The World of Beads Monograph Series: 2

THE CZECH BEAD STORY

PETER FRANCIS, JR.

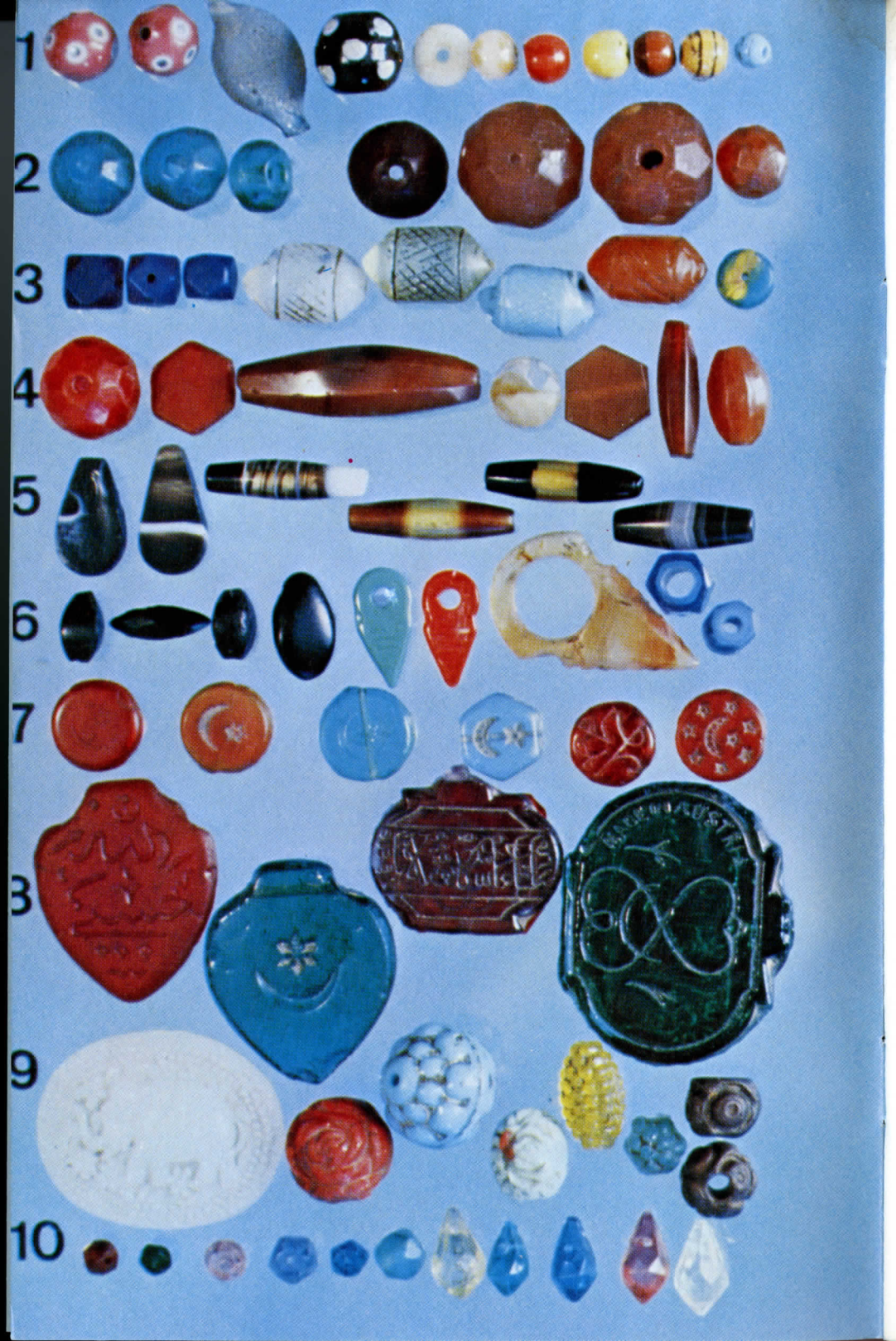

PLATE I

Row 1: 1-2) Blown copies of Chinese faceted beads. 3) Blown glass bead. 4-12) Prosser pressed beads. The pitting is noticeable on No. 5, a disc bead.

Row 2: Mandrel pressed: 1-4) bicones c. 1860. 5-6) carnelian imitations c. 1890. 7) carnelian from India.

Row 3: 1-3) Cornerless cubes. Note dark mould line. 4-6) Charm roll imitations. 7) Carnelian charm roll from India. 8) Imitation "bead of the water."

Row 4: 1-6) Glass carnelian and agate imitations. 7-8) Real carnelian specimens.

Row 5: 1) Glass imitation of flat drop agate pendant. 2) Pendant of real agate from Egypt. 3-5) Glass imitations of onyx. 6) Onyx bead from Egypt.

Row 6: 1-4) Glass jet imitation. 5-6) Talhakimt imitations 7) Talhakimt of carnelian bought in Egypt, but probably Indian. 8) Czech Ambassador. 9) Venetian Ambassador.

Row 7: Tabulars for the Muslim market. The written one says "Mohammed".

Row 8: 1-3) Muslim arrowhead pendants. 4-5) "Made in Austria" pendants.

Row 9: 1) Indian armlet bead 2-4) Beads shaped as roses 5) Corncob bead. 6) Oblate made in same glass as corncob. 7-8) Wood prayer beads.

Row 10: Faceted beads showing range of color and sizes.

Photo Credits: Hal Scott & Elizabeth Hiser

Color Plate 1

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CONTENTS

NOTES TO THE READER

Within the text the reader will encounter four different sets of numbers bracketed in parenthesis. Each of these serve different functions.

In the case of two numbers separated by a colon, the reference is to a book in the bibliography. Thus, (6: 6) refers the reader to the book listed sixth in the bibliography, page 6.

When the number is preceeded by a letter B or the letters BS the following number refers to catalogue numbers used at the Museum of Glass and Costume Jewelry, Jablonec, Czechoslovakia. The letter B refers to the general collection, while the letters BS refer to the Sacher collection. Future researchers should take note that as the author was leaving from his visit to the museum the staff was ordered to work out a new classification system. The system then currently in use is the second one that had been operated at the museum and it is assumed that these numbers referred to in the present work will be preserved, as the numbers of the older system were, in some sort of cross-reference.

