

---

# THE SINKANKAS LIBRARY

---

By Dona M. Dirlam, Elise B. Misiorowski,  
Juli L. Cook, and Robert Weldon

*The world-renowned Sinkankas collection of books and other publications is now available to the public as part of the Richard T. Liddicoat Gemological Library and Information Center at GIA Santa Monica. Acquired by noted author and lapidary John Sinkankas and his wife Marjorie over the course of 40 years, the approximately 14,000 items include virtually all of the major works related to the study of gems and jewelry. This review of the important works in the Sinkankas library also serves to highlight the historical development of gemology – in art, in culture, and as a science.*

A major event in both the literary and gemological worlds occurred in January 1988, when the unique collection of books, reprints, pamphlets, and illustrations that comprised the John and Marjorie Sinkankas Gemological Library was purchased by the Gemological Institute of America. Accumulated over a period of nearly 40 years, the Sinkankas collection grew into the largest gemological library in existence, and became the standard to which all others are compared (figure 1).

The Sinkankas collection combined with the GIA library forms the nucleus of the state-of-the-art Richard T. Liddicoat Gemological Library and Information Center, which has just opened at the Santa Monica GIA campus. Now that the Sinkankas materials are accessible to the public, we want to familiarize the gemological community with the development of the collection and the highlights of this remarkable resource.

## THE DEVELOPMENT OF THE SINKANKAS LIBRARY

The library first took form in the late 1940s and early 1950s, when John Sinkankas returned to his interests in the earth sciences following World War II. These interests were of long standing: His mineral collecting activities began at age seven, when he first wandered into one of the famous zeolite-producing quarries of Paterson, New Jersey, the city of his birth. Subsequent family excursions to the American Museum of Natural History in New York City led him to the splendors of the Morgan Gem Hall and its rough and cut gemstones. Here, he saw the famous blue topaz egg faceted by Anthony Esposito that inspired him to turn to lapidary work after the war. As Captain Sinkankas gained proficiency on the wheel, he began writing for *Rocks & Minerals* magazine, taking up editorship of the Amateur Lapidary section in 1951. These articles attracted the attention of D. Van Nostrand Company, who in 1957 published the first edition of his *Gem*

---

### ABOUT THE AUTHORS

Ms. Dirlam is senior librarian, Ms. Misiorowski and Ms. Cook are research librarians, and Mr. Weldon is slide librarian in the Richard T. Liddicoat Library and Information Center of the Gemological Institute of America, Santa Monica, California.

*Acknowledgments: The authors wish to thank Marjorie and John Sinkankas for their invaluable assistance with the preparation of this article; Mary Murphy Hammid, Vandall King, and Neil Letson for input on the manuscript; and the Smithsonian gem collection staff for assistance with illustrations. Ruth Patchick was invaluable in typing the drafts of the manuscript.*

Gems & Gemology, Vol. 25, No. 1, 1989, pp. 2-15  
© 1989 Gemological Institute of America



Figure 1. This display shows some of the exceptional books in the Sinkankas collection. Included among the thousands of items in this collection are many of the rarest and most important works in gemology, dating from the early 16th century. Virtually every gem material is represented, as are jewelry, gem lore, synthetics, and many other related topics. Photo by Robert Weldon and Shane McClure.

*Cutting—A Lapidary's Manual*. In the course of writing, Sinkankas greatly expanded his personal library as he sought books that would shed light on lapidary techniques used by others, types of gemstones and their properties, sources of rough, and other matters necessary to provide a well-rounded and authoritative text.

The post-World War II period was an excellent time to collect books, as a war-torn Europe was eager to rebuild. European bookshops were more than willing to exchange books for relatively small sums of money and regularly supplied them to established collectors in the United States. Among the most active were Dr. Mueller of Phoenix, Arizona, whose jewelry establishment still exists; Dr. H. C. Dake, the late founder and editor of *The*

*Oregon Mineralogist*; and Dr. Daniel Willems of Chicago, who issued numerous catalogs of gem books which in themselves are now collectors' items. The Sinkankases obtained books from all of these individuals, as well as from many other sources and from bookshops worldwide.

In the late 1960s, the Sinkankases purchased all of the foreign-language books in the extensive collection of B. D. Howes, owner of the prominent Los Angeles jewelry store of the same name. Many of the classic antique books on engraved gems that are now in the Sinkankas collection were acquired in this move; in this category alone, the collection holdings far exceed those in many major art libraries. Other purchases reflected the expanding interest in books other than those purely on



Figure 2. John Sinkankas is seen here in the office of Peri Lithon, the Sinkankases' rare-book enterprise. He is surrounded by rebinding presses and other paraphernalia of his book-restoring projects. Photo by Robert Weldon.

gemstones, but all of them relate to the central theme of gem materials.

In the course of collecting, Sinkankas wrote nine books on gemologically related subjects. His first, *Gem Cutting*, is now in its third edition and was recently chosen by the USSR for translation into Russian. The two-volume *Gemstones of North America* and his most recent, the monumental *Emerald and Other Beryls*, are now classics. Because even his early works are still in demand, formerly out-of-print books are now being reissued with slightly different titles: *Field Collecting Gemstones and Minerals* and *Sinkankas's Standard Catalog of Gem Values* are now available.

