THE ULTIMATE GEMOLOGIST: A TRIBUTE TO RICHARD T. LIDDICOAT

By Dona M. Dirlam, James E. Shigley, and Stuart D. Overlin

"If I have seen farther . . . it is by standing on the shoulders of giants."

Isaac Newton

On this occasion—the celebration of Richard T. Liddicoat's 50 years guiding *Gems & Gemology*—it is fitting to review his enormous impact on the field of gemology. This includes the development of GIA's education program, the creation of the quality-grading system for polished diamonds that is now accepted worldwide, numerous contributions to the gemological literature, involvement in new gem-testing techniques and instruments, and the establishment of a formal research program. His greatest achievement, however, has been his personal influence on the professionalism and ethical standards of the international gem and jewelry industry.

ith this special issue of Gems ⊕ Gemology, we celebrate the 50th anniversary of Richard T. Liddicoat (figure 1) as editor and now editor-in-chief of GIA's quarterly professional journal. This festschrift, or special celebratory issue, provides a welcome opportunity to review his contributions to gemology, especially in five main areas: education, diamond quality grading, gem identification, instrument development, and global information outreach. Following the lead of GIA's founder, Robert M. Shipley, Liddicoat positioned GIA as a leading international educational institution, grading laboratory, manufacturer of gem instruments, and research center. Those who have had the privilege to know and work with him have been able to expand the frontiers of gemology "by standing on the shoulders" of this giant.

THE EARLY YEARS

Robert M. Shipley founded the Gemological Institute of America in Los Angeles, California, in 1931. His vision was to create an institution that would promote professional education in gemology for jewelers in the United States, allowing them to buy and sell with increased knowledge and confi-

dence. At the time, no such organization existed in the U.S. In the early 1930s, Shipley—working in partnership with his wife Beatrice—stimulated interest among jewelers by traveling across the U.S. to retail stores, where he would preach the benefits of gemological education. In the evenings in his hotel room, Shipley would write courses for jewelers to take through correspondence. He established the beginnings of an educational institute in Los Angeles with a small staff that grew slowly over the next decade as resources allowed. Together, he and his staff created lessons, gave instruction on gemstones and their properties, and began the process of helping jewelers correctly identify the gem materials they handled (Gilbert, 1977).

By 1940, Shipley realized the need for additional leadership at GIA. His son, Robert Shipley Jr., who had worked closely with him in recent years, had signed up for military service. Shipley contacted Chester B. Slawson, a mineralogy professor at the University of Michigan in Ann Arbor who was

See end of article for About the Authors and Acknowledgments. GEMS & GEMOLOGY, Vol. 38, No. 1, pp. 2–13.

© 2002 Gemological Institute of America

THE TOTAL STATE OF THE TOTAL STA

Figure 1. Since 1940, Richard T. Liddicoat's contributions to gemological education, diamond quality grading, gem identification, and gemological research and instrument development have advanced the study of gemology throughout the world. As a former president of GIA, now Chairman of its Board of Governors, and chief editor of Gems & Gemology for five decades, he has had a profound influence on the gem and jewelry industry.

co-author of one of the leading gemology texts at that time, *Gems and Gem Materials* (Kraus and Slawson, 1939), as well as one of GIA's educational advisors. In his letter, Shipley asked Slawson to recommend a mineralogist to join the GIA faculty. Dr. Slawson suggested one of his graduate students, Richard T. Liddicoat. As Liddicoat recalled, "Slawson thought that I was wedded to graduate school and headed for a Ph.D. in mineralogy, so he didn't think I'd be interested. But he showed the letter to me anyway. After years of school, I was ready to do something else. The idea of gems and Los Angeles really had appeal" (Youngs, 1980, p. 40).

Liddicoat drove with his wife Mary Imogene ("Gene") Liddicoat to Cincinnati, Ohio, for an interview with Robert Shipley and then-chairman of GIA's Board of Governors, Edward Herschede. He found both men impressive, with Shipley especially charismatic in his passion for education and gemstones.