In the case of a number being preceeded by the letters "Pt" the reference is to a bead on the color plate. Thus, (Pt II: 1: 1) directs the reader's attention to plate number II, row one, bead one.

The author has taken the liberty to Anglicize some of the spelling of a few of the Czech names where it is believed it will aid in pronunciation.

The Czech Bead Story

The history of beads in general is notoriously underdocumented. However, no major bead producer has been more slighted than that of Bohemia, now part of Czechoslovakia. This is strange in view of the fact that for more than a century Bohemian - Czech houses have been the leading bead producers of the world. The only serious rival has been the older producer of Venice, but the Bohemians have been able to penetrate markets the Venetians did not, and have gained ascendancy in the competition with their astute observation, aggressive marketing techniques and technical innovations.

Yet, the Bohemians go unsung. An excellent example of them being underestimated is the comment W. G. N. van der Sleen made in his *Handbook on Beads*, a text which many take to be the standard work on the subject. Van der Sleen said that in general Czech beads are indistinguishable from those of Venice. (2: 114) Nothing could be further from the truth! While the Bohemians have never shied away from copying successful beads of others, including Venetian beads, their work is hardly a pale shadow of the Italians' and has a lively and recognizable style of its own.

Early History

The production of beads in Czechoslovak territory is hardly a new phenomenon. Archaeologists have found beads of glass that are almost certainly of local manufacture in tombs dating from the 8th to the 9th centuries. (6: 6) The vacuum left by the collapse of the Roman Empire in the production of luxury goods was in part filled by the manufacture of these items in outlying parts of the Empire, in this case within the Great Moravian Empire.

There is no continuous link yet found between medieval production and later glass factories, but glass was being produced in the 12th century, as attested by the orders of the Abbey of Sazava, Reginhard, for glass "images" (whether mosaics or stained glass we do not know) from local factories. It is certain that there were glass makers at Sklenarice in North Bohemia by 1376, for documents show both orders and levied taxes on glass. (6: 6) Archaeologists thought that they had discovered this factory in a campaign in 1956 - 57, when they found a center where potash - lime glass was produced, but on the evidence of associated ceramics it is clear that the site they discovered was occupied some 100 years later. (5: 11) A picture perserved at the British Museum that dates from about 1420 shows a Czech glass works in which a low-domed furnace is being used for both the heating and later cooling of glass vessels. (5: 12)

Glass factories, contemporary with the Queysser furnace at Sklenarice, in the south-western part of Czechoslovakia were engaged in making beads, specifically rosaries especially for the Dominicans. Small factories were located in the Royal Forest regions and the making of these "Paternosters" was the privilege of free peasants who guarded the Moravian - Bavarian border. (6: 11)

In the 16th century there was a boom in glass factories established in Bohemia. Furnaces were begun at Jablonec - Mseno in 1548, at Stanovsko in 1558, at Rejdice before 1577 (17: 1) and at Bedrichov (modern Reichenberg) in 1598. (2: 131) The attraction for glass makers to the area was three-fold. There was abundant good quartz in the mountains to be ground down and used for the silica base of glass, there was plenty of cheap labor in the region and there were the vast Bohemian forests. Quartz is the most common mineral on Earth, though it is not always found in an ideally pure state. The desire for workers at low wages is obviously not a new phenomenon. But, the availability of wood was really the great attraction for glass makers and should be commented upon.

The wood used for Czech glass had two applications. It was burned to produce the high heat necessary for the furnaces, but the remaining ashes were also utilized in the making of potash, an essential ingredient in Bohemian glass. Potash could not be locally mined and it was costly to import, so it had to be made from the recycled residue of wood. To make only 100 kilograms of glass it was necessary to burn from 28,000 to 80,000 kilograms of wood to recover sufficient potash, depending upon the type of wood used! (6: 6)

The glass industry in Bohemia met with increasing appreciation as local, and then foreign demand for its products, especially tableware, grew. A glass makers' guild was founded at Kamenicky Shenov (Steinschonau) in 1694 and up until 1723 no less than 104 glass painters, carvers and merchants were listed within the Bohmisch Kamnitz dominions of Count Kinsky. (13: 121)

The Eighteenth Century -- The Beginning of Serious Bead Production

By 1700 or so the Bohemians had built a considerable reputation for their glass production, but nearly all of this product was glassware: cups, vases, tumblers and the like. The impetus for the first production of glass beads came, ironically, not from the glass industry but from stone cutters. The town of Turnov had a respectable trade in cut stones for jewelry, particularly the local garnets which they worked. The producers, however, worried about the competition that cheaper Venetian beads were giving them and so in 1711 the two Fisher brothers were commissioned to make their way into Murano, the glass-making island in the Lagoon of Venice, and to spy out the glass industry there.

The Fishers managed to get themselves hired in Murano and worked there for five years, but so well guarded were the Venetian secrets that the brothers were unable to learn very much about how the Venetians made their beads. Defeated, they went home, but a lucky accident allowed them to discover a glass mixture which they called *composition*, made from silica, saltpetre, lead and gold. This *composition* produced a highly refractive (lead) glass colored a rich transparent red (gold) which closely resembled garnets. (17: 3)

Once the *composition* was made and the Fishers put into practice what they had learned in Venice, other inventions followed. Credit is usually given to Frantishek Rybar (died 1771) for the drawing of canes of this glass and to his brother, Vaclav (died 1790), for the introduction of pressing tongs. These tongs were equipped with semi-spherical scoops on the ends which could be used to pinch off pieces of glass from the rods and form it into balls, as well as perforating the glass by means of an iron rod pushed through a hole in the scoop. The resulting balls were then ground faceted to be cut like stones, enabling Turnov to produce cheap substitutes for garnets. (17: 4)

As an example of how lucrative the production of false garnets could be, some documents show a proposal made by Jan Modestin, a dealer, and Josef Zich, a stone cutter, to Count F. J. Wallenstein, the owner of Turnov and the surrounding area, in 1758. The entrepreneurs proposed to set up a new factory at Turnov to manufacture imitation stones of *composition*. They estimated that they would be able to employ 1600 workers and produce some 2,880,000 dozen glass stones a year at a net profit of no less than 30% (10: 39) Though the project fell through, other records, sited below, demonstrate that their estimate of profitability was not in error.