An offshoot of the Sinkankases' collecting activity was their formation of an antiquarian book enterprise in the earth sciences, Peri Lithon Books (figure 2), in 1971, when their first catalog was issued (the latest is number 88). The business gave them many more opportunities to encounter books that could fill gaps in the collection as well as provide numerous editions and variants.

Before starting Peri Lithon, Sinkankas devoted much effort to the cutting of very large faceted stones, thus becoming the country's pioneer in this area (Gray, 1988). Among his larger classic pieces are the 4,000- and 7,000-ct (figure 3) faceted quartz eggs in the Smithsonian Institution collection

(reflecting his early determination to cut an egg like the 1,463-ct blue topaz he saw as a boy in the American Museum of Natural History) and the world's largest faceted golden beryl, a 2,054-ct gem that is also in the Smithsonian.

Currently, Sinkankas is concentrating his energy on the compilation of a comprehensive gemological bibliography. This mammoth reference tool will not only list, but also describe, the thousands of books, articles, and pamphlets that he has personally examined and/or verified, including works written in all Western languages and Russian. However, he still takes time to repair and bind books, does his own watercolor and pen-and-ink

Figure 3. When John Sinkankas faceted this 7,000-ct quartz egg in 1963, it was one of the largest of its kind. It is now housed in the Smithsonian Institution and its image serves as the logo for the Sinkankas bookplate, which appears in each book in the collection. Specimen courtesy of the Smithsonian Institution; photo by Robert Weldon and Shane McClure.



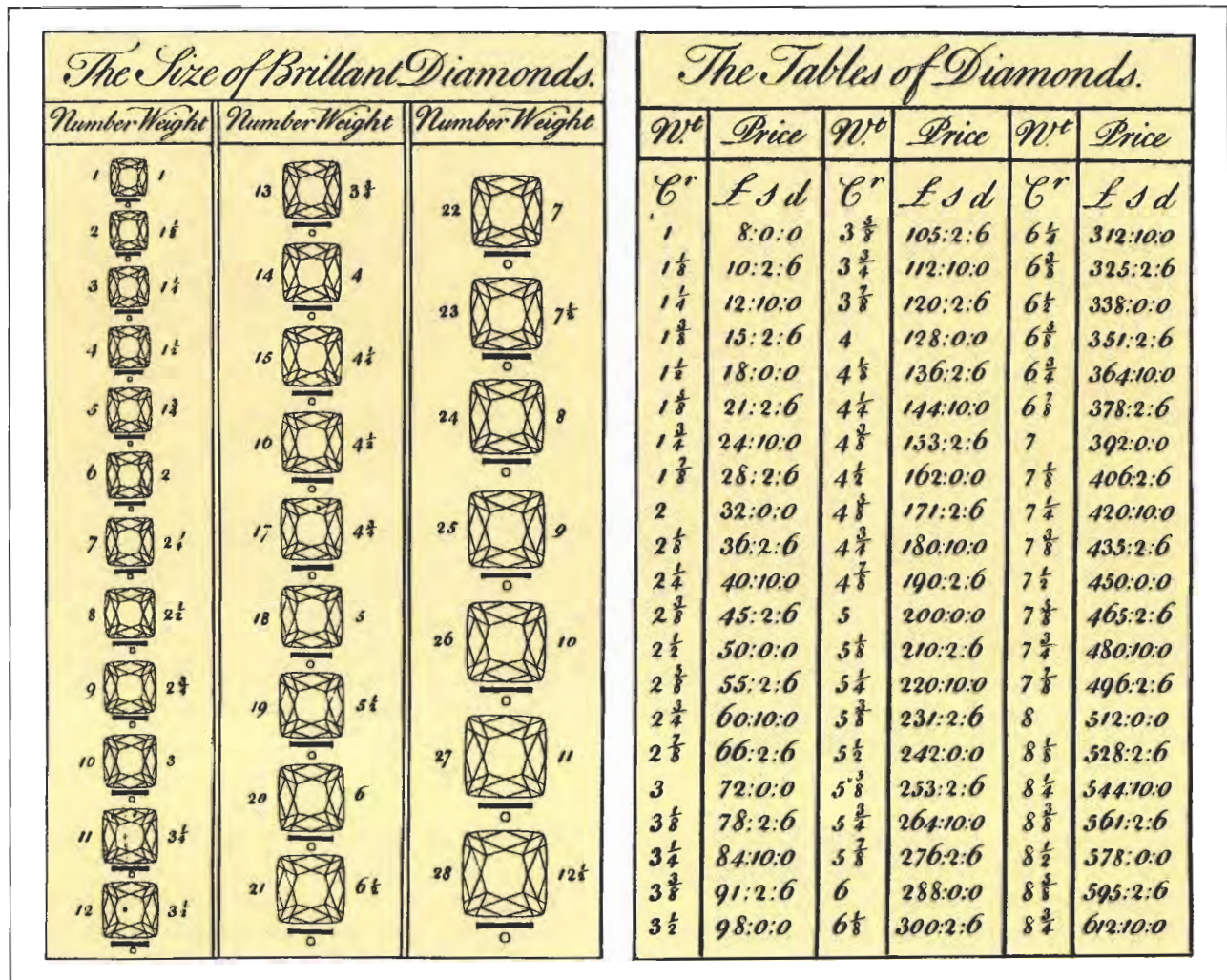


Figure 4. These two pages from Jeffries's 1750 *A Treatise on Diamonds and Pearls* show sizes and weights for old-mine-cut diamonds together with corresponding tables of value per carat. This is one of the first works ever published on the commercial evaluation of gem materials.

drawings of gems and minerals, and helps his wife in her operation of Peri Lithon. Versatile and disciplined yet with a delicious sense of humor, John Sinkankas is a true Renaissance man – and a legend in his own time.

