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The Story of Jablonec Costume Jewelry

Petr Nový

Although historically there were centers of costume jewelry production with export potential in several countries around the world, the widest range of this assortment was produced in the north of today's Czech Republic, in the Jizera Mountains and their surroundings. In this region, an area of only 440 square km, imported Italian, French, and German technological know-how connected with the domestic Bohemian glassmaking tradition and developed further thanks to the activities of ambitious domestic and foreign traders. During the nineteenth century, the town of Jablonec nad Nisou (in German Gablonz an der Neiße) became the center of a Jablonec/Gablonz costume jewelry tradition that was exported all over the world. In the years between the First and Second World Wars, up to 15–20 percent of the world's costume jewelry was produced in the Jizera Mountains, representing 30–50 percent of the value of global trade in jewelry during this same period. From the eighteenth century, the Jablonec global trade and production phenomenon included glass imitations of precious stones, soon followed by glass beads, seed beads, buttons, metal costume jewelry, plastic jewelry, and glass bracelets called bangles.

This study considers the history and development of Jablonec costume jewelry, emphasizing its fundamental milestones and features until the mid-twentieth century, when production and trade came to be monopolized by the state. It mainly draws upon primary and secondary German and Czech literature, which is difficult to access in English-speaking countries.

LTHOUGH the history of Jablonec costume jewelry might appear an attractive topic for historians and aestheticians from many fields, few have actually devoted any attention to it from a scholarly perspective and using the appropriate resources. If we disregard the work of regional historians Adolf Benda and Adolf Lilie, who were naturally unable to avoid the subject of costume jewelry, the man who initiated systematic research into the topic is regional historian Karl Richard Fischer. His work, from the first third of the twentieth century, written in German, retains its informative value to this day. His efforts were followed after the Second World War, also in German, by scholars such as Josef Meissner, Karl Zenkner, and Rudolf Zitte.1

In the Czech region, it was not until the 1960s that greater attention was devoted to the history of costume jewelry. Economist Jaroslav Kubálek produced a fundamental piece of work which was, unfortunately, not published. It became

better known only after an extensive study conducted by historian Jan Klepl, and in particular, a monograph written by the director of the Muzeum skla a bižuterie v Jablonci nad Nisou (Museum of Glass and Jewelry in Jablonec nad Nisou), Stanislav Urban, and curator Zuzana Pešatová.² Given its specialization, this institution logically became the hub of research on the topic.³

^{1.} Cf. Benda 1877; Lilie 1895; Fischer 1912. Zenkner 1983; Zitte 1958. Josef Meissner mainly devoted his attention to the genealogy of entrepreneurs. His works were not printed and are stored at the Národní technické muzeum (National Technical Museum) in Prague and at the Muzeum skla a bižuterie v Jablonci nad Nisou (MSB).

^{2.} Kubálek 1960; Klepl 1967; Urban and Pešatová 1965.

^{3.} The MSB, under the auspices of the Ministry of Culture of the Czech Republic since 2003, holds the largest collection of costume jewelry in the world (more than 12 million pieces) and one of the largest public collections of glass in Europe (more than ten thousand reference numbers and around sixteen thousand Christmas ornaments). It builds on the collection institution founded in Jablonec in 1904. See Nový 2019.

Although a number of major studies were compiled from the 1960s to the 1980s by a diverse range of authors, based on research in the museum's *Ars vitraria* yearbook, more frequent and more extensive works were not written until the 1990s (although many of these were not published). They were written by archivists at the Jablonec museum, Jiří Procházka and Ladislav Žák. At that time, foreign historians, such as Waltraud Neuwirth and Sibylle Jargstorf, also began devoting attention to decorative goods from North Bohemia.⁴

The first modern syntheses on the development and history of Jablonec costume jewelry were published by the author of this study, who has been working at the Muzeum skla a bižuterie v Jablonci nad Nisou since 1997. The first of those papers discussed the overall historical development of the industry, and another focused on the era of the First Czechoslovak Republic (1918–1938). Over the past 20 years, a number of other specialized studies and catalogues have been published in the Czech Republic that examine Jablonec costume jewelry from various points of view. A group of authors led by Ladislav Žák summarized the evolution of the technology for producing costume jewelry. Publications brought out by the Muzeum skla a bižuterie v Jablonci nad Nisou in English are also worth mentioning.6

A number of university theses also saw the light of day in the Czech Republic after the year 2000.⁷ Research interest in Jablonec costume jewelry abroad is not high, the exception being a revelatory dissertation by ethnographer Ulf Vierke defended at the university in Bayreuth, Germany.⁸

The first all-glass beads appeared in East and Southeast Asia and North Africa sometime after 1600 BCE. Soon thereafter, in the Middle to Late Bronze Age, they also reached the territory of today's Czech Republic as imports from the Mediterranean. The Celts began making their own glass decorations in Central Europe between the third and first centuries BCE, although, according to what we now know, they did not melt the glass themselves but remelted and shaped imported materials. So-called ring beads and bracelets were made of clear and colored glass. Archaeologists even discovered the largest site of Celtic glass-bead production in Moravia, in Němčice nad Hanou. 10

After the end of the Celtic civilization, the age of imports returned. It lasted probably until the peak of the Middle Ages when, in the thirteenth century, the Bohemian Forest in South Bohemia became a production center for glass rosary beads due to its relative proximity to Nuremberg, one of the main inland trade junctions on the continent.11 At that time, the center of glass costume jewelry production—beads and imitation gemstones—was the Venetian island of Murano in northern Italy (as it was for hollow-ware, i.e., blown utility glass), where the legacy of antiquity and the Classical era was concentrated, maintained, and developed.¹² New ideas were spreading through trade to the whole world, and the Kingdom of Bohemia played an important role in the effort.

THE BEGINNINGS OF GLASS COSTUME JEWELRY PRODUCTION IN BOHEMIA (UNTIL THE END OF THE EIGHTEENTH CENTURY)

^{4.} The MSB published the *Ars vitraria* yearbook between 1966 and 1989. Studies written in this period include Procházka 1992; Žák 1991; Neuwirth 1994; Jargstorf 1993.

^{5.} Nový 2008, 2018.

^{6.} Žák and others 2003; Kybalová, Nový, and Sirůčková 2007; Nový and Provazníková 2008; Hrušková and Růžičková 2015; Nový, Krupková, and Fendrichová 2018; Hrušková, Nováková, and Nový 2020.

^{7.} For example, Bareš 2006.

^{8.} Vierke 2006.

^{9.} Dubin 2015, 37-44; Venclová 2005.

^{10.} Venclová 2016.

^{11.} Černá and others 2005.

^{12.} Cf. Sarpellon 2018; Gennett 2013.

A fundamental turning point came in the second half of the seventeenth century with the Venetian invention of a special glass recipe (paste) that proved to be the ideal material for making imitation diamonds and other gemstones. At that time, cut, lampworked, and blown glass beads were also made in large numbers in Murano. It was merely a matter of time before the competition obtained the secret of these lucrative products.

Two master glassmakers from opposite sides of the country first began experimenting with Venetian beads in Bohemia in the 1680s—Michael Müller in the south, Johann Kaspar Kittel in the north. Kittel was making glass beads of all colors at his glassworks not far from Chřibská/Kreibitz sometime around 1685. He was sellng them as necklaces around Bohemia and Saxony or to wholesale partners in Hamburg, and from there they traveled around the world. The Kingdom of Bohemia was by then an inherited part of the Habsburg monarchy, under whose control it would remain until the end of the First World War.¹⁴

Glass imitation gemstones (costume jewelry stones) were first cut in the final third of the seventeenth century, again in North Bohemia, this time in Turnov. It was linguistically a Czech town with a tradition of stoneworking that stretched back many years thanks to its nearby semiprecious stone deposits. The demand was so high that various foreign merchants began supplying glass bought in Venice to be worked in Turnov.