It is obvious that all of the beads and cut glass jewelry made in the first half of the 18th century were not imitation garnets. An exporter's record from Lisbon shows Bohemian beads of different types, including yellow topaz beads and white beads with stars. (17: 10) Jan Frantisek Schwan was exporting glass crosses and "wolves teeth" from the area at the same time. (17: 10) However, the information on the types of beads made in Bohemia at this time is very scanty.

The leading glass makers of the end of the 18th century in Bohemia were the members of the Riedl family. Jan Leopold Riedl had built up a successful business as a windowpane manufacturer and in 1766 hired a glass factory from John Joseph Kittel at Nova Louka (Neuwiese), which Kittel had built ten years before. Reidl put his brother, Frank Anthony, in charge of the factory. At first the factory produced bottles, glasses, ornaments for chandeliers and such products. (19: 55) in 1775 Jan Leopold opened a second factory at Kristianov (Christiandorf) which made beads as well as other products. Ruby red beads were first produced in 1781 and other colored glass beads followed in the next two years. The products were exported to Leipzig, Frankfort, Poland, Naples, Denmark and Turkey. (2: 131; 17: 6–7)

Jan Leopold died in 1786 and the running of the glass works were transferred to his son, Anthony. Preserved ledgers from 1786 to 1812 tell the story of the increasing importance of jewelry glass being made at the factories. The ledgers also tell some of the story of manager - labor relations at Nova Louka, and they were not ideal. Management thought of itself as the owners of the workers and the workers were entirely materially dependant on their masters, with very low social standing of their own. (19: 55)

The other important glass maker of the time was Bernard Unger. He applied to the Bohemian Land Office in 1785 asking to set up a glass factory to make buttons and beads, but was initially turned down because of fear of competition with Turnov, for Unger wated to set up his factory in near-by Gablonz (Jablonec nad Nisou.) Unger persisted, however, and was granted permission in 1787. He began by making *composition* -- twelve years before the Riedls (19: 55) -- as well as hollow rods and three-edged and cylindrical canes for use in the manufacturing of hand-made beads. Unger was the first bead maker in Jablonec, which is today acknowledged to be the center of the Czech bead industry. His factory prospered, and by the time of the Prague Exposition of 1829 he displayed a sample book with no less than 410 different sorts of beads. (17: 7–8, 12)

Ironically, as the 18th century drew to a close Bohemia was politically joined to its greatest rival bead maker, Venice. By the Peace of Campo Formino (1797) Napolean, who had conquered Venice and put an end to the Venetian Republic, ceeded the state of Venice to the Austrian Empire, which controlled Bohemia as well, and took the Venetian fleet and Ionian possessions. Venice was firmly under Austrian control after the Peace of Vienna of 1815, and did not shake the Austrian yoke off until it was united with the newly unified Italy in 1866. During this time, then, both Bohemia and Venice were nominally parts of the same Empire. Venice,

however, remained independently minded and was difficult to control. There is no evidence that there was any sort of co-operation between Jablonec and Venice in the manner of making beads during this period.

The Nineteenth Century -- The Rise of Jablonec

The Napoleanic war, which ended with the Peace of Vienna in 1815, hurt the Bohemian glass trade because of the loss of European customers, but the business was not to be kept down and recovered rapidly. By 1821 prices for glass beads had become significantly lower and Bohemian business was booming, exporting something like 2,400,000,000 beads a year. The biggest customers were the United States and independent Latin America, but Europe also bought Bohemian beads -- Itlay, France and Germany, especially the jewelry making centers of Germany, Gmund, Idar and Oberstein. The beads traveled far and wide -- to Eqypt and thence to the rest of Africa via Leghorn, Itlay, and to the Levant and Asia via Trieste and Istanbul. (17: 14) We have already noted the 410 kinds of beads displayed by Bernard Unger at the Prague Exposition in 1829. At the same fair, Antoninov Goble showed 202 strands of cut, hand-wound and pressed beads of his own. (17: 12)

The 19th century opened as a period of great industrial expansion. Kajetan Shir of Daleshice, between 1838 and 1840, invented a die machine engraved by local engravers for beads. Already by that time 10,000 people were employed in Bohemian glass works, and there were soon to be more. (17: 13) Coal was becoming a more economical fuel than the diminishing wood supply. As early as 1803, Augustine Seidel opened a lignite mine near Bechlejovice, and a year later applied for a license to build a glass factory to use the coal. His factory did not meet with success (14: 47) but by the end of the century several of the major glass works were using coal, and others were relying on improved methods of burning scrap wood and branches. (15: 347) The coming of the railroad made transportation, including that of coal, easier; the iron rails reached Jablonec in 1866 (17: 15) and the Riedl works in Polaun (Polubny) by about 1890. (15: 347)

As well as improved pressing methods, other new processes were applied to the making of beads. Glass could be blown into moulds producing light, hollow "pearls" and such beads were being produced from 1810. (17: 13) in 1841 Richard Prosser patented a machine which would press beads and buttons by a "dry moulding" process, leaving a thick zone around the equators. The Czechs employed this method toward the end of the century. (12: 18)

Another process was in use in the Jablonec region at least by 1860. It consisted of moulding a bead in a two-part mould with a conical perforation that didn't completely pierce the bead. After moulding, the bead was put on a tapered mandrel and held against a wheel to be ground into facets. Once the facets were ground, the mandrel was given a blow from behind and it broke through the thin layer of glass

left at the small end of the cone, perforating the bead. The method is called "mandrel pressing." (12: 17)

The Bohemians had also learned how to produce the attractive and technically difficult aventurine (goldstone) which the Venetians had invented (or, rather, accidently stumbled upon.) (17: 16) The Czech goldstone is rarely of as fine quality as the Venetian, generally displaying dark streaks through the mass. The Riedl works had figured out how to produce "rocail" beads in the Venetian manner, with the help of some Venetian workers. (17: 16) Rocail beads, also called bugles, are small tubes, one mm. or so in diameter and two to three times as long, used for beadwork.