### THE SINKANKAS COLLECTION

The Sinkankas collection consists of approximately 14,000 publications. It boasts numerous one-of-a-kind books as well as all editions of some of the most important treatises in the field—an invaluable resource for tracing the development of knowledge in gemology. To provide some idea of the scope of the collection, and also of the literature in this dynamic field, we have described below a number of the rarer and more important works represented in a variety of subject areas. Information provided by the Sinkankases in a

report on the collection and in the Peri Lithon catalogs has been incorporated (Sinkankas and Sinkankas, 1971–1989; Sinkankas, 1985).

**Diamonds.** There is a considerable amount of information on the properties of diamond, on diamond deposits worldwide and, most extensively, on South Africa. Several dozen works in Russian focus on Siberian diamond deposits and diamonds in general. Diamond technology is represented by many books on industrial diamonds and their applications in industry as well as by several books on diamond cutting. One of the earliest works on the commercial aspects of cut diamonds is the David Jeffries 1750 classic, *A Treatise on Diamonds and Pearls*, which establishes guidelines for evaluating and pricing these highly prized gem materials (figure 4). It may also be one of the



Figure 5. The frontispiece of volume 2 of G. F. Williams's 1902 *The Diamond Mines of South Africa* depicts the author's collection of rough diamonds.

earliest discussions of diamond-cutting styles and processes. This book was so widely used during its time that copies are often badly worn.

A rarity is a special deluxe edition of Gardner F. Williams's two-volume *The Diamond Mines of South Africa*, 1902, of which only 100 copies were issued. Not only does Williams relate the history of diamonds and their discovery in South Africa, but he also provides a detailed explanation of the mining operations and the various influences involved in the diamond market. The many illustrations in this book document the gems (figure 5), personalities, and mines of South Africa in the late 1800s. Sir William Crookes, the famous British chemist, is represented in his small but epochal 1909 book, *Diamonds*, which is based on his visits in 1896 and 1905 to the South African diamond mines and his research into the nature of diamond and its properties. Also present is the now-classic *Genesis of the Diamond*, written in 1932 by Gardner Williams's son Alpheus.

**Jades.** This portion of the collection is important because of the completeness of its coverage. All 13 books by Stanley Charles Nott, the noted jade authority, are represented, including the seldom-encountered *Voices from the Flowery Kingdom* (1947). Among the many attractively illustrated

books on jade collections is the rare 1925 photographic encyclopedia of jade carvings by De Tanner. *Nephrit und Jadeit*, written in 1880 by Heinrich Fischer, is a well-known but seldom-seen historical source book on jade. Also remarkable is the volume privately published in 1900 by Reginald Heber Bishop that was the forerunner of the gigantic, two-volume set describing his jade collection. Of special interest is the early description in French of the jade sources of Khotan (in what is now Turkestan), written by Jean Pierre Abel-Remusat in 1820. This section also encompasses a broad variety of nonbook materials related to jade, from recent auction catalogs to reprints of articles on the question, "What is jade?"

**Pearls.** Several outstanding books and popular treatises delve into the subject of pearls, their history, art, lore, and science. Not only does the collection include personal accounts of those involved in the pearl industry, but it also provides thorough coverage of saltwater and freshwater natural and cultured pearls. George F. Kunz and Charles Stevenson's *Book of the Pearl*, first published in 1908, stands out as one of the most comprehensive works ever written on the subject (figure 6). The text discusses pearls in ancient times as well as pearl fisheries of the world,

including the Persian Gulf, the South Pacific, Australia, and the Mississippi River. An invaluable chapter discusses famous pearls and pearl collections. Kunz continued to research and write extensively on pearls as well as other gems; most of his published works are represented in the collection.

Another classic is *Pearls and Pearl Life*, written by noted London gem expert Edwin W. Streeter in 1886, at a time when pearls were equal in value and popularity to diamonds. Also included are several technical papers and treatises on freshwater pearl mollusks, such as those by the U.S. Bureau of Fisheries, as well as a considerable amount of material on Ceylonese (Sri Lankan) pearls and fisheries. Other works in the Sinkankas collection provide specific details on now-famous pearls. An example is Bram Hertz's description of the Hope pearl in his 1839 *Catalog of the Collection of Pearls and Precious Stones Formed by Henry Philip Hope*.

**Beryl.** John and Marjorie Sinkankas spent 15 years researching and collecting the documentation for his outstanding work, *Emerald and Other Beryls* (figure 7), published in 1981 and now out of print. In the process, the Sinkankases amassed hundreds of publications with entries on beryl that now represent what is probably the most complete beryl reference file ever compiled. It, too, is included with the Sinkankas library, as are all of the reference cards created in the course of this research.