Evidently, we also have them to thank for initiating the production of paste in Turnov. The glass stones were soon complemented by cut beads. It must have been a very profitable business because a guild was established in Turnov in 1715 to bring together 70 master glassmakers, 20 journeymen, and 20 apprentices involved in the melting and cutting of paste for jewelry and precious stones. From the outset, however, glass was melted to imitate not only diamonds, but also topaz, aquamarine, sapphire, lapis lazuli, turquoise, hyacinth, amethyst, carnelian, opal, olivine, and emerald. One innovation that the Venetians had never seen was paste that imitated the popular Bohemian garnet to perfection. ¹⁵

Demand for Bohemian costume jewelry stones and beads continued to rise, meaning that their production and the accompanying working knowledge soon spread to nearby areas and then further to the north, to the Jizera Mountains. The people of the Jizera Mountains were given work by foreign merchants and by the associations of commercial companies in Turnov. Among the most prominent in the second half of the eighteenth century were the companies of Albert Wander, Josef Vorel, Jan Špís, and Václav Svoboda-Sobotecký, who operated warehouses in Nuremberg, Schwäbisch Gmünd, Milan, Venice, and Rome. The first references to exports from Turnov, however, come from as far back as 1720. The profitable trade in costume jewelry was also taken up by a Bohemian-German company in the area of Nový Bor (Haida) that

^{13.} Paste (or "paste for jewelry," or "composition glass," as it was referred to by the Bohemian costume jewelry industry itself) was from the seventeenth century to the mid-eighteenth century a sodium-lead free glass mass. After 1758, its composition changed to a potassium-lead glass mass with a high PbO content of 35–50 percent in a three-component paste (sand, fluxes, and stabilizers, including fines and dyes). The very expression "the composition" invokes the work of laboratory technicians who "composed" individual color shades using metal salts. High-lead composite glass is characterized by low meltability (1,250–1,300°C), color purity, high durability, and high gloss after processing. The paste was originally fired in sealed clay jugs set in small kilns, later in covered fireclay pans that could

hold 50–80 kg of glass. The actual smelting process of heating the furnace with wood took 27–48 hours, and the opening of the furnace had to be walled up after the materials were placed within. The glass mass would cool for three days, then the oven would be opened and the pans broken. The molten paste would be cleaned and divided into smaller pieces, from which rods or sticks were made after further heating. The production of composite glass is significantly more expensive than ordinary sodium-potassium glass, because of the cost of the raw materials and the relatively small amount of the resulting glass; cf. Hozda 2003; Nový 2008, 52; *Britannica Academic*, s.v. "Paste."

^{14.} Nový 2008, 15.

^{15.} Varcl 1949; Zenkner 1983, 106; Knob 1968; Urban 1972.

had traditionally focused on hollow-ware, mirrors, and lighting.¹⁶

These skilled wholesalers established themselves in the world market thanks to the commercial success of Bohemian crystal glass. They were operating their own sales branches in German Hanseatic cities or on the Iberian Peninsula. This brought new sales opportunities to the export of Jablonec jewelry. The popularity of Bohemian glass costume jewelry and its undoubted commercial success were based on its broad range and low price at a quality comparable with that of Italian production. This would have been impossible to achieve without technological innovation, specifically the invention of pressing pliers by the Turnov burghers and brothers Václav and František Fischer sometime around 1750. Until then, paste had been shaped exclusively by hand. The wooden pliers with metal pressers made it possible to pre-shape a heated glass rod with one squeeze so that all that remained was the final cutting. This was the only way for a single cutter to process up to one hundred small costume jewelry stones a day at the end of the 1750s. In 1758 there were even plans to open a factory in Turnov to make paste and export it independently, an idea hatched by merchants Ian V. Modestin and Josef Zich, although this never came to fruition. Producers in Bohemia soon had to deal with a change to the paste recipe made necessary when a new type of more effective paste with a high lead content, created by Viennese jeweler Joseph Strasser, was introduced to the market in Paris in 1760.¹⁷

While the cutting of pre-pressed semifinished products was the primary method of making Bohemian costume jewelry stones and beads, there were also types that were shaped by traditional lampworking. Pressed or lampworked glass buttons—essentially glass stones set into metal mounts—were an entirely new range in the 1760s. Traders from Nuremberg and Augsburg placed the lion's share of the orders for these.¹⁸

The successful development of the costume jewelry business in North Bohemia is also verified in statistics from the final third of the eighteenth century. According to these, the glass costume jewelry exported from the Kingdom of Bohemia in the year 1772 alone accounted for more than 113 thousand guldens, around a third of the value of exports of glass products as a whole. Whereas some 188 master glassmakers, 90 journeymen, and 10 apprentices worked in Turnov alone in 1778, a total of 734 people (including 511 master glassmakers) worked in the cutting of costume jewelry and gemstones in the whole of Bohemia eight years later, 577 of which (443 master glassmakers, 43 journeymen, and 91 assistants) worked in the Boleslav region, to which Turnov belonged, and the increasingly important Hodkovice nad Mohelkou/ Liebenau and Jablonec area.¹⁹

Among the first demonstrably successful merchants in glass costume jewelry in Hodkovice was Hans Johann Blaschka (from the 1750s), and in the Jablonec area, Johann Wenzel Hübner in Vrkoslavice/Seidenschwanz (from as early as the 1730s). He supplied his goods directly to goldsmiths in Prague, Vienna, and elsewhere. Jablonec began playing a more significant role in the second half of the eighteenth century, when the Unger family, the Weiss family, and, a little later, Johann Franz Schwan and Franz and Josef Dressler all operated there. The Czech village of Zásada had a special position when it came to trading in costume jewelry. Standing out among the numerous exporters and door-to-door merchants was Jan Sourek, who had successfully sold glass products in the German and Italian lands before the mid-eighteenth century.²⁰

The first paste glassworks in the Jizera Mountains was opened in Jablonec in 1785 by trader Bernard Unger, who was familiar with Venetian

^{16.} Nový 2016, 2005.

^{17.} Nový 2008, 18; Nožička 1966.

^{18.} Kybalová, Nový, and Sirůčková 2007, 60-61.

^{19.} Riegger 1788, 55–124; Klíma 1955, 159; Nový 2008, 18–19.

^{20.} Nový 2007a. It was from this Blaschka family that the famous producers of models of products of nature made of lampworked glass also came, Leopold and Rudolf Blaschka; cf. Rossi-Wilcox and Whitehouse 2007; Nový 2000; Nový 2006; Nový 2011, 5–6; Brožová 1973.

production. And it is this well-traveled man, together with Johan Leopold Riedel, the owner of glassworks in Kristiánov/Christiansthal and Nová Louka/Neuwiese (and his relative Johann Christoph Riedel, who lived in northern Italy between 1752 and 1764), who is credited with discovering the ingredients in what is essentially the common colored potash glass that was ideal for the production of glass costume jewelry.²¹

This was truly a technological revolution and for the glassworks a more-than-welcome way out of the crisis caused by poor sales of hollowware. At the same time, it was an innovation that gave Jablonec jewelry a major advantage over its Italian and German competition, whose makers did not know this procedure and could not match the number of colors and color shades offered by glassworks from the Jizera Mountains. Paste glass thus lost its monopoly and was reserved in Jablonec jewelry only for the production of luxurious and perfect glass imitations of precious stones. Nonetheless, the high demand for glass costume jewelry and the limited number of glassworks meant that the number of paste glassworks in the region continued to rise until the 1860s.²²

THE PATH TO WORLD RENOWN (1800–1850)

The Jizera Mountains and their foothills became the main center of costume jewelry production in Bohemia in the first half of the nineteenth century. In addition to the glass products, metal ornaments also began to be produced. The local glassworks focused on the production of glass rods, thin glass "sticks," and tubes (the basic semifinished products for production). Numerous cutting shops began springing up beside little rivers and streams. Pressing shops (with their typical chimneys) for the pressing of glass goods started to appear in the villages, and mountain cottages were transformed into home workshops.

In the Jizera Mountains, more than six thousand people were involved in the production, refining, and trading of glass and costume jewelry in the region at the end of the 1820s, and their



FIG. 1. Rings. Pressed and hand cut jewelry stones, red brass. Possibly Josef Pfeiffer & Co., Jablonec nad Nisou, for the Egidy Kirner Söhne Company, Prague. 1833. Diam. 2.2 cm. MSB Collection, B3842, B3869, B3841. (Photo: Aleš Kosina)

products were sold quite literally all over the world. The largest direct customers were cities in Germany and Italy, as well as France, the Netherlands, Great Britain, Russia, the Ottoman Empire, and what is now Poland (Łódź, Szczecin). Goods also traveled to North and East Africa, Asia (British India), South America (what is now Peru, Mexico, Brazil, Argentina, and Colombia), North America (the trade centers of Philadelphia, New York, and Baltimore), and the Caribbean (Haiti), mostly through partner companies.²³ According to data published in 1831 and 1836, glass costume jewelry valued at two million guldens was made in Bohemia each year; of that, one million guldens came from the Jablonec area and the Jizera Mountains (Fig. 1).²⁴

^{21.} Hozda 2003, 355–356. With its physicochemical properties, jewelry glass must comply with a wider range of other processing technologies, such as the high reproducibility of precise saturations and the stability of color tones during subsequent thermoforming. Also important is that it can be polished at various temperatures and that its surfaces can be subjected to other physicochemical treatments.