Despite increased mechanization, the bead (and other costume jewelry) industry remained largely a decentralized, home effort. Labor was strictly divided, both within a family, allocating less exacting tasks to the elderly and the children, and within whole districts, whereby small communities concentrated exclusively in one aspect of the total costume jewelry as, for example, a single size of cut bead or a step in the finishing of glass beads. (11: 24)

The making of most beads was carried on in homes where small wood furnaces provided heat to melt the glass rods made by the larger manufacturers. After heating, the rods would be pinched off with tongs, drawn out and put into a two-part mould-tong. Care had to be taken, for a mould too cold would cause imperfections in the bead and one too hot would cause the glass to stick to the inner side of the mould. Deftly, the worker pressed a bead shape and then perforated it, removed it from the mould and placed it into an earthenware pot warmed by the fire, where the beads would cool slowly. After cooling, the mould marks were ground down on a piece of sandstone and the bead polished on a rotating wooden disc, often driven by water from an adjacent stream. Small beads might also be fire-polished, remelted just enough to allow their surfaces to run. (15: 350 - 1)

Despite the decentralized nature of the industry, the small parts appear to have functioned smoothly, almost as if they were divisions of one large concern. One uniting feature for the disparate groups was the cadre of "sample men" whose task it was to search for designs and to form ideas for new beads. Some of these men traveled all over the world in extensive journeys, lasting up to two years, in order to gather information on the styles of beads in demand in places as remote as Africa, Tibet and Japan. By 1875 some 322 samples and 343 drawings were legally registered by these men. (17: 18)

A very important unifying force were the glass makers' schools set up in the region at different locations. The first of these was founded in 1839 at Kemenecky Shenov, and is still functioning; the oldest school of its kind in Europe, and possibly anywhere. (18: 15) In 1880 the School of Applied Arts opened in Jablonec with a broad and ever-expanding curriculum which included all aspects of glass making and crafts pertaining to costume jewelry production. In 1904 - 05 the

work of the Jablonec school was expanded in the form of an "itinerant school" at three locations: Luchany, Smrzovka and Kokonin. These schools specialized in metal work and costume jewelry. (11: 27 - 28)

Another important centralizing force was the giant of the industry, the Riedl Glass Works, centered at Polubny. By the beginning of the 20th century this corporation held a monopoly on the production of raw glass and everyone making beads bought from the one source. (17: 19)

The fourth focus of unity was the emerging "capital" of bead and jewelry production. Jablonec (Gablonz in German) grew in importance ever since Bernard Unger set up his factory in 1787. The Growth of Jablonec nad Nisou (on the river Nisou) can be demonstrated in several ways. Its population growth is one indication: around 1800 it had some 2,254 inhabitants. It grew slowly for the next several decades; by 1857 there were 4,553 people, by 1866 5,350, by 1869 some 6,752 including 2,878 foreigners. In 1914 there were 32,894 citizens. 1866 is the real turning point for the town, for that is the year of Jablonec's incorporation and the year the railroad reached it. (17: 15)

Jablonec became an important city in the Austrian Empire. It was visited by Emperor Franz Joseph in 1906 (11: 24) and in 1912 the elite of the town participated in the launching ceremonies of the largest ship built by Austrian Lloyds, the *Gablonz*. (17: 15) The importance of the town and its adjoining area can be gauged by the fact that in 1911 it paid 1,954,904 Austrian crowns to the state treasury — taxes that equalled those of the whole province of Dalmatia.

The Beads of the Nineteenth Century

Our most important source of information on the actual beads produced by the Bohemian - Czech industry is the collection of the Glass and Costume Jewelry Museum (Muzea Skla a Bizuterie) at Jablonec. The museum's bead holdings consist of the museum's own collection and the private collection of the late A. Sacher, one of the largest of the Jablonec dealers at the end of the 19th and early years of the 20th centuries. The beads in the museum cannot all be precisely dated, nor can those of Mr. Sacher. The dating often relies on the experienced judgement of the staff, but the information thus gathered is the most precise we have.

The beads of the first half of the 19th century are few in number and rather restricted in style. In the first few decades, simple wound, light blue oblates were made into bracelets, held together by triple rectangular spacers with gold line decoration. Other early beads included imitations of cut garnets and a singular type of bead displaying a silky sheen and called "Atlas" beads.

Beads from the middle of the century, from about 1840 to 1860, show somewhat more variation. Bracelets are still made of glass beads, but now the beads are tiny seed beads of differing diameters and many shades, the earliest of which appear to have metallic coating on clear glass; the spacers are perforated four times

and several other types of beads are strung with them including large ovals with colored flowers and hexagonal tabulars with faceted tops. (BS 46) Ordinary oblate beads in yellow, white, light blue and green were wound into slightly biconal shapes; these are combined with dark translucent blue spacers with facets and incised designs of diamonds. (BS 73 - 82)

Other than oblates and spacers for bracelets, two types of beads of this period stand out. One are the hollow, blown glass beads, first made in 1810 but becoming particularly popular around 1850. A variety of these were made, including some with many facets, (B 1724 - 5, 2578) and some made of two or three layers of glass so constructed that the bottom layers show through round openings in the layers above. (B 2590) They were apparently made in imitation of Chinese ground glass beads. (Pt I: 1: 1 - 2) Many blown beads were left in simple, unadorned oblate shapes. (e.g. BS 532)

The other type of special bead of this period are the mandrel pressed beads discussed above, made in the shape of faceted bicones of translucent glass, usually green, but also in red, yellow and blue. (B 1878) (Pt I: 2: 1 - 3)

As we have already noted, 1866 was an important year for Jablonec, the year of the railroad and the year of incorporation. It is also a key year in the history of Venice, as it is the year that Venice joined united Italy, and during the next three years Murano experienced a sharp decline. (22: 28) Therefore, after about 1870 Jablonec began to outpace Venice in bead production. The closing decades of the 19th century are the years of tremendous growth in Bohemian manufacturing. The output of those years are preserved in some fifty large sample cases of beads used by A. Sacher and now part of the Jablonec Museum's collection. The records of the museum date all of these cases from the end of the 19th century, and that is probably a correct date for most of them. The beads in these sample cases are of many different types, but most of them can be fairly easily catagorized according to the purposes which they were made to serve, as many of them are obvious imitations of other beads.

