through the entire volume to see what is being discussed. The bibliography cites neither publisher nor page numbers, an irritant to researchers.

In short, though the book is readable and sometimes interesting, it does not advance the field of bead research in any way, save the hypothesis about the origin of the "man in the moon" bead. This is a real shame. Engle is positioned to have made some real contributions to the field. A thorough study of the important beadmaking center of Hebron (*see* Francis, this volume) would have been welcomed. Had she done her homework in regards to the beads found at Caesarea which she asserts are from the Islamic period by comparing them to excavated examples in local museums and the literature, she could have advanced our understanding of that important beadmaking period. However, despite the announced theme of this volume, its real focus seems to be elsewhere.

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BEADS 2:99-101 (1990)

The Glass Trade Beads of Europe: Their Manufacture, Their History, and Their Identification.

Peter Francis, Jr. The World of Beads Monograph Series 8, 1988. Lapis Route Books, Center for Bead Research, Lake Placid, New York. 69 pp., 1 map, 9 B&W figs., 1 color plate, index. \$11.00 (paper).

Based on Francis' earlier works, "The Story of Venetian Beads" and "The Czech Bead Story," this is a much-updated study reflecting many years of painstaking research involving extensive travel to see museum and private collections, archival resources and modern bead manufacturing throughout the world. Those who have followed Peter Francis' peregrinations, as wonderfully detailed in issue after issue of *The Bead Journal* and its successor, *Ornament*, will, on the whole, be very pleased with the sequel. There are then, a few bones to pick as might be expected for a work of such scope. Taken as a whole, this is a fine complement to the pioneering study in this general field by Kenneth Kidd.

Francis' latest major study is made up of five sections, each of which I shall treat in turn. In Section One, after succinctly summarizing the major European processes for making beads (viz: furnace wound, drawn, and lamp wound) and making brief reference to other processes, notably for making "china" or "porcelain" (elsewhere called "tile") beads, Francis focuses on some major problems associated with identifying beads as to their countries of origin and dates of manufacture. The reader will be certain to agree that the author's caveats on these matters are not to be taken lightly. They include: 1) historical references to beadmaking operations or the bead trade; 2) bead sample cards; and 3) archaeological evidence.

Section Two: "The Medieval Background to Modern European Trade Beads" is but two pages in length due to the paucity of available information.

Section Three: "Venice: The Mother of Modern Beads" has 1) an introduction followed by a discussion of 2) "The Growth of Beadmaking at Venice," in turn succeeded by 3) "Growth of the Industry," 4) "Beadmaking History: The Early Centuries," 5) "The Nineteenth Century," 6) "The Twentieth Century," and concludes with 7) "The Identification of Venetian Beads" by time periods. I personally found this format somewhat awkward since there was considerable overlap among subsections 1 through 5. They all dealt with the history of beadmaking in Venice but from different perspectives.

Section Four: "The Beadmakers of Bohemia" is a wonderful update of Francis' "The Czech Bead Story." Glass beadmaking is traced from the 8th or 9th century to the present. Important to those wishing to make distinctions between Czechoslovakian and Venetian beads is the fact that in 1486, Venetians on the Czech-Bavarian border established a rosary-making factory for Dominican monks. Somewhat later, Venetians sent tubes to Bohemia for finishing, a practice forbidden by Venice in 1510. Francis notes that "after the 15th century there is little evidence of direct Venetian influence in Bohemia, but the relationship between these two beadmaking giants is a constant theme in the history of glass beads" (p. 30).

Francis draws attention to a series of what he considers diagnostically Bohemian beads, in addition to those exhibiting the half-mold technique: short hexagonal to octagonal tube sections with facets ground on the corners, commonly called "Russian" beads. The author goes on to note, however, that the large solid blue ones are not recorded in the Museum of Glass and Costume Jewelry in Jablonec nad Nisou.

Other beads which appear to be of distinctly-Bohemian manufacture appear in the late 19th century when Jablonec had the leading bead industry in the world. Francis records glass imitations, for example, of lapis lazuli, coral, amber, shell and bauxite. Even ancient beads were copied.

Francis very importantly observes in this chapter, as well as in the next, that Bohemian beadmakers left Czechoslovakia after World War II to establish themselves in Austria and Germany. Therefore, while many beads may be distinctly Bohemian in character, they may have been made elsewhere under Czech craftsmen's supervision.

In Section Five: "Other European Glassmakers," the author provides detailed summaries on beadmaking history in the Netherlands, France, Great Britain, Germany and Austria, the Soviet Union, Spain and Belgium. There is so far no evidence that other countries made beads, Francis notes, and Widel's negative findings for Sweden and Valente's for Portugal are emphasized since those countries' world-wide commerce would lead investigators to think that they must have made their own beads.