Richard Thomas Liddicoat Jr. was born on March 2, 1918, in Kearsarge, Michigan, the son of a professor of engineering at the University of Michigan, Ann Arbor, and Carmen Beryl Williams Liddicoat. Both his grandfathers were miners from Cornwall, England, who had immigrated to the upper Keweenaw Peninsula of Michigan in the latter half of the 19th century. These two men inspired their grandson to explore the geology of his surroundings. Liddicoat attended the University of Michigan, from which he received a bachelor's

degree in geology in 1939 and a master's degree in mineralogy in 1940.

On June 28, 1940, Liddicoat joined the GIA staff as assistant director of education, beginning a 60+ year career of service to GIA and the jewelry industry (see highlights in the timeline). In those days, the Institute was a family affair: Beatrice Shipley managed the office, while Shipley Jr. focused on developing gemological instruments and techniques, as Shipley Sr. continued with education and attracting jewelers to the GIA programs. (Also involved was Beatrice's nephew Al Woodill, who briefly worked at GIA in 1940–1941. In 1947, Woodill became the executive head of GIA's sister organization, the American Gem Society [AGS], which Shipley Sr. had established in 1934 as a professional guild of jewelers.)

Liddicoat's first priority was to take the GIA courses, which he completed in less than three months. As an instructor, he was responsible for grading GIA correspondence exams—on average, 225 tests per week. "When I first came out here, I used to grade all the papers. They were all essay questions in those days. I would take all the papers home with me, one day a week, and just keep going until I finished them. Sometimes, it was pretty late when I got through with them all," Liddicoat later recalled (Youngs, 1980, p. 40).

Within a year of his hiring, Liddicoat was named director of education, the first person outside the Shipley family to hold a major position within GIA.



Figure 2. Standing in the back of a February 1949 gemology class at GIA's New York office are G. Robert Crowningshield (in front of the chalkboard) and Richard T. Liddicoat (back row, far right).

CONTRIBUTIONS TO GEMOLOGICAL EDUCATION

One of Liddicoat's first innovations in gemological education was an intensive one-week class that was launched at the AGS Conclaves in Philadelphia and Chicago in 1942 (Federman, 1985a). He developed this class to enable students to complete the prerequisite Diamond and Colored Stone training of Shipley's original fundamental course in a one-week resident education format. This class also gave jewelers the opportunity to work with equipment in a classroom setting under the guidance of GIA instructors (figure 2). Liddicoat would become a mainstay as a speaker and instructor at these Conclaves, and in 1997 the AGS honored him for having attended 50 of them ("A special tribute...," 1997).

During World War II, from August 1942 until

January 1946, Liddicoat left GIA to serve in the U.S. Navy. After working for a few months in a shipyard, he eventually was assigned to the Pacific fleet as a weather officer on aircraft carriers and at Pearl Harbor ("Liddicoat resumes work at headquarters...," 1946).

Upon his return from military service in February 1946, Liddicoat was named director of research and, later, director of education and research. The March 1946 issue of the AGS magazine *Guilds* described him as "an extremely popular leader and instructor who proved his ability to project his personality into instruction in the mail courses" ("Liddicoat resumes work at headquarters...," 1946, p. 5). In June 1946, he helped launch the first evening gemology class in Los Angeles, which allowed local GIA correspondence students to gain hands-on experience while continuing to work in their jewelry stores during the day.

Recognizing the need for an inexpensive handbook for GIA students, Shipley assigned Liddicoat the task of creating it. This new gem identification reference book was the first directed to the needs of the practicing gemologist. Closely tied to the GIA course work, it also was unique in organizing the gemstones by color. Liddicoat spent almost a year on the book, dictating sections to his wife Gene in the evening (R. T. Liddicoat, pers. comm., 2002). In August 1947, the first edition of his Handbook of Gem Identification was published (figure 3). This book, one of the first to include photomicrographs of inclusions as identifying characteristics, supported GIA education classes that increasingly focused on gem identification and gem-testing instrumentation. It continues to be one of the most widely used textbooks in gemology, now in the fourth printing of its 12th edition.