IMITATION OF ANCIENT BEADS: A line of beads called "Roman mosaics" was marketed with reference to ancient millefiori beads once produced in Roman Egypt. It was these beads that gave the Venetians inspiration for their own millefiories. The Czech beads were pressed from two halves with black matrices and decorated with flower (fiori) canes. (BS 481) These canes may well have been imported from Venice, as with the case of some pendants made with Venetian canes but produced in Jablonec. (B 556, 564) Another Roman bead that was even more closely imitated was the cornerless cube, (Pt 1: 3: 1 - 3) made in both dark translucent blue and opaque blue. (BS 465)

Several Oriental beads were also copied by the Czechs. One was the Japanese "magatama" (crooked bead,) a pendant shaped rather like a comma. It was used several centuries before our era until after the coming of Buddhism to Japan (c. 800

A.D.) (BS 491) Another ancient Eastern bead is in the shape of two intertwined links of a chain. (BS 512) These beads have been found on the Malay peninsula in Neolithic graves and are of unknown origin, though they might be Indian. (7: 89) Perhaps the most exotic of all the ancient beads copied in Jablonec is the Tibetan etched agate. These are long beads with etched eye patterns. In 1932 K de B. Codrington traveled to Tibet in search of these famous beads and found that the Czechs had gotten there first:

> Here is another instance, among several that I have recently come across, of the extreme astuteness of the Central European manufacturers, who seem to control this trade...Their knowledge of anthropology is, perhaps, a little one sided, but it is obviously detailed as fas as it goes. (3: 128)

IMITATIONS OF BEADS CURRENTLY IN USE IN OTHER AREAS: In addition to copying designs of ancient beads, the Czechs made a large number of glass beads in imitation of beads then currently in the market all over the world. Glass beads in the form of the popular Muslim charm roll were made to duplicate several of the varied styles of this pendant. Charm rolls, which have a history stretching back several mellenia, are found all the way from Morocco to India. India produced a large number of them after the Muslim invasions of the 8th to the 12th centuries, and several of the distinct styles of these stone beads were copied in Jablonec. (BS 480) (Pt 1: 3: 4 - 6)

Further east from India, we have already noted the blown beads in imitation of Chinese multi-layered faceted beads. Another type of bead copied came from Japan. It was a squarish bead with a raised cross in the center of each side. (L: 294) (BS 451) The square bead imitation was also made by blowing.

IMITATION OF MATERIALS: A great many of the beads which the Bohemians copied were not of particularly distinctive form or decoration. What made them special was the material from which they were made. The Jablonec makers excelled at copying materials, making them in traditional forms, and selling them to native buyers or, in some cases, selling them world-over.

Africa was a large market for the Bohemians, and the traditional African bead materials were certain stones, shell and bone. The Jablonec factories made imitation bone beads, (BS 482) beads that looked like shell beads (BS 481,) including beads in the shape of the much favored cowrie (BS 491), and beads in imitation of the red bauxite used in West Africa. (BS 482) The economics of this is amazing. Bauxite, for example, the fossil soil product of heavily denuded weathered forest land, is extremely cheap and widely available, but apparently glass imitation could be made even cheaper. And how much does the raw material for bone beads cost?

A documented example of the Czechs providing imitation shell beads is the case of the Conus shell disc which the British destroyed because of its pagan connections in what is now Malawi and Zimbabwe in the 1870's and 1880's. Since the discs had functioned as currency, the British tried to introduce wooden and metal tokens in their place, but the natives wouldn't have it. Therefore, the British commissioned a Czech manufacturer to produce porcelain imitation Conus discs, complete with serial numbers. (9: 30)

An even wider market was reached with copies of more precious materials. Carnelian from India and agates from India and Brazil were great favorites in the 19th century for beads and the Bohemians copied these freely. Using a dense, semi-opaque red-orange glass marvelous imitations of carnelian was made in all the basic shapes, including tabulars and faceted oblates as well as other shapes like the faceted barrel. (BS 490, 507, 543) (Pt I: 4) The talhakimt, an ornament of Indian origin, which was worn as far west as Morocco, was also originally made of carnelian and came to be copied both in imitation carnelian (BS 491) and in more obvious glass copies. (Pt I: 6: 5–7) It is interesting to note that some of the imitation carnelian oblates were made by the mandrel pressed method with cone perforations and small bits of the beads broken at the smaller end of the perforations, while other were made in more usual moulds with cylindrical perforations. (Pt 1: 2: 4–6)

Agate was copied somewhat less successfully by beads with two layers: an outside layer of white and colored ripples and an inner pure white layer. (BS 488, 572, 576–7) (Pt II: 9) Sometimes imitation agates were formed into ancient shapes like the Egyptian flat drop pendant. (Pt I: 5: 1–2) The most beautiful form of agate, the regularly striped onyx, has been admired and used for beads for millenia and the Bohemians successfully copied these stone beads with an admirable combination of opaque and translucent glasses. (BS 46–55) (Pt I: 6: 1–4)

An imitation material which was most popular in Europe was produced in large quantities in the late 19th century. This was the so-called "French jet," black faceted glass that resembled the jet that was in fashion for mourning jewelry, especially during the reign of Victoria. A large number of broaches and other wire pieces were made of this black glass, as well as some individual beads. (I: 6: 1–4)

BEADS IMITATING VENETIAN BEADS: The Bohemians were not adverse to copying the more popular styles of their Venetian rivals. Sometimes these copies are indistinguishable from the originals and in other cases there are minor differences. We have already noted the use of what is no doubt Venetian canes in making millefiories and pendants as well as the manufacture of a poorer grade of goldstone, both Venetian types. The other copies are generally of layered beads.

Cornaline d'Allepo, the red on white combination was produced by the Bohemians as well as the Venetians. (BS 458) The Czechs still produce these beads and are careful to reheat them just a bit so that the perforations will slightly

collapse and make the beads appear more hand-made "in the Venetian style." (pers. comm. Dr. Alastair Lamb). They also made copies of the popular blue on white hexagonal tubes with ground edges known as "Ambassador beads," as well as other names. The Czech Ambassadors are generally of darker blue, of larger size and have thinner walls than their Venetian counterparts. Some of them are dated to 1870. (BS 562) (Pt I: 6: 8–9)

The Jablonec factories also turned out copies of the multi-layered corregated chevron or rosetta beads, which have been a great favorite for centuries. The ones preserved in the Sacher collection are not difficult to distinguish from the Venetian products, as the colors used are black, red, white and blue (out from the perforation) and the ends are either cut off at right angles or faceted in a sqaure cut. (BS 478) Venetian chevrons apparently never have black and their ends are ground with more than four facetes or have been tumbled into smooth ovals.