**Other Gem Materials.** Virtually every important gem material is well represented in the Sinkankas collection. It is especially strong, however, in gem materials that usually have the weakest representation.

One of the rarest works on amber, *The Tears of the Heliades or Amber as a Gem*, written in 1896 by W. A. Buffum, provides the first documentation on amber of Sicily (figure 8). Nathaniel Sendel's 1742 classic on insect and various other inclusions in amber is the first major monograph ever published on this topic. It may also be one of the first accounts of falsified inclusions in amber, including in one of its plates a fake specimen of a modern lizard pressed in amber.

Notable, too, are some very fine works on ivory, including Kunz's 1916 classic, *Ivory and the Elephant*. This book is remarkable for its informa-



Figure 6. This frontispiece showing the pearl-adorned Czarina Alexandra Feodorovna of Russia is from Kunz and Stevenson's 1908 *Book of the Pearl*, which remains the definitive reference on pearls.

tion on modern and fossil ivories as well as for its discussion of the cultural aspects of ivory carving and ornamentation in various countries. G. C. Williamson's 1938 *Book of Ivory* describes the use of ivory for other than personal adornment, such as for dice, in Christian art, and for caskets. Also represented is the splendid 1930 Odell Shepard book, *Lore of the Unicorn*, which contains much on minor varieties of ivory.

Although relatively little has been written about coral, the Sinkankas collection contains many attractively illustrated modern books on the

Italian coral industry. One famous early work, written in 1864 by H. Lacaze-Duthiers, examines the history of the material as well as its production in the Mediterranean (figure 9).

Also featured are a number of works on ornamental and building stones, including the elegant 1883 and 1886 volumes by noted American author Sarah Burnham. Since many opaque gem materials such as lapis lazuli, malachite, and serpentine have been used as decorative stones, these books are a fascinating resource that is often overlooked by gemologists.

Tektite and meteorite references are particularly strong. Interestingly, tektites and moldavites are currently enjoying a rise in popularity. This changing nature of what is in vogue is one of the reasons that a library must be richly diverse. Who could have predicted this interest in such unusual gem materials? Fortunately, the Sinkankases' skillful collecting gives us that reservoir from which to draw.

**Jewelry.** This major section includes histories of jewelry, descriptive books on ethnic and period



Figure 7. John Sinkankas painted this watercolor rendering of a red beryl crystal to illustrate his monumental 1981 book, *Emerald and Other Beryls*.

jewelry, and instructional texts on jewelry design and manufacture. An excellent reference on French Art Nouveau designs in particular is the three-volume set on 19th-century French jewelry published in 1906–1908 by Parisian jeweler Henri Vever (figure 10). Equally impressive is the privately printed *Catalogue of the Collection of Jewels and Precious Works of Art, the Property of J. Pierpont Morgan*, compiled by noted English art connoisseur G. C. Williamson in 1910. In mint condition, this huge volume is one of only 150 released.

Books describing crown jewels are especially valuable both in chronicling certain large gems through history and in establishing the use, value,

Figure 8. Amber is especially well represented in the Sinkankas collection. Titled "The Necklace of Galatea," this exquisite illustration of multi-colored amber is the frontispiece for Buffum's 1898 *Tears of the Heliades*.



fashion, and technology of gemstones and jewelry during specific periods. Most of the important works on crowns and coronation regalia of European royalty are included in the Sinkankas collection. Of particular note are the rare pamphlet on the crown jewels of Scotland that was written in 1839 by Sir Walter Scott; a copy of Germain Bapst's 1889 book on the history of the French crown jewels; the seldom-seen 1942 work by Rudolf Cederström on the crown jewels of Sweden; and the recent, comprehensive *History of the Crown Jewels of Europe*, by Lord Twining. Several books and catalogs describe the exquisite jewels and bibelots fabricated by the workshop of Peter Carl Fabergé, the great jeweler to the czars of Russia.

Figure 9. Rich color and fine detail are characteristic of the illustrations in Lacaze-Duthiers's classic 1864 book on the natural history of coral.



Figure 10. This Art Nouveau hair ornament, depicting a rooster holding an amethyst in its beak, was fabricated by René Lalique for display at the 1900 Paris Exposition. A black-and-white photograph of this piece appears on page 725 in volume 3 of Henri Vever's unparalleled *La Bijouterie Française au XIXe Siècle*. Photo courtesy of the Calouste Gulbenkian Museum, Lisbon, Portugal.

The Sinkankas collection also includes almost every volume ever written on rings. These range from a book in Latin by Johann Kirchmann, written in 1623, to the still-important Charles Edwards's *History and Poetry of Finger-Rings*, published in 1855. Other significant volumes include the detailed *Finger-Ring Lore*, first published by William Jones in 1877, and Kunz's 1917 classic, *Rings for the Finger*.