^{22.} Nový 2008, 23-24.

^{23.} Czoernig 1829, 199-216.

^{24.} Zippe 1834; Kreutzberg 1836, 26.



FIG. 2. Metal pressing pliers. Jablonec area (detail). After 1900. L. 43 cm. MSB Collection, N516. (Photo: Aleš Kosina)

The most significant product range was that of cut beads, which were sold either as readymade decorations (necklaces in particular) or threaded in "Bunt" (bundles) of 1,200 pieces. In his work from 1829, the topographer Czeornig claims that the Jablonec area practically had a world monopoly on this type of product because the hand cutting of beads in bevels gave them a shine and sparkle that the competition from Venice, Thuringia, Bavaria, and Russia could not match. Lampworked, blown, and cut beads were made in the region at a faster rate and to a higher quality from the 1830s onward thanks to a new cutting device (meaning that it was no longer necessary to cut the glass tubes by hand with a knife).²⁵

The successful development of Jablonec costume jewelry and its export potential were pushed along by other fundamental technological innovations. The quality of pressed costume jewelry rose again after the introduction of full-metal pliers to the work process in the 1820s (Fig. 2). This was of particular importance to the increasingly popular buttons. Local hollowware engravers, suffering from a lack of orders, began devoting their time to the engraving of pressing dies for the buttons. Of these new metal engravers, Johann Kittel and Emanuel Kittel from Kokonín/Kukan soon came to the fore. There was another fundamental improvement

associated with buttons: the invention of a way to solder a metal eyelet (used to attach the button onto clothing) directly to the glass (around 1829), which allowed the creation of luxurious, full-glass cut buttons.²⁶

The range of colors in which Jablonec costume jewelry was made also rose dramatically. During the 1830s, for example, there was fasionable glass which imitated semiprecious stones (agate, jasper). Then, in 1844 (at the latest), the secrets of melting Venetian aventurine were unlocked. The Jablonec company Josef Pfeiffer & Co. even brought glassmakers from Murano to its paste glassworks in Jablonec to practice this speciality.²⁷

One absolute novelty in the region was metal costume jewelry, that is, decorative products made of gold-plated base metals, known at that time as "Nuremberg goods." At the turn of the eighteenth and nineteenth centuries, countless metal costume jewelry makers ("girdlers") had initially been involved in the production of such goods. However, their production quality only became competitive abroad with the arrival of experienced artisans from the Rhine area in Germany, the first of whom Philip Pfeiffer welcomed to his workshop in 1817. They brought with them new know-how, such as the art of goldplating in fire and working a thin sheet of brass and tombac (a mixture of copper and tin). When the Gürtler Gewerbs Mittel (Society of Gilders) was established in Jablonec in 1839, Peter Sarder, one of the incoming artisans, and by then a local reeve, became its leader.²⁸

Due to rising demand, mechanization was introduced into the production of metal costume jewelry. Sometime around 1820 the first type of hand-pressed metal costume jewelry appeared in workshops. Eventually, punches and other special presses made it possible to cut the required shape from a sheet of metal and, at the same

^{25.} Nový 2008, 72-75.

^{26.} Kybalová, Nový, and Sirůčková 2007, 60-62.

^{27.} Nový 2003.

^{28.} Fischer 1925; Zitte 1958.

time, imprint a design. The first was developed by Kajetan Schier, a smith from Dalešice/Dalleschitz, who was instructed by Jablonec girdler and trader Anton Rössler between 1838 and 1840 (Fig. 3).²⁹

The most prominent costume jewelry trading firms in the first half of the nineteenth century were concentrated in Hodkovice and Jablonec. They either participated in glass production themselves or worked as a cottage industry, which meant obtaining the semifinished products at the glassworks, handing them over for refining, and exporting the finished products. Probably the biggest exporter of costume jewelry in the monarchy was the company Ferdinand Unger & Co. (founded 1818) from Hodkovice, which exported goods worth more than 460,000 guldens in the middle of the 1840s (representing a quarter of the value of all costume jewelry production in the Jizera Mountains at that time).

Josef Pfeiffer & Co. (founded 1808) was a dominant company in Jablonec and had a permanent branch in Frankfurt am Main, with direct customers as far away as Brazil. This was one reason Czoernig noted in 1829 that, thanks to the roaring development of costume jewelry production, Jablonec (only elevated to the status of a market town in 1808) had been transformed from a village that nobody had heard of 30 years before to one of the best-known centers of trade in the Kingdom of Bohemia.³⁰ The rapid rise of Jablonec is also connected to the ambitious owners of the Malá Skála/Kleinskal estate, of which Jablonec was a part. Between 1802 and 1866, the estate owners were wealthy textile entrepreneurs of the Römisch family and they invested in the development of the entire region.

Confirmation of Jablonec as the main center of trade in costume jewelry came after 1850 in association with the fundamental administrative reform of the monarchy. The city became the seat of the political and judicial district. This change was preceded by the abolition of both servitude and the administration by overlords (1848).



FIG. 3. The first type of special pressing instrument for metal jewelry. Manufactured by Kajetan Schier, Dalešice. 1840–1852. Pressing instrument: H. 46 cm, W. 30 cm. MSB Collection, N109. (Photo: Aleš Kosina)

THE BIRTH OF A GLOBAL EXPORT AND THE "OPEN-AIR FACTORY" (1850–1900)

The range of Jablonec costume jewelry expanded greatly in the second half of the nineteenth century along with other types of goods and entirely new areas of production. It became a truly global phenomenon known on all continents, meaning that the industry was noticeably affected by the first global economic boom

^{29.} Zitte 1958, 23ff.

^{30.} Czoernig 1829, 200.



FIG. 4. Brooch and earrings. Gold-plated red brass, pressed and hand-cut topaz glass. Jablonec nad Nisou. 1860. Brooch: W. 5 cm; earrings: L. 5 cm. MSB Collection, B4740. (Photo: Aleš Kosina)

and, of course, crisis. Technology and production processes improved dramatically with a gradual concentration of certain types of goods in large workshops and factories. This allowed for increased volume and faster production, as well as more flexible responses to what customers demanded. Of course, from the perspective of competitiveness, the producers were able to maintain, or even gradually reduce, prices, while retaining a lucrative level of profit.

These changes would not have been possible without the introduction of economic liberalism and the relaxation of political conditions in the Habsburg monarchy (the end of the absolutist form of government, the introduction of religious tolerance, etc.) in the 1860s. All this brought several ambitious entrepreneurs to the Jizera Mountains from foreign lands and trade centers, such as the Hanseatic cities, Berlin, Paris, and London. These people were often Protestants or Jews and were either the agents of established foreign firms or independent daredevils looking for and finding their own lucky stars in the Jizera Mountains.

A new business elite was created with an international perspective and connections, which brought new dynamics to the production and trade of Jablonec jewelry. They invested the profits not only back into their business, but also in the development of local infrastructure. They also actively participated in political and social life. At that time, the structure of the local industrial district began taking on the unique form of a pyramid. The base consisted of the glassworks, the paste glassworks, and other production enterprises focusing on semifinished products; the next level included suppliers with a broad network of home workers; and then at the summit were the traders who were financing production as a whole. The Jablonec area, therefore, became a unique "open-air factory," with numerous specialized production plants and workshops scattered throughout the region, the financial and commercial center being Jablonec (Fig. 4).³¹

Also significant were the development of quality communication networks, the postal industry, and banking. Fundamental moments were the completion of the provincial road (1849) and the first railway (1859). It undoubtedly helped the glass costume jewelry industry in Jablonec enjoy the boom years of 1864–1869 to the full. At that time, the Jablonec area, experiencing an unprecedented period of prosperity, earned the nickname of "Austrian California" and was called the place of "button fever," both referring to "Gold Fever" in the United States, which was still a fairly recent phenomenon (Fig. 5).³²

In addition to glass buttons, all types of beads were successful, especially cut seed beads. In 1866, Jablonec was promoted to town status, and new export houses began to emerge. Among the first were Jacob H. Jeiteles Sohn, Eduard Dressler, and W. Klaar, joined later by Schindler & Co. and Gebrüder Mahla. Local traders had

^{31.} The phenomenon of Jablonec costume jewelry can be understood in various modes within the methodological perspective. The most appropriate for understanding the overall character of this specific production–trade–social entity, however, would appear to be the theory of what are known as "industrial districts," as articulated by economist Giacomo Becattini at the turn of the 1970s and 1980s, with reference to English economist Alfred Marshall. See, for example, Pyke, Becattini, and Sengenberger 1990.