The Venetian interlocking "snake beads" have also been copied at Jablonec. These disc beads are easily told from the Murano product because they show definite mould lines. (BS 484) (Pt II: 1: 2) A lamp (hand-made) bead produced at Venice which consists of silver or gold foil melted into the surface of a glass bead has also been copied by the Bohemians. Some of these are to be found in the Sacher cards without definite dates (BS 507) while another set is elsewhere dated 1910. (B 3284) (For further information on Venetian products, see *The World of Beads Series, No. 1: The Story of Venetian Beads*)

BEADS APPEALING TO VARIOUS ETHNIC GROUPS: Beads which imitate old bead types were obviously made to appearl to certain ethnic groups. Beyond that, the Bohemians made a number of beads and pendants whose appeal was to specific population groups, even though the beads were not direct imitations. Sometimes the shapes were inspired by older beads, but designs impressed into the surface and the colors made them obvious glass products. The largest group of these beads were made for Muslim customers.

One pendant shape which has been popular in Eastern Muslim countries for centuries and probably originated in India is quite difficult to describe in words. (Pt I: 8: 4–5) The shape was originally made in agate and adopted by the Bohemians pressed into translucent glass and impressed with mottoes. Some of these carried verses from the Koran and were sold in several Muslim countries and some others were decorated with hieroglyphics and were sold in Egypt (Petrie collection, City College, London). The unusual aspect of these pendants is that the reverse sides carry the legend "Made in Austria." As these pendants have rather messy mould lines, are made of trnslucent glasses and so obviously proclaim their origins, its seems reasonable to assume that they are early products of Bohemian glass works and were made toward the beginning of the 19th century. None were found in the Sacher cases.

Another pendant from that appealed to the Muslim market is the flattened arrowhead, sometimes called a heart. These were made in a variety of glass colors,

the most popular being deep translucent red. They were impressed with Muslim mottoes or, more commonly, a simple star and crescent motif. (I: 8: 1–3)

A third type of bead destined for the Muslim market was a tabular, usually round but sometimes hexagonal. These tabulars were made in eight colors, but the most popular, again, were the reds, followed by green. They were impressed with a star and crescent or sometimes a single word like "Mohammed" or "Ali," names of Muslim heroes. (BS 468) (Pt I: 7)

Another bead which fits this category was designed for the Indian market. These beads were large, flat rounded rectangles with raised flower or elephant designs. They were backed with a quandrangle frame which was curved along the longer sides and doubly perforated on the shorter sides. The purpose of this unusual arrangement was to allow the beads to be worn on the upper arm for use as a charm;such armlets were introduced by the Mogul courts in about the 15th century and long remained popular in India, long enough for the Bohemians to take advantage of the fashion. (Pt 1: 9: 1)

BEADS IN THE SHAPES OF NATURE: A number of beads were made at Jablonec whose appeal is their resemblence to growing things. Thus, beads have been made in the shape of conch shells (BS 478), as well as the other shells we have mentioned above. Oblates were made to resemble roses when viewed on the ends. (BS 466) (Pt 1: 9: 2–4) Other beads were made to resemble strawberries and seeds (BS 507) and even ordinary beans, offered in thirty different color and stripe combinations. (BS 511) One of these beads was popular in the U.S. and used for Mardi Gras throwaways. They were beads which resembled corn cobs. (4: 1) (BS 463) (Pt 1: 9: 5) Only the imagination of the maker limited the number of possible styles, and this is only a sample of the types made.

STANDARD BEADS: Naturally, all of Jablonec's output was not destined for sale to specific groups based on imitative qualities. A great many of the beads produced by the Bohemians throughout their history were standard types which could be used by nearly any group of people. Many of these were the simple oblates, ellipsoids, tubes and discs, which any bead maker produces, while others were of more special designs.

Many of the beads made by the Bohemians had specific duties on the completed strand. This was often the case because many strands were shipped from Jablonec ready-made. Thus, a great many different pendants were produced, including special forms like the heart. (BS 467) (Pt II: 1: 1; II: 5: 6 - 9)

In addition to pendants, a great many spacers were also made, some of them quite small, perhaps for use with the tiny seed beads. Spacers have multiple perforations so that they can keep two or more strands of beads apart. (Pt II: 6)

Toggles, which stand above the strand as far as below the strand, were also a favorite, especially short biconal shapes or longer tubes with cone ends. (BS 465)

Many different interlocking beads were also made. We have already mentioned the Venetian snake bead type, but the Bohemians developed several other kinds: some that looked like flowers (BS 506), others made of four or five joined balls, which were also Mardi Gras throwaways (4: 1), but which are perhaps 20th century developments, and interlocking discs made of the two-layered veined agate-type glass. (BS 488) (Pt II: 1: 2 - 9)

A number of Jablonec beads are found in use both in jewelry and in prayer strands, especially the Muslim strands. Two distinguished beads in this category include ellipsoids made usually of translucent red, but also translucent blue and opaque black, which have impressed dots in a rosette configuration on either side. (BS 506) (Pt II: 2: 1 - 2) Another type, which is probably earlier, closely resembles the imitation charm cases with crosshatched lines in the center. (Pt II: 2: 3 - 4)

Needless to say, the variety of these beads is enormous. Two other beads deserve mention for different reasons. One of these has the shape of a square tube with many diagonally impressed dots on its surface. These beads have been thought to be old and are sometimes seen strung with Roman beads in museums, but they are from Jablonec. (BS 511) (Pt II: 5: 3 - 5) A second type of bead is important simply because of its beauty. It is a black glass bead with a frosted surface and wheel cut designs in a variety of patterns, dated 1890. (BS 540 - 43)

The Twentieth Century - Boom, Depression and Nationalization

The 20th century has been characterized by large-scale political and economic events that have had their effect upon Bohemian bead makers as well as the rest of Europe and much of the world. The First World War severely hurt the industry, but soon after the cessession of hostilities the producers bounced back, the number of exporters rising from a low of 200 to about 700. (21: 252) The settling of the War also created the new nation of Czechoslovakia, of which Bohemia became a part.

An important new glass center rose in prominence after the war and by 1920 Zelezny Brod had become a serious competitor to Jablonec. Jablonec remained the center of bead production, though; in 1929 it was still responsible for half the output of the product. (21: 252) An important element in the growth of Zelezny Brod was the establishment of the Institute of Glass-Making, with masters from the Prague Academy of Applied Arts. From the outset the first Professor-Artist, Jaroslav Brychta, concentrated his efforts on producing new designs that were not imitative. Thus, it is in the early 20th century that the production of beads for export based on known styles copied from other places largely ceased and designs became more original. (11: 28)

Just before the depression the industry was at its peak. In 1928 1,500,000 tons of glass were being exported. (17: 20) Twenty firms were at work in Jablonec alone (21: 252) and Weston reported that the Czechs produced "by far the largest proportion of the world's beads."