**Engraved Gems.** This section, which encompasses literature on intaglios, cameos, cylinder seals, and scarabs, includes works from the 16th century to the present. Important collections of engraved gems, such as those of French courtesan Madame de Pompadour and the English Duke of Marlborough, are detailed in beautifully illustrated volumes. Early works include writers such as Macarius, Chiflet, Gorlaeus, Gori, De Wilde, and Maffei, as well as the famous P. J. Mariette, whose 1750 book provides the first adequate report on the technology of gem engraving. The notorious Rudolph Erich Raspe, best known for his fabulous



account of Baron Munchausen's adventures, is represented by a 1791 catalog of gem impressions manufactured by Tassie's of England.

Also included are the complete set of 11 books by noted 19th-century authority Rev. Charles W. King, of England. Many of these are still considered primary sources for information about ancient glyptic art. The Sinkankas collection also contains a rare, 1841, two-volume set by James Prendeville describing purportedly ancient engraved gems that were in the collection of Prince Stanislas Poniatowski of Poland. Although many of these pieces were later proved to be clever forgeries, the catalog is nevertheless noteworthy in that its actual photographic prints are among the earliest to appear in any gemological treatise.

The beginning of the 20th century is marked by the appearance of the three-volume set written by Adolf Furtwängler of Germany, which is still one of the most important works of all time on engraved gems. This careful historical treatment

includes an extensive annotated bibliography that covers all aspects of the topic, as well as many plates of impressions made directly from the engraved gems themselves (figure 11).

**Lapidary Arts.** Few books on the actual cutting and polishing of gem materials were written before modern times, because highly skilled tradespeople refused to share the knowledge that guaranteed their livelihood. Some generalized statements, such as the 1906 *Gem-Cutter's Craft* by Leopold Claremont, purport to reveal "secrets," but they actually say little that would be of help to a beginner. Because of Sinkankas's special interest in, and publications on, the lapidary arts, his collection contains virtually all of the books written in Western languages since the end of the 19th century that bear on lapidary work and its technology, including studies of material properties and how these influence cutting. Here is to be found the landmark 1921 work on polishing phenomena by Sir George Beilby, *Aggregation and Flow of Solids*, in which he describes the experiments that led to the famous "Beilby flow" theory of surface polish on gemstones and other hard materials.

**Gemstone Lore.** Much of gem lore goes so far back into antiquity that the origins of many tales and legends, superstitions, and magical imputations can no longer be traced. Yet, many books have delved deeply into this subject. One of the great resources on Indian lore, for example, is the two-volume set of "*Mani-Mala*," or *a Treatise of Gems*, written by Sourindro Mohun Tagore in 1879–1881. The text is a compilation of information on Indian gemstones and their lore gleaned from ancient Sanskrit texts. Written tandem in four languages—English, Bengali, Hindi, and Sanskrit—this is an exceptionally important gem reference.

The Sinkankas collection contains other major works in this area, including 20th-century Egyptologist E. A. W. Budge's books on scarabs and amulets, Kunz's 1913 *Curious Lore of Precious Stones* and 1915 *Magic of Jewels and Charms*, the 1922 work by Isidore Kozminsky, and Léonard Rosenthal's beautifully illustrated 1924 *Au Jardin des Gemmes* (figure 12). A number of original editions of the books on magical jewels by Dame Joan Evans are in the collection, as are several works on gemstones of the Bible. Early lapidary treatises that have much to say on the magical virtues of gems are discussed in Lynn Thorndike's 1923 *History of Magic and Experimental Science*.

Figure 11. Filled with plates of impressions made directly from engraved gems, Furtwängler's three-volume *Die Antiken Gemmen*, from 1900, is one of the most important works in the field. Cameo courtesy of Mary Wildman; photo by Robert Weldon.





Figure 12. This exquisite illustration by Léon Carré is one of 12 color plates from the 1924 deluxe edition of *Au Jardin des Gemmes* by Léonard Rosenthal. It depicts a mythical scene of a stone lion with luminescent emerald eyes guarding the tomb of King Hermias (220 B.C.).

Other topics represented include crystal gazing and bezoars, the animal calculi deemed to be protection against poisoning.

**History, Adventure, Biographies.** Much of the excitement of gems comes from the intrigue and adventure that surrounds these small objects of great value. This collection contains many stories of gemstone smuggling and fraud, personal accounts of travels, and biographical works on famous persons involved in diamonds and colored stones. Included are several books on the scandal of the Marie Antoinette necklace, such as *The Story*

*of the Diamond Necklace*, written in 1867 by Henry Vizetelly. This two-volume work recounts the curious disappearance of an extremely valuable diamond necklace that was allegedly sold to Marie Antoinette in 1785 for nearly 1,600,000 francs. The French queen denied ever having ordered such a necklace, and the discoveries of deceit and fraud that followed resulted in the most celebrated trial in 18th-century France.