^{32.} Kybalová, Nový, and Sirůčková 2007, 62ff.



FIG. 5. Buttons. Pressed and hand-cut black glass. Jablonec area. 1880–1888. Card: H. 32.5 cm, W. 27.5 cm. MSB Collection, C34. (Photo: Aleš Kosina)

to adapt to the new situation. Given their indepth knowledge of specific manufacturers, most of them became exclusive suppliers to the new exporters. The division of labor improved, order times shortened, and sales costs fell, with everyone involved profiting.³³

The dream of uninterrupted growth came to an end with the first global economic crisis in 1873. Jablonec costume jewelry, so strongly reliant on exports, experienced hard times until the end of that decade. It forced local entrepreneurs to further refine their businesses, production technologies, and business practices.

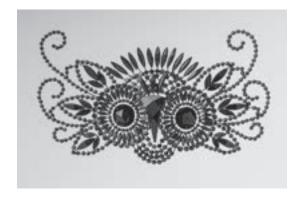


FIG. 6. Owl dress decoration. Pressed and hand-cut glass stones soldered on to a wire frame. Smržovka (Jablonec area). 1895–1905. H. 9 cm, W. 16 cm. MSB Collection, B13044. (Photo: Aleš Kosina)

In 1876, the district governor, in agreement with the exporters, issued an order known as "Freitag-Zahltag," meaning "Friday payday." What this meant in practice was that exporters were required to pay for goods delivered up until Wednesday on Friday of the same week. This prevented secondary insolvency.³⁴

The importance of metal costume jewelry continued to grow. The quality was comparable with pieces from abroad. It became easier to enter foreign markets in the wake of the war between France and Prussia (1870–1871), the two main competitors on the continent, who had other things to worry about. Among the most sought-after specialties was black costume jewelry imitating jet, the production technology of which local producers were able to simplify dramatically as a result of the introduction of soft soldering (Fig. 6).³⁵ At the end of the nineteenth century, metal costume jewelry accounted for more than 50 percent of all exports from Jablonec. The establishment of the Jablonec gas

Gebrüder Feix patented the so-called Riveted jet. After 1880, pressed black glass stones were fitted (using a torch) with brass components on the underside that could be fastened to a wire armature by soldering with tin. The required pattern was produced using gypsum matrices into which the stones were inserted.

^{33.} Nový 2001.

^{34.} Zenkner 1983, 127.

^{35.} Nový 2008, 94: a specific branch of strainer production was the so-called jet (black) costume jewelry, which was established in the Jizera Mountains in the 1860s. First the black jewelry was glued, then riveted together; in 1877 the company



FIG. 7. Silvered hollow blown beads on sample card (detail). Jablonec area. After 1900. Card: H. 23 cm, W. 35 cm. MSB Collection, BT3160. (Photo: Aleš Kosina)

plant (1872) and the power plant (1891) was crucial for further technological development. Local exporters contributed significantly to these projects.³⁶

Meanwhile, one of the key innovations in costume jewelry came with the production of hollow blown beads (1874–1878). Instead of these pieces being fabricated one by one, now a machine using multipiece molds gave makers a significant advantage over foreign competition. The metallic surfacing (iridizing) of glass costume jewelry (1874) was effectively used mainly for beads and buttons.³⁷ The Jos. Riedel Company, based in Dolní Polubný/Unter-Polaun, gradually came to dominate the production of semifinished glass products of Jablonec costume jewelry, such as rods, tubes, and sticks, employing some 350 people at its six glassworks in the middle of the 1890s.³⁸

The last 20 years of the nineteenth century brought the expansion of direct trade contacts between Jablonec exporters and Asia and Africa by the companies Emil Müller, A. Sachse & Co., Gebrüder Mahla, and J. W. Jäckel & Co. British India became an important market. Internally silver-coated or gilded hollow blown beads were exported there in large numbers

(Fig. 7). After 1880, these beads were created in the Jizera Mountains precisely for that market—as were glass bangles (bracelets) that imitated the traditional Chinese porcelain products used as a paired decoration, a talisman, or a sacrifice (Fig. 8).³⁹ Glass and seed beads were the main products heading to West and East Africa.⁴⁰ Other successful innovations for the world market, African colonies included, were beads and buttons made of glass-powder frit, which the company Gebrüder Redlhammer began making

^{36.} Lodgmann and Stein 1930, 159-166, 167-180.

^{37.} Nový 2008, 68, 140; Meissner 1954.

^{38.} Nový 2019b.

^{39.} The semifinished products for the main type of bangles were blown cylinders with a diameter of 6–9 cm and a width of 1–3.5 cm. The domestic workers cut them into individual pieces, which were then cut and further decorated. The first types were made of white opal glass, then later from layered glass (most often ruby, garnet, or topaz/amber glass inside opal glass). In the 1880s, bangles also began to be made by pressing in pliers the molds for two to five rings. In the following decade, pressing with special metal molds was adopted. This way, it was possible to make up to 60 bangles from one molding by hand cutting. At the beginning of the twentieth century, bangles made of wound glass and bent hollow tubes were also produced in the Jizera Mountains. See Zenkner 1983, 115ff.; Nový 2008, 80.

^{40.} Vierke 2006, 437ff.



FIG. 8. Bangles. Blown, layered, cut, and painted glass. Jablonec area. After 1900. Box: L. 18.5 cm, W. 26 cm. MSB Collection, BŽ1915. (Photo: Aleš Kosina)

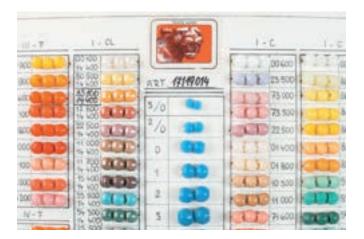


FIG. 9. Sintered beads on sample card (detail). Gebrüder Redlhammer, Jablonec nad Nisou. After 1925. Card: H. 24 cm, W. 19 cm. MSB Collection, BT2877. (Photo: Aleš Kosina)

in Jablonec according to its own recipe (1889/ 1889) (Fig. 9).⁴¹ Costume jewelry made of plastic, initially mainly celluloid (1878), was also made in the region.⁴²

Professional production and trade associations began to be founded from the 1880s in connection with new legislation. The most influential associations were the Genossenschaft

der Gürtler (Society of Girdlers, 1884), the Gremium der Exporteure (Board of Exporters, 1896), and the Produktivgenossenschaft der Hohlperlenerzeuger (Production Society of Hollow Beads Makers, 1898). A state-run specialized costume jewelry school was also founded (1880), as well as a business academy (1891), to ensure the availability of qualified labor for

^{41.} Nový 2008, 98: sintered beads and buttons are produced by pressing glass powder, with the possible addition of other components (especially pigments), into the desired shape. The subsequent heat treatment (firing) sinters the powder grains into a compact mass. The technology of sintered bead production is almost identical to ceramic production, and the shapes, designs, and possibilities that this technology offers are almost no

different from ceramic beads. From the beginning, a frit made of feldspar glass was also used as the basic component—i.e., the material that forms the basic component—of Sèvres porcelain. The combination and addition of different materials to the base frit creates effects that cannot otherwise be produced in glass.

^{42.} Zitte 1958, 162ff.