Then the depression hit. Money became scarce, orders ceased or were severely cut back and Jablonec and the rest of the Czech bead producers were hard hit. The 1928 production of 1.5 million tons was not equalled again until 1938. (17: 20) The number of exporters dropped again to about 200. (17: 20) Bad times was the rule of the day. War followed on the heels of economic disaster and Czechoslovakia, of course, was at center stage of the conflict. Following the War, Eastern Europe came under Moscow's influence and adopted socialism, and basic changes in the industry were forthcoming.

On 28 October 1945 all primary glass works and the large secondary ones were nationalized. In February of 1948 all other glass houses were further nationalized and the industry was allowed to decline. The decline was permitted by the authorities because of questions concerning the appropriateness of the glass and costume jewelry industry. (17: 21) Perhaps it was felt that beads and such trifles were of no crying necessity to the new socialist vision, or that a nation which desperately needed all of its strength to recover from the war would not waste its energy, capital and manpower on such frivolities as personal ornaments. Whatever the reason for the benign neglect of the glass industries, new forms of manufacturing were set up in the Jablonec region to promote a different economic base. However, the decision was eventually reversed, and from about 1958 the export value of costume jewelry and other glass products has been recognized and encouraged. (17: 21)

Today there are five firms in the production business: Jablonec Glassworks, Zelezny Brod Glass, Stone-cutting Works, Glass Costume Jewelry and Costume Jewelry. There are also two export firms, Glass export and the newer Jablonex, which deals heavily in costume jewelry. (17: 22) There is also a separate firm whose field of responsibility is the design of glassware and jewelry, Uniprojekt. (16: unpgd) Business is now back to normal and has grown at a considerable rate since the low days following nationalization. Ironically, no glass beads are today actually being produced in the town of Jablonec itself. The glass factories there concentrate on imitation diamonds, and glass beads are made elsewhere in the district.

The state has also encouraged the growth of subsidiary institutions in addition to the maintenance of the Institute at Zelezny Brod and the Museum at Jablonec. A memorial to glass makers has been established at Kristianov, where the Reidls set up their glass works in 1775 deep in the forests of the Jizera mountains. The memorial consists of models of the works housed in the last of the original buildings in the midst of the forest. Two other affiliated glass museums are also located near Jablonec, one at Novy Bor in a home built in 1804 by J. K. Sachr, an exporter active in Mexico, and the other at Kamenicky Shenov, where the oldest glass makers' school is located, in an old patrician building built by Stefan Rath, which houses a large collection of cut glass. (18: 14–15)

As we have noted, the production of beads in the 20th century had become less imitative than it was in the 19th. This doesn't mean that all imitations have ceased however. For example, branch coral glass beads were produced in the years between the two World Wars. (B 2816) Imitation coral is yet today a popular export to the Soviet Union. But, the beads that are most imitative in the 20th century follow European styles and tastes rather than try to appeal to groups far away. During the height of Art Nouveau and its step-sister, Art Deco, beads were produced for these fashions. (Pt II: 3) Some of the transparent lead (?) glass beads, which were apparently Art Deco productions, are made of very fine glass. When King Tut's tomb was opened in 1922 by Howard Carter there was a heavy demand for beads with Egyptian motifs, and the Czechs responded to that demand. (BS 184 - 219) (Pt II: 4: 1 - 2)

Between the wars several types of beads were produced which had no specific connections and could be worn by all sorts of customers. One such line consisted in small, white beads with a variety of incised designs. (Pt II: 2: 5–8) Another type was a bead of rather indistinguishable "baroque" shape. These were made in a large diversity of colors and glass styles, including crackled glass and silver coatings, some complete with matching spacers. (B 2751, 2804, 5, 8, 19)

There were also a large number of novelty beads produced, beads with all sorts of fanciful forms recognizable from many sources. There are Tyrolian hat beads and beads in the shape of little bugs, among others. (Pt II: 4: 3 - 5) One unusual item is a Muslim prayer strand which, in a society that forbids gambling, is made of cubical beads dotted to resemble so many dice.

Some useful beads are the small circular tabulars which carry a letter of the alphabet apiece. These beads are used in maternity wards to identify babies by forming the baby's name into a bracelet of the beads and putting the infant's first jewelry on the child. (Pt II: 4: 8)

It should also be mentioned that the Czech bead industry not only produced beads of glass, but found the costume jewelry industry so lucrative that it manufactured beads of other materials as well. In the 19th century wooden beads with incised circle/dot designs were made up into Muslim prayer strands and were exported largely to Mecca for pilgrims to bring home. (BS 341 - 2) (Pt I: 9: 7 - 8) Other wooden beads, mostly designed for children and painted gay colors were manufactured along with toys in the 1940's by Shovanek at Albrechtice. (B 3090) Beads were also made of galalith, (a plastic made from milk) horn, tortoiseshell and plastic. (21: 252) The plastic beads can be made to closely resemble amber and many such beads were and are still being produced. (BS 505) Another special plastic type is what would commonly be called a sequin, but is designed to be mounted in large numbers on a collar like so many heishi or disc beads. There are called in the trade "Vulcanic" beads and come in a great variety of colors and stripes. (BS 504)

The marketing of Czech beads is as fine an art today as it has been for more than a century. Ready-strung necklaces are shipped out according to the tastes of the importer. For example, imitation pearls gain reception in France, while coral is popular in Russia and amber in the U.S.A. Iridescent beads coated with metal salts which break up the light are popular in many countries and used for prayer strands as well as necklaces; black faceted ones are particularly popular in Egypt. The two-layered imitation agate is also a popular line for prayer strands.

Recognizing Czech Beads

The identification of the maker of beads and the date of manufacture is perhaps the most difficult problem for the student or collector of beads. This monograph is designed to aid in the identification of some of the major Bohemian-Czech types. It must be remembered, however, that this survey is far from complete and that, indeed, nowhere is there a comprehensive list or collection of Czech beads. However, some remarks may be useful in helping to spot some Jablonec beads.