1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953

June 28, 1940 Joins the staff of GIA as assistant director of education



Fall 1941 Helps develop the Diamolite; publishes (with Shipley) his first article for *Gems & Gemology*: "A Solution to Diamond Color Grading Problems"

A Solution To Diamond Color Grading Problems*

1982 I Service 20 to 1, 1982 I

February 1946
Returns to GIA as director of research

August 1947
Publishes first edition of the *Handbook of Gem Identification*

1948 Named assistant director of GIA

1949 Named director of GIA New York and GIA Gem Trade Laboratory

April 1, 1952 Named executive director of GIA; assumes editorship of *Gems & Gemology*

April 1953
Officially introduces the GIA diamond grading system as part of new educational class in New York

Beginning in 1948, GIA granted the title gemologist to those students who had completed all of the home study courses, and awarded the title graduate gemologist (G.G.) when students completed the additional class training and passed the 20-stone exam. Since the inception of the graduate gemologist diploma, approximately 25,000 students have gained this important industry recognition. Later in 1948, Shipley turned over much of the day-to-day operation to Liddicoat ("Executive staff changes...," 1948). GIA student enrollment grew substantially during the postwar years, influenced in large part by the G.I. Education Bill, by which the U.S. government gave financial support to its military veterans. To meet the needs of a growing student population, more instructors were added to the GIA staff to teach the students both in "extension" classes at the Los Angeles headquarters and through home study education. During the latter half of the 1940s, the GIA staff doubled from 20 to 40. When the G.I. Bill's benefits ended in the early 1950s, however, enrollment fell off sharply, and GIA faced a financial challenge just as Shipley was planning to retire.

Liddicoat, Shipley's handpicked successor, became executive director of GIA on April 1, 1952. He moved quickly to address the Institute's financial problem by focusing GIA's education on a key concern of jewelers: diamond grading.

In the early 1950s, jewelers were calling for a standardized diamond grading system to counter the fanciful and often inconsistent terminology then being used to describe polished diamonds. Such descriptions only made effective communication between dealers and customers more difficult. Liddicoat tackled the problem with Los Angeles colleagues Lester Benson and Joe Phillips, with

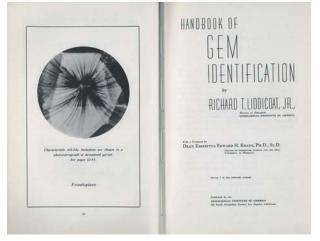


Figure 3. The first edition of Richard Liddicoat's Handbook of Gem Identification, published in 1947, presented "simple and often conclusive" tests to identify gems. Now in its 12th edition (4th printing), it is one of the most widely read textbooks in gemology.

input from the New York laboratory's Bob Crowningshield (then director of GIA's Eastern Headquarters and Gem Trade Laboratory and later vice president of GTL Gem Identification) and Bert Krashes (who retired in 1987 as managing director of the GIA Gem Trade Laboratory). Together, they developed a diamond grading and evaluation appraisal program based on the color, clarity, cutting, and carat weight of diamonds. To unveil the class, they decided to go to the heart of the diamond district in New York.

Liddicoat and Crowningshield taught the first one-week classes on the new diamond grading system in April 1953 at the Roosevelt Hotel in New York City (figure 4 shows a one-week class from 1954). This diamond grading class became part of

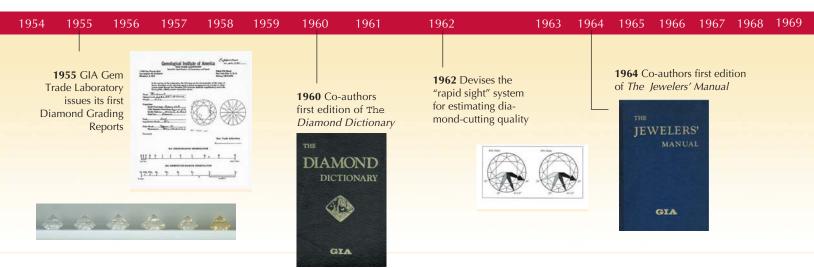




Figure 4. GIA instructors Bert Krashes, Eunice Miles, and G. Robert Crowningshield stand in the center of a group of students taking a one-week class at GIA New York in June 1954, a year after the introduction of the GIA diamond grading system.