FIG. 10. "Jablonec skyscrapers" (high-rise buildings in Jablonec nad Nisou). Photo around 1920. MSB Collection, D2/292. (Photo: courtesy MSB)

both production and trade.⁴³ Construction works also started in Jablonec, with several magnificent multistory export houses and villas built for entrepreneurs, giving the town the look of a big city. So-called Jablonec skyscrapers were also built, symbols of prosperity that were popular subjects for period photographers and postcard printers (Fig. 10).⁴⁴

The constant emphasis on the competitiveness of manufacturers eventually forced much manual labor to be replaced by machines. What had once been craft production became an industry, and this change naturally led to social unrest. The most significant example was the "Lučany/Wiesenthal uprising" of 1890, when the starving workers decided to destroy seedbead cutting machines. Clashes with the police led to three deaths and dozens of convictions. It should be noted that the introduction of machine cutting was essential in light of the Venetian competition, which had arrived with the construction of the machine. Local factory owners gained the necessary know-how, as had many of their predecessors, in Italy.⁴⁵

Mechanization affected the cutting of costume jewelry stones quite considerably when Daniel Swarovski invented his cutting machine in 1892. He did not put it into factory operation in the Jizera Mountains, where he had built it,

but in Wattens in Tyrol, doing so in agreement with his partner, the Parisian merchant Armand Kosmann. The production of glass buttons was also concentrated in factories, with a number of technological improvements finding an application there as well.⁴⁶ The largest producer in the field was the Jablonec export company Gebrüder Mahla.⁴⁷

At the end of the nineteenth century, the annual volume of exports of Jablonec goods reached 20–30 million guldens, with the biggest companies—there were 140 companies in the region in total—themselves selling goods worth around 1 million guldens a year. 48 The primary markets were Germany, France, and Great Britain, including colonies. The US market also gained importance (Fig. 11). Some 81,681 Bohemian Germans lived in the Jablonec district in 1900, 1,616 Czechs, and 1,250 foreigners (mostly Germans)—a total of 84,547 inhabitants—making it the third-most densely populated district in the Czech lands (285.1 inhabitants per square km).49 Around 20 thousand people were involved in the production of costume jewelry, home workers included. 50 Another 6 thousand or so were engaged in the industry in the Czech-speaking areas of Železný Brod and the Krkonoše (Giant Mountains) foothills.

^{43.} Lang 1925, Kostka 1908.

 $^{\,}$ 44. Nový 2008, 33–40; Strnad and others 2000; Lodgmann and Stein 1930, 133ff.

^{45.} Nový 2011.

^{46.} Swarovski n.d.

^{47.} Nový 2008, 77. From the second half of the eighteenth century in the Jizera Mountains, the first buttons were made by winding glass sticks above a torch and pressing glass rods. However, they did not have eyelets and therefore could serve only as inserts in metal beds. Pressed buttons with eyelets began to be made in the region in the 1930s. Initially, the eyelets were metal, and from the 1880s also glass. Both hand pliers and machines were used for pressing. Extrusion was followed by pressing, grinding (or tumbling), and polishing on discs, or other decorating techniques (painting, gilding, lustres, iridescence, waxing, etc.). Since the 1870s, most types of buttons (including beads, gemstones, etc.) have been polished with fire. As the first type of Jablonec glassware, ordinary pressed buttons began to be manufactured in factories.

^{48.} Lilie 1895, 199-200.

^{49.} See Finke 1902, 18; Srb 2004, 51.

^{50.} Tayenthal 1900, 6-7.

The number of houses and inhabitants of Jablonec also rose sharply in the second half of the century, making the town one of the biggest in Bohemia. Whereas 4,555 people were living in 555 houses in 1850, 50 years later, 21,091 inhabitants were living in 1,544 houses.⁵¹

THE FLIGHT OF ICARUS—FROM THE GREATEST BOOM TO THE DEEPEST DEPRESSION (1900–1938)

At the beginning of the twentieth century, the first negative impacts on the global fame of Jablonec industry began to be felt. Until then it had been the manufacturers in the Jizera Mountains who had brought home new knowledge from their journeys abroad. Secret production procedures, the main source of inspiration being Venice, were included in this gathered information. Then the situation changed. After 1905, Japanese entrepreneurs traveled to Jablonec as valued customers. However, when they got to know the local technology, they also started the lucrative production of blown-glass beads and bangles for India. Although their products were of a lower quality, they soon began forcing Jablonec products out of this significant market by means of their lower prices. Whereas bangle producers were eventually able to come to terms with the situation, it was a tragedy for hollowbead blowers.52

The increasing factory production of glass costume jewelry also was a factor, both in the declining quality of the standard range (buttons) and in the falling prices (seed beads, costume jewelry stones). For example, Swarovski had no competitors in producing machine-cut stones under the Habsburg monarchy at the beginning of the century. However, by the time of the First World War, there were five companies producing similar products operating in North Bohemia. Gebrüder Jäger opened the first factory of this kind in Jablonec itself in 1908.⁵³

By contrast, the girdlers were doing very well for themselves. Alongside metal costume jewelry, they began making metal fittings for furniture and lighting fixtures at the beginning of the



FIG. 11. Necklace. Glass seed beads, strung and woven. The work of Native Americans in the United States using semiproduct from Jablonec. 1890–1900. L. 26 cm, W. 13 cm. MSB Collection. (Photo: Aleš Kosina)

twentieth century and were involved in the mass production of aluminum cutlery and dishes. The significant technological innovations included the improvement of pressing devices, improved procedures for enameling and galvanizing, and the introduction of aerographic spraying for finishing products with paint. ⁵⁴ After 1908, wooden beads and buttons were introduced on the market. They were manufactured by the company Johann Schowanek. ⁵⁵

The First World War brought a general crisis to the Jizera Mountains. Almost all fundamental markets in Europe, overseas, and in the colonies were lost; men were taken off to the front;

^{51.} Lodgmann and Stein 1930, 35.

^{52.} Zenkner 1983, 115ff.; Kostka 1908.

^{53.} Gebrüder Jäger 1938.

^{54.} Zitte 1958, 94ff.

^{55.} Zenkner 1984, 22-78.



FIG. 12. Case of traveling salesman Václav Hejna. Briefcase with removable boards showing sample necklaces made of pressed and hand-cut beads. Prosíčko u Vrátu (Železný Brod area). 1920–1930. L. 50 cm, W. 34 cm. MSB Collection, B11744. (Photo: Aleš Kosina)

there were not enough materials; and the state seized machinery. Some businesses, however, were able to thrive even during wartime production because of demand for items such as buttons, badges, and metal studs on footwear. Among them was the girdler Heinrich Brditschka, who even managed to successfully introduce the production of silver jewelry to Jablonec in 1915.⁵⁶

The time of peace that followed, between 1918 and 1938, brought more changes in relatively quick succession than the Jablonec costume jewelry industry had ever experienced. The Jablonec share of global trade fluctuated between a remarkable 30 and 50 percent, accounting for 15–20 percent of total jewelry materials produced anywhere in the world (Fig. 12).⁵⁷

Fundamental to political and economic change was the establishment of Czechoslovakia, the national state of Czechs and Slovaks. The area of Jablonec remained a part of Czechoslovakia, although mainly populated by ethnic Bohemian

Germans. This situation led Czechoslovak state authorities to try to create an alternative, purely Czech national costume-jewelry production and trade center in Železný Brod, not 15 km away from the German Jablonec. Whereas glass production did have a solid base in the Železný Brod area, international trade did not (the days of exports from Zásada were a thing of the distant past). In spite of all efforts, this did not change until 1938 even though a state-run specialized glassmaking and business school was opened in Železný Brod in 1920, concentrating also on costume jewelry, and the Pojizerský vývozní ústay (Regional Industrial and Export Institution) was founded in 1921. The ambitions of the local traders, acting until that time mainly as suppliers to the Jablonec export houses, were quickly reined in by the unprecedented collapse of the

^{56.} Heinrich Brditschka Fabrik 1936.

^{57.} Nový 2008, 29; Grisa 1985.



FIG. 13. Pressing shop in Jablonec area. Photo around 1920–1930. MSB Collection, A137. (Photo: courtesy MSB)

companies they set up—Tchecoverre (1920–1923/1927) and Bijou (1921–1923)—originally generously supported by Czech banks (Fig. 13).⁵⁸

The political and economic disagreements that arose after the foundation of the new state were silenced for a while thanks to the unprecedented boom of the first postwar years. These years even outstripped the legendary "button fever." Americans were the most active buyers, ceasing to rely on intermediaries and beginning to travel to the Jablonec area itself for their goods. Indian and Egyptian buyers also came to the town.⁵⁹ The highest demand was for glass costume jewelry, which led to a rapid increase in the number of mechanical cutting shops for costume jewelry stones (there were 26 in Czechoslovakia by 1927). The number of exporters also jumped. In 1921, the Gremium der Exporteure in Jablonec registered some 667 members, the highest number in their history. 60 And it was no wonder, because between 1920 and 1922, costume jewelry worth 4.1 billion Czechoslovak crowns left the Jizera Mountains to travel around the world (the peak came in 1922, with 1.5 billion Czechoslovak crowns, 11.2 percent of Czechoslovak exports as a whole). On top of that were the bangles, for which separate statistics were kept. Exports worth 1.8 billion Czechoslovak crowns were made during the same period (again culminating in 1922: 644.9



FIG. 14. Wound beads on sample card (detail). Gebrüder Mahla, Jablonec nad Nisou. After 1920. Entire card: L. 14.5, W. 21.5 cm. MSB Collection, BT2444. (Photo: Aleš Kosina)

million Czechoslovak crowns).⁶¹ The number of workers also changed dramatically, oscillating between 40 and 60 thousand, depending on the season (if we include home workers, who made up around half). According to some statistics, Jablonec held an almost unbelievable 80 percent share in global trade in costume jewelry in those years (Fig. 14).⁶²

The boom was spectacular but short-lived. External circumstances, such as the fall of the German Reichsmark and the dollar crisis, also played a role. The bust was also caused by overproduction and considerable orientation toward the seemingly insatiable North American market. The chance of earning big money had also attracted a number of speculators from home and abroad. Their aggressive business practices managed to shrink the prices of goods and cause prices to fluctuate to such an extent that the goods became practically unsaleable. Full warehouses then led producers and traditional exporters into thoughtless sales, completing the decay. One of the main bones of contention was

^{58.} Lubas 1950; Nový 2018, 44-47.