Perhaps the greatest travel books in gemology are those by renowned French gem merchant Jean Baptiste Tavernier, who wrote *Les Six Voyages* in three volumes, 1676–1679 (figure 13). These books



Figure 13. Taken from *Les Six Voyages de Jean Baptiste Tavernier*, this 1679 engraved portrait depicts Tavernier, also known as Knight Baron d'Aubon, at the age of 74. The facing page shows native miners selling gems to Tavernier during one of his journeys.

chronicle Tavernier's journeys into Turkey, Persia, and the East Indies in the mid-1600s. Although he bought and sold many items, his most notable transactions involved diamonds. One of the blue diamonds that passed through his hands is reputedly the parent stone of the notorious Hope. Also included is a splendid two-volume set of Sir Richard F. Burton's *Explorations of the Highlands of Brazil*, 1869, in which he recounts his experiences in the alluvial diamond mining districts. Another classic is the 1892 account by Lord Randolph Churchill, father of Winston Churchill, of his personal adventures in Africa, including his meetings with De Beers—founder Cecil B. Rhodes and a description of the diamond-mining industry in South Africa.

There are dozens of autobiographies that feature the trade experiences of gem dealers, miners, jewelers, and others connected to the gem industry. Emerald mining in Colombia is the subject of several of these, including Russ Anderton's *Tic-Polonga*, 1953. Other exciting and true stories of adventure in the gem trade appear in the many books by Louis Kornitzer, who wrote his first, *Trade Winds*, in 1933, and his last, *Jewelled Trail*, in 1940. Also included are biographies of persons who made notable contributions to the earth sciences, from a book on Russian pegmatite expert A. E. Fersman to George Merrill's 1924 *The First One Hundred Years of American Geology*.

**Synthetics and the Art of Synthesis.** This category features Henri Moissan's famous 1897 monograph on the electric furnace, in which he claimed to have synthesized diamond—a claim that was later discredited. A major treatise on the early synthesis of ruby is the colorfully illustrated 1891 work by Edmond Fremy, *Synthèse du Rubis*, in which he details his successful attempts to grow small, but undoubtedly true, synthetic rubies. The gemologist is sure to appreciate Fremy's depiction of the synthesis apparatus as well as numerous examples of flux-grown synthetic rubies (figure 14). Both the 1914 and 1926 editions of Hermann Michel's *Künstlichen Edelsteine (Synthetic Gemstones)* contain a great deal of information on separating natural gems from their synthetic counterparts. The addition in the 1926 version of a discussion of pearls and cultured pearls is another example of the major changes that can occur in gemology over the course of a very few years, changes that can often be detected in the various editions of a single book.

**General Gemology.** A large portion of the library consists of publications that treat all aspects of gemology, including some of the earliest known treatises. Represented are all editions of Boetius De Boodt's *History of Gems and Stones*, first published in Latin in 1609; Thomas Nicols's *A Lapidary or, the History of Pretious Stones: With*

*Cautions for the Undeceiving of All Those That Deal with Pretious Stones*, 1652, the first gemology text known to be written originally in English; and Robert Boyle's *An Essay about the Origine and Virtues of Gems*, from 1672 (figure 15). In addition to De Boodt, the complete works of several other important authors are available, including Lewis Feuchtwanger, Max Bauer, Edwin Streeter, and G. F. Herbert Smith (14 editions!).

An added benefit to so complete a collection is the access to the illustrations that decorate these books. Long before photography became a means of visual communication, paintings of the mineral specimens and gems served this purpose. The hand renderings and prints found in these pages are often works of art so exquisite that they almost overshadow the photography that has replaced them (see cover).

**Mineralogy.** In his research on gem cutting, Dr. Sinkankas quickly realized that a sound library on mineralogy was vital to understanding the physical properties that affect the behavior of minerals when they are cut. The very early treatises, such as Theophrastus's 1746 *Peri Lithon* (*Book of Stones*) and Albertus Magnus's 1591 *De Mineralibus* (*Book of Minerals*), actually devoted much more space to gem materials than to other classes (Adams, 1938). Most such writers were far more familiar with gemstones (including those thought to possess magical or medicinal properties) than they were with ores or minerals that had no economic applications at the time.

Along with the 1746 edition of Theophrastus and an original copy of Albertus Magnus (as well as the surprisingly scarce Dorothy Wyckoff 1967 English translation), the collection includes a fine 1881 color reproduction of the 13th-century illuminated manuscript, *Lapidario del Rey D. Alfonso X*, and several printings of *Speculum Lapidum* (*Mirror of Stones*), by Camillus Leonardus, first published in Latin in 1502. A great rarity is the two-volume *Elementos de Orictognosia*, written by Andrés Manuel Del Rio in Mexico City, 1795, the first book on mineralogy by a resident of the Americas. Other famous mineralogical works include the 16th-century treatise by Aldrovandi, as well as books by Cesi, Forsius, Guido, Henckel, and Sage.