GIA's regular gemology program in 1955. Liddicoat also established a new traveling one-week class, Diamond Evaluation, to bring an understanding of the benefits of this new diamond grading terminology to jewelers throughout the United States (Shuster, in press). Glenn Nord, who was then taking the new diamond course, recalls: "GIA was introducing an entirely new culture to the jewelry industry with its education, and it was Dick Liddicoat's leadership that helped people accept these changes" (pers. comm., 2002).

In 1955, 14 of the 45 lessons—or nearly a third of GIA's home study diamond courses—were rewritten. Liddicoat personally revised 10 of them. During the same time period, he expanded the education program by adding a jewelry retailing home study course. The first jewelry design course, long presented in Brooklyn by Christian Jakkob, was turned over to GIA and reorganized by Lester Benson, a

1974

GIA educator and inventor. Liddicoat reflected, "I always had the feeling that once the gemology program was in place, we should offer a complete curriculum for the retail jeweler" (pers. comm., 2001).

To further meet the need for a standardized terminology for its students and members of the trade, GIA began working on a glossary of diamond terms. Out of these efforts came the first *Diamond Dictionary* (1960), by Lawrence Copeland with Richard Liddicoat and other staff members (see Copeland et al., 1960; figure 5). Later that same decade came Liddicoat and Copeland's *The Jewelers' Manual* (again, see figure 5). Published in 1964, it was an expansion of Shipley's earlier *Jewelers Pocket Reference Book* (1947).

Liddicoat worked closely with Lester Benson to produce a revised course structure for the gemology program ("GIA courses to have new look," 1958). In 1962, after providing a variety of supplemental classes for students to obtain additional training time, GIA began to offer a full-time resident G.G. program in Los Angeles. Before then, students could obtain this diploma only through home study, supplemented by short-term classes.

During this same period, Liddicoat (1962) wrote an article for *Gems & Gemology* on the "rapid sight" system for judging diamond cut quality. According to Nord (pers. comm., 2002), "After Dick developed the system, he and I would sit and trade diamonds back and forth for hours. We could judge so many factors, including proportions and angles, very accurately. It was an important teaching tool that is still a key part of the diamond program today."

In the late 1960s and early 1970s, Liddicoat oversaw Nord's development of corporate training classes for Zales, one of the largest retail jewelry store

1982

1971

1970

1971 First GIA gemology courses in Japan taught (by an affiliate)

1973

1972



1976 Receives the American Gem Society's Robert M. Shipley Award

1970 Series of extension education classes in Israel taught by Glenn Nord marks GIA's first global outreach

Creates the GIA Research
Department under the leadership of
Dr. D. Vincent Manson

1977

1976

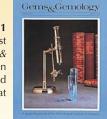
1975



Spring 1981
Publishes first
issue of Gems &
Gemology in an
expanded and
redesigned format