^{59.} Korál 1928.

^{60.} Lodgmann and Stein 1930, 137.

^{61.} Prediger 1932, 15-19.

^{62.} Nový 2018, 29.



FIG. 15. Rudolf Prade, painting of glassworkers drawing glass rods in the Jos. Riedel glassworks, Příchovice. 1926. 110 x 123 cm. MSB Collection, O596. (Photo: Aleš Kosina)

that the entrepreneurs/adventurers went around the export houses and placed their orders with the producers themselves. The system of financial-credit trade and supply relationships carefully built by Jablonec exporters in the region over decades, reminiscent of a pyramid, began to collapse (Fig. 15).⁶³

The value of costume jewelry exports from Jablonec plunged year-on-year in 1923 by a colossal 65 percent (to 546.6 million Czechoslovak crowns), although the volume of production actually rose in certain sectors. Many companies failed, with a number of others avoiding bankruptcy only as a result of the active involvement of banks. The entrepreneurs who focused on costume jewelry stones and glass costume jewelry, in general, were most affected by this crisis. Bangle sales also declined, with only 144.4 million Czechoslovak crowns in exports (a year-on-year drop of 78 percent). This, of course, was also caused by the intensifying Japanese competition in the Indian market.

Demand for Jablonec goods did not decline dramatically—it was the sales prices that reached rock bottom. This phenomenon remained typical for glass costume jewelry and bangles, and it lasted until the beginning of the Second World War. Metal costume jewelry and plastic costume jewelry made of celluloid and artificial horn (Galalith) became more and more prevalent. The biggest plastic costume jewelry companies in Jablonec were the factories Gablonzer Celluloidindustrie Dr. Ertel, Carl Gewis, and Max Buttig. These sectors dominated sales of Jablonec goods in the second half of the 1920s (Fig. 16).

The Jablonec Genossenschaft der Gürtler (Society of Girdlers), which also included plastic

^{63.} Korál 1928; Linka 2009; Grisa 1971; Paul 1954.

^{64.} MSB 1987.

^{65.} Nový 2018, 66; Procházka 1993.

^{66.} Zitte 1958, 168ff.



FIG. 16. Hat pins. Cut Galalith, metal. Jablonec nad Nisou. 1925–1935. L. 20 cm. MSB Collection, BK1787. (Photo: Aleš Kosina)

goods producers, brought together 5,057 members at the beginning of 1929 (this figure had stood at only 1,483 in 1923). In contrast to glass costume jewelry producers, girdlers had traditionally congregated in Jablonec and its close surroundings and were not scattered throughout the region (Fig. 17).67 In addition to the big Jablonec factories for metal costume jewelry, such as Josef Scheibler's Söhne, Gebrüder Jäger, Gebrüder Richter, and Josef Feix Söhne, a number of smaller businesses also were influential in the market. Among these was Norbert Neiger, whose products were inspired by ancient Egypt, ancient Greece, and East and Southeast Asia. They mainly supplied the United States and are now the object of lively interest among collectors (Fig. 18).68

The Great Depression had a fatal impact on Jablonec costume jewelry as a whole after the stock market collapsed in New York at the end of October 1929. World markets panicked, many countries introduced high import duties, and the export-focused production in the Jizera Mountains found itself in an unenviable situation, in which it remained until the end of the 1930s (Fig. 19). The crisis in Jablonec culminated in 1933 (Fig. 20), when costume jewelry valued at a mere 321 million Czechoslovak crowns



FIG. 17. Brooch made of hand- and machine-cut jewelry stones and metal. Jablonec area. Around 1930. L. 6.5 cm, W. 3 cm. MSB Collection, B117. (Photo: Tomáš Hilger)



FIG. 18. Brooch. Enameled red brass, pressed glass parts. Norbert Neiger jewelry company, Jablonec nad Nisou. After 1920. H. 4 cm, W. 6 cm. MSB Collection, B728. (Photo: Aleš Kosina)

and bangles worth just 8.7 million Czechoslovak crowns were exported from the region (1929: costume jewelry 755.1 million Czechoslovak crowns/bangles 178.9 million Czechoslovak crowns—a drop of 57.5 to 95 percent!).⁶⁹

^{67.} Lodgmann and Stein 1930, 106.

^{68.} Zitte 1958, 148-150.

^{69.} Nový 2018, 127; MSB 1987.



FIG. 19. Sales card of glass jewelry with a portrait of the American child film star Shirley Temple. Železný Brod area. After 1930. Necklace: L. 35 cm; bracelet: Diam. 4 cm. MSB Collection, BŽ662. (Photo: Aleš Kosina)

Unemployment soon rocketed to a catastrophic 80 percent, which led to social unrest. The majority Bohemian German population in the region, including the business elite of exporters and producers, gradually came to identify with Hitler's Germany, where they saw an oasis that would ensure their economic and national future. If any of the specializations of Jablonec costume jewelry did relatively well at that time, it was buttons and metal and plastic ornaments.⁷⁰



FIG. 20. Panorama of Jablonec nad Nisou. 1933. MSB Collection, D3/52. (Photo: courtesy MSB)

THE SECOND WORLD WAR AND THE RISE OF THE COMMUNISTS (1938–1948)

In the autumn of 1938, the Jablonec area, and with it around 90 percent of the production and export of costume jewelry, became part of Nazi Germany as a result of the Munich Agreement. The new regime, however, did not support the production of costume jewelry—quite the opposite. Most Czech and Jewish entrepreneurs quickly fled to the Czech towns of Železný Brod and Turnov or went abroad. Jewish property in the Sudetenland was seized (what the Nazis termed "Aryanizing") and prepared for takeover by new German owners.⁷¹

One immediate and negative economic effect of joining the Czechoslovak border area to Germany was a boycott of Jablonec costume jewelry by the United States, Canada, and Great

^{70.} Nový 2018, 128ff.

^{71.} For a general consideration of the issue of Jewish entrepreneurs in costume jewelry, see Nový 2007b.

Britain. The Jos. Riedel Glass Company, for example, practically the monopoly manufacturer of semifinished glass products in the Jizera Mountains, estimated its own losses caused by the disappearance of the American market at 10 million Czech crowns.⁷²

Czechoslovakia itself disintegrated in the spring of 1939 when the Nazis established the Protectorate of Bohemia and Moravia. The First World War situation repeated itself after the outbreak of the Second World War in the autumn of 1939, albeit with a few minor changes. The traditional markets were lost and exports were only possible within Germany, or to its allies or neutral countries. Several companies in the Jablonec area began focusing on wartime production, such as buttons, badges, and insignia for the army, as well as components for military equipment, including highly sophisticated parts for weapons and other systems (for example, optically cut prisms for submarine and tank periscopes, glass parts for land mines, optical glass for sights, screens for radar, glass fiber, mechanical parts for aircraft and the first rockets).73 There are no relevant comparable statistics for this era; what is clear, though, is that particularly after 1943, when the Wehrmacht suffered heavy defeats on all fronts, the production and sale of costume jewelry was extremely subdued.

Czechoslovakia was reestablished when the war ended in Europe with German capitulation in 1945, but came under the sphere of influence of the communist Soviet Union, which was to dictate its fate for many decades to come. The Bohemian Germans were displaced from the country, their property fell to the state, and Czech national administrators took over the management of the enterprises. They, however, frequently looked after their own personal gains rather than the prosperity of the enterprises entrusted to them during the postwar boom.