The collection is exceptionally strong in crystallography, and features René Just Haüy's 1784 historic work in which he gives the first non-

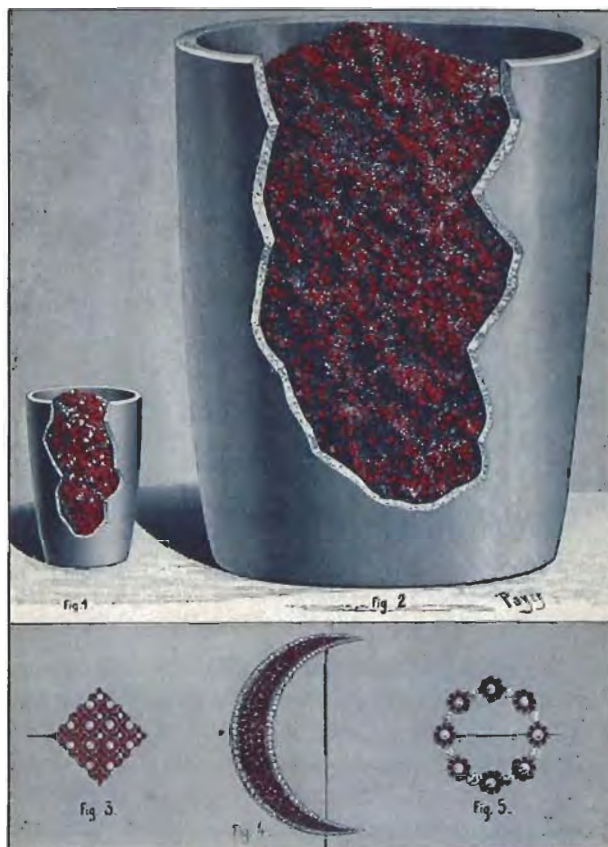


Figure 14. This plate from Edmond Fremy's 1891 *Synthèse du Rubis* shows cutaway views of two crucibles containing flux-grown synthetic ruby crystals. Three pieces of jewelry set with flux-grown synthetic rubies are also featured. This plate serves as an important reminder that synthetic ruby has been used in jewelry for just about 100 years.

destructive systematic tests for gems based on their physical properties. Also represented are W. H. Miller's 1839 *Treatise on Crystallography*, a complete 18-volume set of the original 1918 *Atlas of Crystal Forms* by Victor Goldschmidt, and works by Fedorov, Schrauf, and Boldyrev.

**Mineral Localities.** The coverage in this category is excellent. Included are a number of files with pamphlets, reprints, and extensive monographs of mineral localities worldwide, as well as many government papers.

Sinkankas's two-volume *Gemstones of North America* is the classic reference for this continent. It is not surprising, then, that the collection provides publications on almost every state in the



Figure 15. These title pages are from three early books on gemology and mineralogy (clockwise from the upper right): Robert Boyle's 1672 *An Essay About the Origine and Virtues of Gems*, a 1717 edition of Camillus Leonardus's Latin *Speculum Lapidum* (*Mirror of Stones*), and Thomas Nichols's 1652 *A Lapidary or, the History of Precious Stones*, which is the earliest known work on gems written in English. Photo by Robert Weldon.

U.S.A., with the fullest detail given to California, Arizona, and Colorado. There are also some excellent treatises on mineral localities of the eastern United States, most notably Hamlin's 19th-century books on Maine tourmaline. Many South American, Asian, and European countries are represented by authors such as Sowerby, Mawe (figure 16), Jameson, Lacroix, vom Rath, and Monticelli.

**General Reference.** Numerous books have also been assembled in fields that are secondarily related to gemology. One of the earliest, and perhaps most famous, academic treatises is Pliny's *Natural History*. The collection contains 29 different editions of this work by the Roman scholar formally known as C. Plinius Secundus, who died in the eruption of Mt. Vesuvius in 79 A.D. One of the Latin editions dates to 1525, and there are translations in several different languages. Other related fields, such as art, aerial geology, federal geologic surveys, general travels, and basic sciences, are also represented.

#### NOTES REGARDING THE PRESERVATION AND FUTURE OF THE LIBRARY

The reality of the Sinkankas collection also poses questions about the upkeep and security of this storehouse of information. In our role as relatively "short-term" caretakers of this invaluable re-

source, it is our responsibility to create guidelines and procedures that will enhance and preserve it. As Marge Sinkankas stated so well during a planning meeting, "No one really owns a 350-year-old book. You are merely a custodian of it for 20 or 30 years, and are given the opportunity of protecting it during that time." Our vision is that generations of scholars will continue to benefit from the treasure trove of information, illustrations, and related data contained in this unique collection.

In the event of earthquake or fire, for example, the library staff will implement a disaster preparedness plan established in conjunction with other major libraries in the Los Angeles area. In addition, an extensive sprinkler system has been installed. Water-damaged books can be restored; books destroyed by fire cannot.

Another important problem is that of climate control. Inadequate temperature and humidity can, in time, take their toll on books and documents. Temperature studies indicate that the cooler manuscripts and books are kept, the better they are preserved (White, 1979). In addition, temperature should remain as constant as possible, day and night; fluctuations could cause condensation on the paper, warping of covers, and other damage. High humidity accelerates the deterioration of paper, and also encourages insect and fungus activity. Conversely, low humidity causes books to become brittle and desiccated, thus imperiling their survival if they are frequently

opened. According to studies on the subject, an optimum temperature for books is 72°F, with an optimum relative humidity of 50% (Banks, 1978). To maintain the proper environment, the Sinkankas collection is housed at GIA in a separate air-controlled room.

Protecting the library from vandalism or theft is also of paramount importance. Policies that ensure the careful use and storage of books and manuscripts are being instituted. In addition, we require that users of the library view a videotape that details proper handling of books and documents. The separate room for the Sinkankas collection is also secured with its own alarm system.