The first thing to determine about a glass bead is how it was made. Though some Bohemian-Czech beads were wound and others drawn, these two processes take second place to the other techniques which Jablonec manufacturers used and can usually be ascribed to Venetian manufacture. The vast majority of Bohemian beads have been moulded, pressed by two-part moulds, and thus carry evidence of that process in the form of mould-seams running around the beads. These seams are sometimes protruding, messy and obvious; at other times they have been ground off, but this leaves a characteristic flat surface. More recent beads have very flush mould marks which are visible only on inspection, while opaque beads often have a dark band that denotes the seam.

Not all Bohemian beads were moulded, but if a bead was made by one of several other processes, the chances are that the beads are Czech as well. Blown beads are hollow in the middle. Prosser pressed beads have thick median lines, and one end is slightly flat and pitted. Mandrel pressed beads have irregular facets and cone perforations and often show evidence of the mandrel breaking through the small end of the perf. It is also possible that not all moulded, blown, Prosser or mandrel pressed beads are from the Jablonec region, but the chances are good that most of them originated there.

The glass used can also tell one something about the origin of a bead. Most early Bohemian beads were of translucent glasses imitating stones: deep red, amethyst, topaz and the like, including milk-glass. Early on the Bohemians pressed some opaque glasses as well. A type of glass that has been widely employed by the Czechs and used from a little before this century has been called "porcelain glass." (20: 144) It contains an added bit of feldspar and produces a creamy opaque product which is particularly suited to novelty beads and is used in the two-layered agate imitation beads.

Finally, the design of the bead is a valuable clue. Few Venetian beads were made to imitate other beads or materials (except for copies of ancient Roman techniques) and even fewer made for specific ethnic groups. This was largely the work of the Bohemians and can generally be ascribed to them.

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Color Plate 2

PLATE II

Row 1: 1) Heart pendant. 2-9) Interlocking beads.

Row 2: 1-2) Impressed rosette prayer beads. 3-4) Cross-hatched prayer beads. 5-8) White beads with impressed lines, c. 1920.

Row 3: Art Nouveau and Art Deco beads.

Row 4: 1-2) Egyptian motifs. 3-5) Novelty beads. 6-7) Conch shell beads. 8) Bead for baby bracelet.

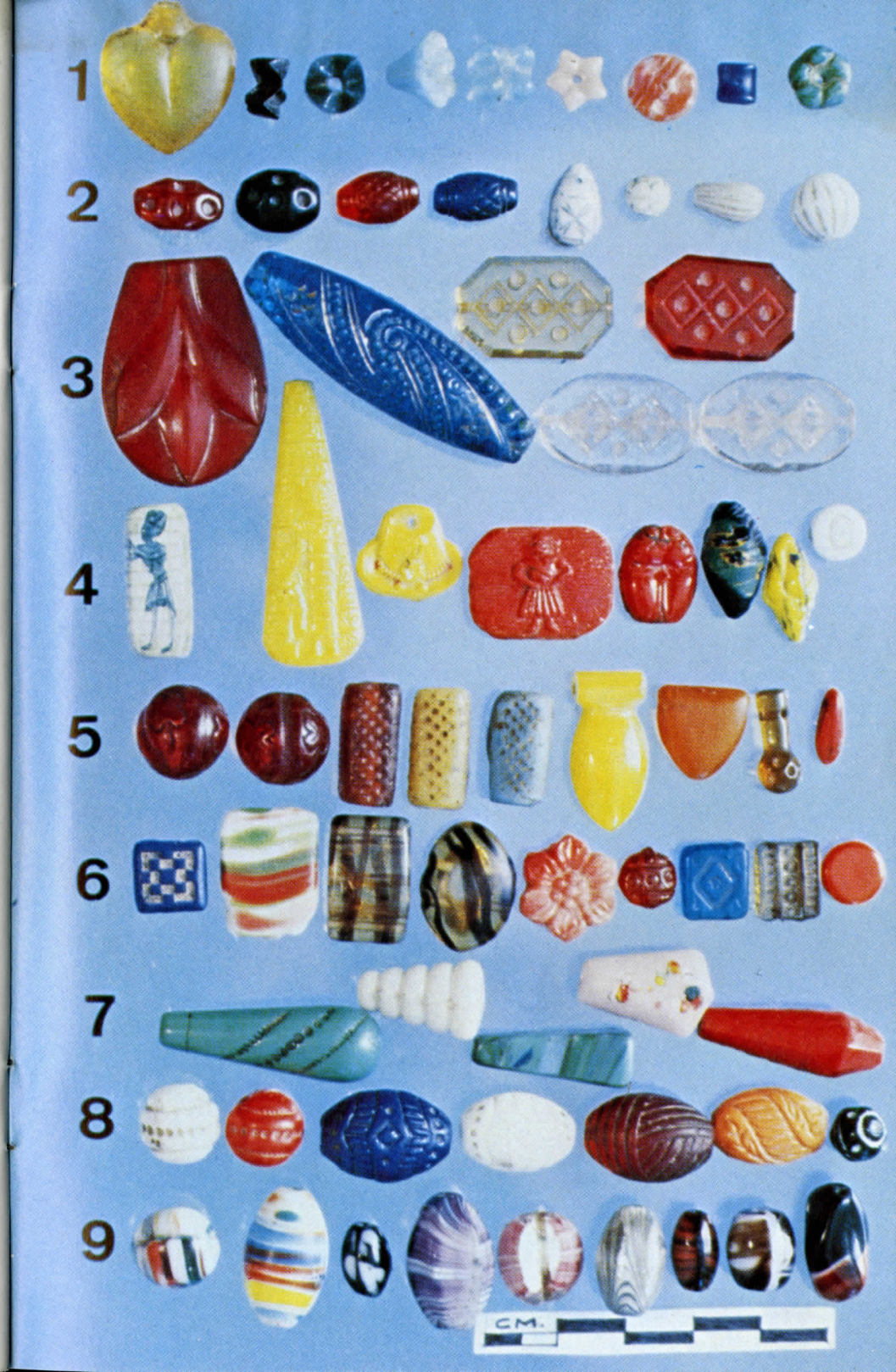
Row 5: 1-2) Impressed flowers. 3-5) Impressed dots. 6-9) Various pendants.

Row 6: Various spacers.

Row 7: Muslim prayer strand end beads.

Row 8: Various beads with impressed designs.

Row 9: Two-layered pressed beads: imitation agates and older blotched types.



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