The vast majority of costume jewelry companies in the Jizera Mountains did not escape nationalization. As strategic enterprises, glassworks were nationalized right after the war, no matter what the nationality of those who had owned them.⁷⁵ The damage that German aggression and the world war caused can be seen, for example, in the number of export houses—whereas there were 367 active export companies in Jablonec in 1939, by 1945 their number had fallen to 141.⁷⁶

The Communists came to power in the winter of 1948, and this was followed by the nationalization of all companies in Czechoslovakia. Private business ceased to exist. The national administrations were quickly transformed into state national enterprises.⁷⁷ As far as costume jewelry was concerned, production and trade were both monopolized. Exports were entrusted to the Glassexport and then Jablonex (from 1952) departments.⁷⁸ Jablonec costume jewelry was barely surviving until the second half of the 1950s. This was caused by a lack of support from the government, which, in line with the Soviet model, favored heavy industry. The political situation also created difficulties in selling abroad. For example, exports to the United States, to which 40 percent of all Jablonec production had traveled in 1948, were practically impossible.

The situation began to change gradually after 1954. The Communists took a shine to costume jewelry because of the prospects of financial gains for the state coffers, and there was also a certain relaxation on the international scene.

^{72.} Žák 1991; Nový 2020.

^{73.} Žák 1991.

^{74.} See Kuklík 2010, 135ff.; Beneš 2002.

^{75.} See Kuklík 2010, 135ff.; Beneš 2002.

^{76.} Nový 2008, 43-46.

^{77.} Kuklík 2010, 209ff. Then, on April 28, 1948, the Constituent National Assembly ratified Act No. 114/1948, which nationalized all companies having more than 50 employees. The whole of the private sector in Czechoslovakia was liquidated by 1950

^{78.} Patočková and others 2002.

While exports remained the absolute domain of Jablonex, the national production enterprises were brought under the umbrella organization of the Association of Jablonec Costume Jewelry Enterprises in Jablonec, although this name changed throughout the era of Czechoslovak socialism (eventually becoming Jablonec Costume Jewelry). The production and trade of Jablonec costume jewelry was therefore completely monopolized for the first time in their history, which brought both positive and negative results in the decades that followed.⁷⁹

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WORKS CITED

MSB = Muzeum skla a bižuterie v Jablonci nad Nisou (Museum of Glass and Jewelry in Jablonec nad Nisou)

Bareš, Jiří. 2006. "Jablonecké sklářství druhé poloviny 19. století a počátku 20. století (s přihlédnutím k hospodářsko-sociálnímu a technologickému vývoji)." PhD diss., Faculty of Arts, Charles University, Prague.

Benda, Adolf. 1877. Geschichte der Stadt Gablonz und ihrer Umgebung. Gablonz an der Neiße: Commisions-Verlag von Josef Rössler.

Beneš, Edvard. 2002. "Decree of the President of the Republic of 19 May 1945, 5/1945." In *Dekrety prezidenta Edvarda Beneše z roku* 1945, I., 11–15. Prague: Adonai.

Brožová, Jarmila. 1973. "Skleněná bižuterie na Jablonecku ve zprávě Josefa Dresslera z roku 1809." Ars vitraria: Museum of Glass and Jewellery in Jablonec nad Nisou 4: 54–58.

Černá, Eva, and others. 2005. "Sklo období pravěku a raného středověku." In *Historie sklářské výroby v českých zemích* I., edited by Olga Drahotová, 73–128. Prague: Academia.

Czoernig, Carl Joseph. 1829. Topographischhistorisch-statistische Beschreibung von Reichenberg nebst einem Anhange die Beschreibung von Gablonz enthaltend. Vienna: F. Volke.

Dubin, Lois Sherr. 2015. *The Worldwide History of Beads*. London: Thames and Hudson.

Britannica Academic, s.v. "Paste." Accessed August 22, 2022. https://www.britannica.com/technology/paste-glass-product.

Finke, Fidelio. 1902. Heimatskunde den politischen Bezirkes Gablonz. Gablonz an der Neiße: Lehrerverein.

Fischer, Karl R. 1912. Beiträge zur Geschichte der Gablonzer Glas- und Schmuckindustrie. Gablonz an der Neiße: Stadtmuseum.

—. 1925. Der Gablonzer Gürtlergewerbe, 1. Bändchen. Gablonz an der Neiße: Heimatbücherei des Isergebirges.

Gebrüder Jäger. 1938. 1898–1938, 40 Jahre Gebrüder Jäger. Gablonz an der Neiße: selfpublished.

Gennett, Adrienne V. 2013. *Glass Beads: Selections from The Corning Museum of Glass*. Corning, NY: The Corning Museum of Glass.

Grisa, Miroslav. 1971. "Američan v jabloneckém exportu." Ars vitraria: Museum of Glass and Jewellery in Jablonec nad Nisou 3: 71-86.

—. 1985. "Jablonecký průmysl od vzniku ČSR do začátku dvacátých let." Ars vitraria: Museum of Glass and Jewellery in Jablonec nad Nisou 8: 91–105.

Heinrich Brditschka Fabrik. 1936. "Geschichte über die Enstehung und Entwicklung der Fa. Heinrich Brditschka, Bijouterie-Fabrik, Gablonz a. N." MSB Library.

Homoláčová, Hana. 1985. "Vznik a vývoj koncernu Jablonecká bižuterie Jablonec nad Nisou." MSB Library.

Hozda, Jaroslav. 2003. "Sklářské suroviny a složení hlavních bižuterních skel." In *Historie sklářské výroby v českých zemích II/*2, edited by Roland Kirsch, 35–358. Prague: Academia.

^{79.} Homoláčová 1985; Nový 2008, 46-47.

Hrušková, Kateřina, Kateřina Nora Nováková, and Petr Nový. 2020. *Kaleidoscope of Taste: Czechoslovak Costume Jewelry Exhibitions*, 1948–1989. Jablonec nad Nisou: MSB.

Hrušková, Kateřina, and Jaroslava Růžičková, eds. 2015. *Infatuated with Beads*. Jablonec nad Nisou: MSB.

Jargstorf, Sibylle. 1993. Baubles, Buttons and Beads: The Heritage of Bohemia. Atglen: Schiffer.

Klepl, Jan. 1967. *Vznik a vývoj jablonecké-ho průmyslu*. Rozpravy Národního technického muzea v Praze 30. Prague: Národního technického muzea.

Klíma, Arnošt. 1955. *Manufakturní období* v Čechách. Prague: Nakladatelství Čěskoslovenské Akademie Věd.

Knob, Jan. 1968. "Turnovská výroba skelné kompozice v 18. Století." *Ars vitraria: Museum of Glass and Jewellery in Jablonec nad Nisou* 2: 35–43.

Korál, Antonín. 1928. *Domácká práce v čes*koslovenském sklářství. Hradec Králové: Sklářský ústav.

Kostka, Karl. 1908. *Die Produktivgenossenschaft der Hohlperlenerzeuger in Gablonz*. Annalen des Gewerbeförderungsdienstes des K. k. Handelsministeriums 2–3. Vienna and Leipzig: K. k. Handelsministeriums.

Kreutzberg, K. J. 1836. Skizzierte Übersicht des gegenwärtigen Standes und der Leistungen von Böhmens Gewerbs- und Fabriksindustrie in ihned vorzüglichen Zweigen. Prague: Kronberger u. Weber.

Kubálek, Jaroslav. 1960. "Ekonomické problémy tradiční sklářské a jablonecké výroby a vývozu." MSB Library.

Kuklík, Jan. 2010. Znárodněné Československo. Prague: Auditorium.

Kybalová, Ludmila, Petr Nový, and Šárka Sirůčková. 2007. *The Jablonec Button*. Jablonec nad Nisou: MSB.

Lang, Rudolf Karl. 1925. Die Genossenschaft der Gürtler in Gablonz an der Neiße, 1. Bändchen. Gablonz an der Neiße: Heimatbücherei des Isergebirges.

Lilie, Adolf. 1895. *Der Politische Bezirk Gablonz*. 2nd edn. Gablonz an der Neiße: Verlag des Gablonz-Tannwalder Lehrervereines.

Linka, Miloslav. 2009. Život se sklem: Ze vzpomínek sklářského podnikatele z Loužnice. Liberec: Nakladatelství Bor.

Lodgmann, Rudolf, and Erwin Stein, eds. 1930. *Die Sudetendeutschen Selbstverwaltungskörper*, vol. 6, *Gablonz a n. N.* Berlin-Friedenau: Deutscher-Kommunal Verlag.