### ACCESSIBILITY

The conversion of GIA's library into a state-of-the-art information center has been described in GIA's Alumni Association magazine *In Focus* (Dirlam, 1988). Access to information in the GIA library is possible through telephone calls and letters as well as through visits to the Santa Monica campus. Resident students enrolled in classes at the Santa Monica campus have the additional privilege of checking out books and journals from the circulating collection of the library. Students and the gemological community are invited to use the Sinkankas collection in a special study area, by appointment. While the rare books cannot be removed from the library, photocopying will be available. GIA's computer-interactive network, GIA-Net, offers another dimension for those desiring gem or jewelry information. Once the computer cataloging of the Sinkankas collection has been completed, the resulting database will be accessible via GIA-Net.

Over the course of four decades, John and Marjorie Sinkankas brought together what is considered the finest collection of books and other publications on gems ever assembled. As part of the Richard T. Liddicoat Information Center, this collection not only serves as an invaluable resource, but also broadens our perspective of the wealth of knowledge, depth of history, and exquisite beauty that is gemology.

*EDITOR'S NOTE: For further information on the Sinkankas collection or the Richard T. Liddicoat Gemological Library and Information Center, please contact the authors at GIA, 1660 Stewart St., Santa Monica, California 90404. Phone: (213) 829-2991, x361.*

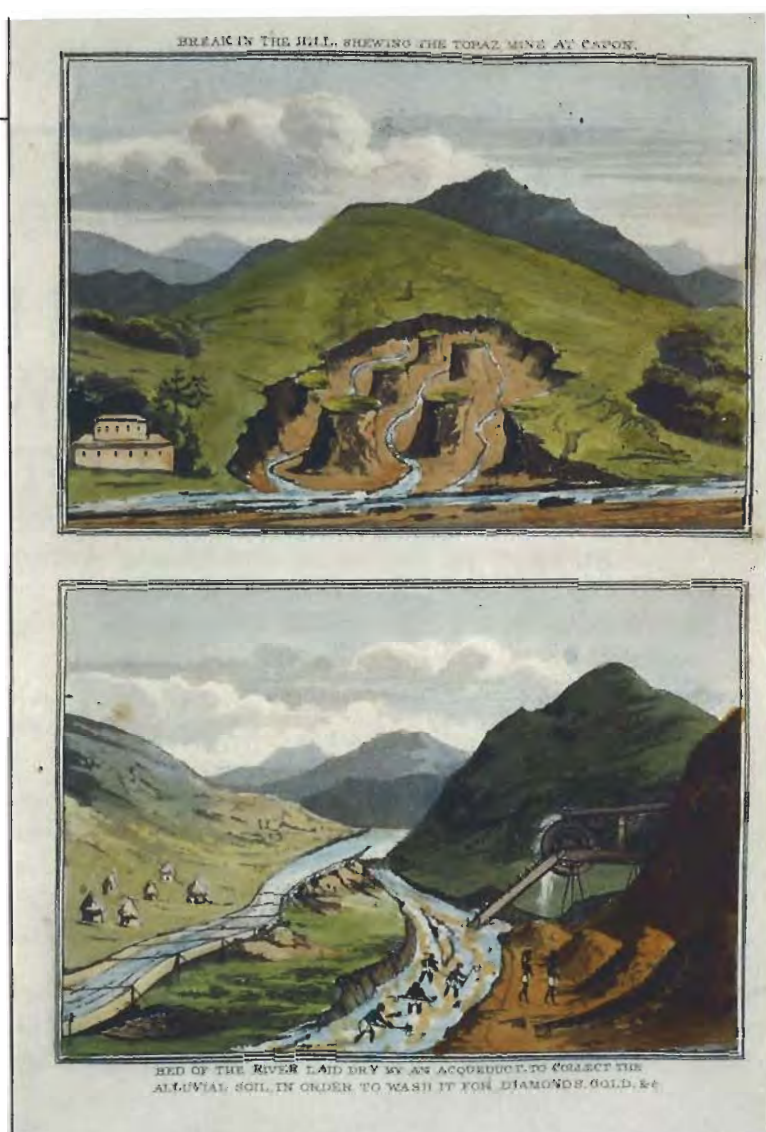


Figure 16. These hand-painted illustrations from John Mawe's 1804 *Travels in Brazil* show (above) a topaz mine at "Capon," Brazil, and (below) alluvial mining operations for the recovery of gold and diamonds.

### REFERENCES

- Adams F.D. (1938) *The Birth and Development of the Geological Sciences*. Dover Publications, New York.
- Banks P.N. (1978) *The Preservation of Library Materials*. The Newberry Library, Chicago.
- Dirlam D.M. (1988) GIA acquires the Sinkankas collection. *In Focus*, Spring, pp. 24-26.
- Gray M. (1988) Faceting large gemstones. *Gems & Gemology*, Vol. 24, No. 1, pp. 33-42.
- Sinkankas J. (1985) The John and Marjorie Jane Sinkankas gemological and mineralogical library: A brief history and description. Unpublished report.
- Sinkankas J., Sinkankas M. (1971-1989) Catalogs No. 1-88. Peri Lithon Books, San Diego.
- White H.S. (1979) *Library Technology Reports*. American Library Association, Chicago.