In his account on the Netherlands, Francis emphasizes the influence of Venetian beadmakers who were initially smuggled into the country since they were violating the laws of Venice by exporting Venetian glassmaking secrets to other countries. The bead industry is seen to have flourished from 1597 to 1697, and beads appear to have been manufactured there until the mid-18th century. As might be expected, the Dutch beads were largely Venetian in character with some possibly being diagnostically Dutch.

Francis mentions in this section that, for sources on glass beads, "the works of van der Sleen can also be consulted" (p. 46). This reviewer believes that it would have been desirable to enter a caveat (as might also have been done in Section Three) that van der Sleen's beliefs concerning the chemistry of Venetian vs. Dutch beads were in error as demonstrated by Karklins.

A fascinating account is given for France of the making of false pearls from their invention in the 17th century to the present day. The author stresses the importance of another French beadmaking industry which involves the making of false jet which appears to have begun in the 18th century and was later copied in Bohemia. Francis regretfully states that other than for false pearls and false jet there is little information on what most of the other beads were like over the centuries other that that many of the trade beads used in the 18th century were "rocaille," a term usually referring, the author notes, to "small drawn 'seed beads'." Francis also cites the introduction of the Prosser method ca. 1866, the Art-Nouveau-movement beads in the early 20th century, and finely-crafted beads of Pierre Rousselet whose company made beads of baroque style from 1922 to 1975.

As for Great Britain, Francis, like various researchers, finds information about glass beadmaking hard to come by. The earliest beads are seen to be glass tubes called "bugles" with the first bead house, beginning ca. 1579, being owned by a Venetian. By ca. 1635, there is mention in a patent of "Beads and Beaugles," the "beads" assumedly being other than tubular forms. In 1800, Francis notes the making of "patent pearl... and fancy beads made in Birmingham" (p. 51).

Francis reports that at least as early as 1280, Venice was exporting glass to Germany for the making of glass beads. When the Venetians forbade this export in 1510, the Germans started making their own glass, probably in the Thuringia Forest in 1597. Francis traces the beginnings of the industry in various areas emphasizing that "the real heart of German glass beadmaking is in Bavaria, where beads have been made for 500 years and are being produced today" (p. 52).

The earliest-known German beads are seen to come from the Royal Forest of the Fichtel Mountains where mostly black furnace-wound rosary beads were first made in 1486. The industry is known to have flourished from the 16th through the 18th centuries. Then, after assorted vicissitudes, beadmaking in the Royal Forest came to a halt with World War II. Very interestingly, Francis notes: "Most recently, a costume jewelry industry has been started using old beads" (p. 52).

Austria, Francis relates, had its beginning in beadmaking in Innsbruck and Graz in 1765, but the industry quickly died out. At present, however, there are seven Austrian beadmakers whose products include imitations of precious stones and pearls. Their current products of blotched glass and cut crystal beads made of relatively heavy and brilliant lead glass appear to be distinctive.

The author was unable to find much information on beads made in the U.S.S.R. The earliest beadmaking he reports is a factory opened in 1753 at 'Ust Ruditsy. The owner planned to make, among other things, "pearls, strings of beads, glass jet" (p. 54). The factory quickly failed in these pursuits and took on the making of mosaic tiles.

Another factory, Francis notes, was set up in Estonia in 1764, with German beadmakers who made clear, spool-shaped beads. Wound beads are seen to have been made for local consumption near Moscow in the 1880s. Bokhara in Uzbekistan appears to have been a center for making beads since the turn of the 20th century.

The identification of Spanish beads, particularly the older ones, is seen to be something of an enigma.

Small, wound, clear, yellow and green ring beads may have been brought by Columbus. Their heavy lead content is believed by some researchers to reflect Spanish manufacture. This reviewer might add that Robert Brill's analysis of the beads from San Salvador as compared with the analysis of Spanish glass of the 15th century leaves little doubt that the beads are indeed Spanish.

The last European country where Francis knows beads to have been made is Belgium, where the presently known records suggest that beadmaking may not have begun until the mid-19th century. However, glassmaking was practiced since as early as 1622, and perhaps beadmaking was simply not recorded, as Francis suggests (p. 55).

Though only 69 pages long, this is certainly an impressive treatise, encyclopedic in scope, diligently referenced throughout, yet easy to read and accompanied by appropriate line drawings and a fine color plate. One might have wished that there had been many more of the latter to illustrate the enormously broad range of beads manufactured in Europe. However, Peter Francis is assiduously selective and nicely complemented his text with illustrations and the use of the Kidds' typology whenever it was referenced by other researchers. His citations cover some 300 entries, many in languages other than English, including French, Italian, Spanish, Portuguese and German, and are as recent as 1988, the very year of the publication of this work.

This treatise is a landmark in bead studies and will be certain to be treasured by all researchers as a valuable contribution to our knowledge of glass beads and beadmaking. The author has not only provided precious factual data in compact syntheses, but he has provided insights into the origin, manufacturing techniques, and bead dispersals that are of lasting value and a fine tribute to his exceptional scholarship.

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