1997.
- Reisinger, Nikolaus. *Franz Riepl und seine Bedeutung für die Entwicklung des österreichischen Eisenbahnwesens*. PhD diss., Karl-Franzens-Universität Graz, 1999.
- Sachse, Wieland. “Familienunternehmen in Wirtschaft und Gesellschaft bis zur Mitte des 20. Jahrhunderts. Ein historischer Überblick.” *Zeitschrift für Unternehmensgeschichte* 36 (1991): 9–25.

- Schäfer, Michael. *Familienunternehmen und Unternehmerfamilien. Zur Sozial- und Wirtschaftsgeschichte der sächsischen Unternehmer 1850–1940*. Munich: C.H. Beck Verlag, 2007.
- Smutný, Bohumír. “Formování podnikatelské buržoasie ve lnářském průmyslu v Podkrkonoší” [The Formation of the Entrepreneurial Bourgeoisie in the Linen Industry of the Krkonoše Foothills Region]. *Lnářský průmysl* 4 (1981): 95–116.
- Smutný, Bohumír. “Pokus o typologii lnářských podnikatelů na Trutnovsku (na příkladu podnikatelských rodin Klugů a Etrichů)” [Attempt at a Typology of Linen Industry Entrepreneurs in the Trutnov Region (the Examples of the Klug and Etrich Families)]. In *Podnikatelstvo jako předmět historického výzkumu* [The Entrepreneurial Class as a Subject of Historical Research], edited by Milan Myška, 135–43. Ostrava: Ostravská univerzita, 1994.
- Smutný, Bohumír. *Potštejnská manufaktura na česko-kladském pomezí. Studie o východočeském plátenictví v letech 1754–1761* [The Potštejn Manufacture in the Bohemian-Silesian Border Region. A Study of East Bohemian Cloth Manufacturing in 1754–1761]. Hradec Králové: Vysoká škola pedagogická, 2002.
- Smutný, Bohumír. “Hrabata pláteníky a pláteníci barony. Společenské a sociální skupiny v čele českého a moravského plátenictví ve 2. polovině 18. století” [Social Elite of the Bohemian and Moravian Linen Industry in the Second Half of the Eighteenth Century]. In *Šlechtic podnikatelem – podnikatel šlechticem. Šlechta a podnikání v českých zemích v 18.–19. století* [Noblemen as Entrepreneurs – Entrepreneurs as Noblemen. The Nobility and Entrepreneurship in the Bohemian Crown Lands during the Eighteenth and Nineteenth Centuries], edited by Jiří Brňovják and Aleš Zářický, 49–61. Ostrava: Ostravská univerzita, 2008.
- Smutný, Bohumír. *Brněnští podnikatelé a jejich podniky (1764–1948)* [Brno Entrepreneurs and their Companies]. Brno: Statutární město Brno, 2012.
- Spurný, František. “Příspěvek k dějinám sobotínských železáren v 50. – 70. letech 19. století. Biografie Aloise Scholze” [On the History of the Sobotín Ironworks in the 1850s–1870s]. *Rozpravy Národního technického muzea* 77 (1980): 81–90.
- Spurný, František. “Friedrich Klein a poslední pokusy o záchranu severomoravského železářství” [Friedrich Klein and the Last Attempts at Rescuing a North Moravian Ironworks]. *Rozpravy Národního technického muzea* 82 (1981): 131–35.
- Štaif, Jiří, ed. *Moderní podnikatelské elity. Metody a perspektivy bádání* [Modern Entrepreneurial Elites. Methods and Perspectives of Research]. Prague: Dokořán, 2007.
- Štěpán, Václav. “Důlní podnikání bratří Kleinů v Ostravě a montanista Anton Péch (1822–1895)” [The Klein Brothers’ Coal Mining Business in Ostrava and the Mining

- expert Anton Pěch]. *Ostrava. Příspěvky ke dějinám a současnosti Ostravy a Ostravska* 18 (1997): 293–307.
- von Saldern, Adelheid. *Netzwerkökonomie im frühen 19. Jahrhundert. Das Beispiel der Schoeller-Häuser*. Stuttgart: Franz Steiner Verlag, 2009.
- Wehler, Hans Ulrich. *Deutsche Gesellschaftsgeschichte* III. *Von der "Deutschen Doppelrevolution" bis zum Beginn des Ersten Weltkrieges 1849–1914*. Munich: C.H. Beck, 1995.
- Zářický, Aleš. "Moravskoostravští měšťanští podnikatelé na cestě od rodinných firem k nadnárodním společnostem. K problematice změn forem podnikání na konci 19. a na počátku 20. století" [Bourgeois Entrepreneurs in Moravian Ostrava on the Path from Family Firms to Multinational Companies. On Issues of Changes in Forms of Business in the Late Nineteenth and Early Twentieth Century]. In *Královská a poddanská města od své geneze ke protoindustrializaci a industrializaci* [Royal and Subject Towns from Their Genesis to Proto-industrialization and Industrialization], edited by Jiří Jurok, 221–49. Ostrava–Nový Jičín–Příbor: Ostravská univerzita, 2002.
- Zeumer, Sandra. *Die Nachfolge in Familienunternehmen. Drei Fallbeispiele aus dem Bergischen Land im 19. und 20. Jahrhundert*. Stuttgart: Franz Steiner Verlag, 2012.

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