Lubas, Ludvík. 1950. "Sklářství na Železnobrodsku." Archive of Národní technické muzeum.

Meissner, Josef. 1954. "Hartwig Weiskopf und die Söhne, drei um die Förderung der heimischen Glasindustrie hochverdiente Mäner." Archive of Národní technické muzeum.

MSB. 1987. "Vývoj vzájemných vztahů výroby a zahraničního obchodu v jabloneckém zboží po 1. světové válce." MSB Library.

Neuwirth, Waltraud. 1994. *Perlen aus Gablonz*. Vienna: self-published.

Nový, Petr. 2000. "Počátky obchodu se skleněnou bižuterií na Jablonecku v letech 1750–1850." Studie k sociálním dějinám 5: 153–164.

—. 2001. "Jablonecký export ve druhé polovině 19. Století." *Studie k sociálním dějinám* 7: 42–56.

- —. 2003. "Král jabloneckého bižuterního exportu, Podnikatel, občan a politik Josef Pfeiffer (1808–1869)." *Sklář a keramik* 53, no. 6: 118–123.
- —. 2005. "Export českého skla ve století filozofie, Počátky a principy velkoobchodu–Obchodní kompanie–Osudy." *Sklář a keramik* 55, nos. 7–8: 176–184.
- 2006. "Počátky obchodu se skleněnou bižuterií v Jizerských horách. Od počátků do konce první poloviny 19. Století." *Sklář a keramik* 56, nos. 5–6: 81–86.
- —. 2007a. "Firma Josef Blaschka & Söhne z Hodkovic nad Mohelkou. Jejich předchůdci a dědicové. I. Historie podniku." *Sklář a keramik* 57, nos. 4–5: 100–105.
- —. 2007b. "Židovští podnikatelé a exportéři v jabloneckém průmyslu." In *Židé v Čchách:*

Sborník příspěvků ze semináře konaného 24. a 25. října 2006 v Liberci, 149–164. Liberci: Židovské muzeum v Praze ve spolupráci se Severočeským muzeem v Liberci.

- —. 2008. *Jablonecká bižuterie*. Prague: GRADA.
- —. 2011. Soumrak perličkového kraje. Liberec: Roman Karpaš RK.
- —. 2016. "Sklářský rod Wanderů II. Bedřichov–Huť–Turnov–Další osudy." *Sklář a keramik* 66, nos. 1–2: 7–12.
- —. 2018. Ve službách módy a stylu: Česká bižuterie v období první republiky (1918–1938). Prague: Academia.
- —. 2019a. "115 let Muzea skla a bižuterie v Jablonci nad Nisou." *Sklář a keramik* 69, nos. 3–4: 72–74.
- —. 2019b. "Z historie sklářského rodu Riedelů III.– Křehké impérium (1894–1929)." *Sklář a keranik* 69, nos. 7–8: 134–139.
- —. 2020. "Z historie sklářského rodu Riedelů III.– Soumračná léta (1929–1945)." *Sklář a keramik* 70, nos. 7–8: 143–150.

Nový, Petr, Eva Krupková, and Kristýna Fendrichová. 2018. *Zásadský ráj. The Story of Czech Seed Beads*. Zásada: Preciosa Ornela.

Nový, Petr, and Marcela Provazníková. 2008. *Black Costume Jewellery*. Jablonec nad Nisou: MSB.

Nožička, Josef. 1966. "Pozoruhodný projekt na vybudování kamenářské manufaktury v Turnově z roku 1758." *Ars vitraria: Museum of Glass* and Jewellery in Jablonec nad Nisou 1: 39–44.

Patočková, Dana, and others. 2002. *Jablonex: 50. let ve světě bižuterie*. Jablonec nad Nisou: Jablonex a. s.

Paul, Franz. 1954. "Erinnerungen aus meinem Leben und meiner fünfzigjährigen Berufstätigkeit im Gablonzer Glasgeschäfte." MSB Library.

Prediger, Wilhelm. 1932. Entwicklungsgänge der Glasindustrie im Isergebirge vom Jahre 1380 bis in die Gegenwart. Gablonz nad Nisou: Volkswehrverlag.

Procházka, Jiří. 1992. "Poznámky k problematice exportu jabloneckého zboží v letech

1910–1938 z hlediska soudobé daňové politiky." MSB Library.

—. 1993. "Poznámky k postavení a vývoji výroby a exportu bangles v jabloneckém průmyslu v letech 1918–1945." MSB Library.

Pyke, Frank, Giacomo Becattini, and Werner Sengenberger. 1990. *Industrial District and Inter-firm Co-operation in Italy*. Geneva: Institute for Labour Studies.

Riegger, Joseph Anton von. 1788. Materialien zur alten und neuen Statistik von Böhmen VIII: Tabellarisches Verzeichniss der Fabrikanten, Kommerzialhnadwerke und Professionisten in Böhmen 1786. Prague and Leipzig: Bey K. Widtmann.

Rossi-Wilcox, Susan, and David Whitehouse. 2007. *Drawing Upon Nature: Studies for the Blaschkas' Glass Models*. Corning, NY: The Corning Museum of Glass.

Sarpellon, Giovanni. 2018. *Venetian Murine and Beads*. Venice: Fondazione Musei Civice di Venezia.

Srb, Vladimír. 2004. 1000 let obyvatelstva českých zemí. Prague: Karolinum.

Strnad, Jan, and others. 2000. *Uměleckoprů-myslová škola v Jablonci nad Nisou*. Jablonec nad Nisou: Secondary School and College of Applied Arts.

Swarovski, Daniel. n.d. "Aus meinem Leben." MSB Library.

Tayenthal, Max von. 1900. Die Gablonzer Industrie und die Produktivgenossenschaft der Hohlperlenerzeuger im politischen Bezirke Gablonz. Tübingen and Leipzig: J. C. B. Mohr.

Urban, Stanislav. 1972. "Prameny k historii výroby turnovské skelné kompozice." *Ars vitraria: Museum of Glass and Jewellery in Jablonec nad Nisou* 4: 45–53.

Urban, Stanislav, and Zuzana Pešatová. 1965. *Jablonecká bižuterie*. Prague: Orbis.

Varcl, J. Z. 1949. *Studie o turnovské kompozici*. Turnov: Zprávy Výzkumného ústavu pro jablonecký průmysl a drahokamy v Turnově.

Venclová, Natalie. 2005. "Počátky sklářství a jeho ohlasy v pravěku českých zemí." In *Historie sklářské výroby v českých zemích* I, edited by Olga Drahotová, 29–33. Prague: Academia.

—. 2016. Němčice and Staré Hradisko: Iron Age Glass and Glass-Working in Central Europe. Prague: AÚ AV ČR.

Vierke, Ulf. 2006. "Die Spur der Glasperlen: Akteure, Strukturen und Wandel im europäischostafrikanischen Handel mit Glasperlen." PhD diss., University of Bayreuth. Available in Bayreuth African Studies Online 4 (June). https://epub.uni-bayreuth.de/887/1/vierke1.pdf.

Žák, Ladislav. 1991. "Situace v jabloneckém průmyslu po záboru pohraničí (v letech 1938–1943)." MSB Library.

Žák, Ladislav, and others. 2003. "Bižuterie, nebižuterní ozdoby a užitkové výrobky." In *Historie sklářské výroby v českých zemích II/2*, edited by Roland Kirsch, 347–430. Prague: Academia.

Zenkner, Karl. 1983. *Die Gablonzer Glasund Schmuckwarenidustrie*. Schwäbisch Gmünd: Leutelt Gesellschaft. —. 1984. Die Familien und Unternehmungen der Industriepioniere. J. W. Jäckel & Co. in Wiesenthal a. N., Gebrüder Redlhammer in Gablonz a. N., Johann Schowanek in Georgenthal: Beiträge zur Geschichte der Isergebirgler und ihrer Industrie. Schwäbisch Gmünd: Leutelt-Gesellschaft e.V.

Zippe, F. X. M. 1834. "Allgemeine übersicht der physikalischen und statistischen Verhältnisse des Bunzlauer Kreises." In *Das Königreich Böhmen, statistisch-topographisch Dargestellt* 2: *Bunzlauer Kreiss*, edited by Johann Gottfried Sommer, xxx–xxiv. Prague: J. G. Calve.

Zitte, Rudolf. 1958. Geschichte der Gablonzer Schmuckindustrie. Schwäbisch Gmünd: Leutelt Gesellschaft.