1980

1981



1982 Chairs GIA's first International Gemological Symposium in Los Angeles

1982 Creates the GIA Alumni Association under Robert Earnest

1983

1983 Steps down as president of GIA; named chairman of the GIA Board of Governors

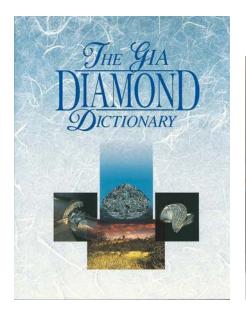
1984

Named Honorary Member of AGTA

6 RICHARD T. LIDDICOAT GEMS & GEMOLOGY SPRING 2002

1978

1979



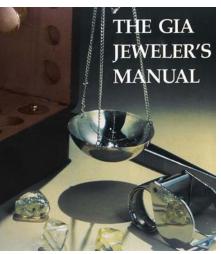


Figure 5. The Diamond Dictionary, first published in 1960 and now in its 3rd edition (1993), provides a standard reference for diamond terminology. The Jewelers' Manual, a handy reference guide to gemology and jewelry for the working jeweler, was first published in 1964 and is now in its 3rd edition (1989).

chains in the U.S., a program that continues today with a number of major businesses.

Also in the late '60s, Liddicoat made several trips to Japan in an effort to glean the information necessary to develop a cultured pearl course and, ultimately, GIA's first pearl grading system.

Richard Liddicoat took Shipley's concept of home study (or "distance") education beyond North America when, in 1970, he sent Nord to Israel to teach the first diamond course outside the U.S. A year later, with Liddicoat's endorsement, GIA courses were being taught in Japan (figure 6). Yoshiko Doi, a former GIA staff member who had returned to Japan, and Kenzo Yamamoto established the Association of Japan Gem Trust (AGT), a non-profit organization with exclusive rights to administer GIA courses in Japanese ("Focus on: Kenzo Yamamoto," 1984). Doi translated all course materials into Japanese, thus beginning GIA's ability to offer courses internationally and in other languages. Currently, GIA programs are offered in 11 countries outside the U.S.

ARCHITECT OF THE GIA DIAMOND GRADING SYSTEM

Early GIA efforts to establish a system to describe the quality of polished diamonds can be traced back to the 1930s, when Robert M. Shipley Sr. and De Beers collaborated to develop the concept of the "Four Cs": color, clarity, cut, and carat weight. In 1939, the AGS adopted this terminology for describing diamonds. A 1941 article in *Guilds* describes a nine-year process by GIA to develop a unit for color grading diamonds and efforts to standardize color grading ("Standardization of color grading...," 1941). That same year, Shipley Sr. and Liddicoat published an article on diamond grading that described the use of a standardized light source (the Diamolite) and a prototype colorimeter for grad-

1993 1985 1986 1987 1988 1989 1990 1991 1992 1994 1995 1996 1997 1998 1998 1999 2001 2000

1984 Named Man of the Year by the Consolidated Jewelers Association of New York

1987 Receives the Morris B. Zale Lifetime Achievement Award

Lifetime Member of the Gem Named a Founding Organizer of ICA

Becomes the first Honorary Testing Laboratory of Great Britain

> August 21, 1989 Honored with the dedication of the Richard T. Liddicoat Gemological Library and Information Center at GIA

1991 Named to the National Home Study Council's Hall of Fame

> 1992 Named GIA Chairman of the Board for Life

> > 1995 Receives GIA League of Honor Lifetime Achievement Award

June 10, 2000 Life-size bronze statue created by staff member Michael Clary placed at the entrance of GIA Carlsbad

July 31, 2001 Receives the AGS Lifetime Achievement Award

1985 Receives Modern Jeweler magazine's Lifetime Achievement Award



Figure 6. One of GIA's early global outreaches was in Japan, where Kenzo Yamamoto (second from the left, next to his wife) and Yoshiko Doi (third from the left, next to former GIA president Glenn Nord) began teaching GIA courses in 1971. Since its inception, nearly 3,000 graduate gemologists have been trained at the Japanese affiliate. In the inset photograph, Richard Liddicoat is shown with a group of Japanese students.

ing diamond color against a graduated color scale (Shipley and Liddicoat, 1941). This same research by Shipley, Dorothy Jasper Smith, and Liddicoat led to the creation of the first master set of color comparison diamonds for diamond grading in 1941 (R. T. Liddicoat, pers. comm., 2002).

Nevertheless, as indicated above, ongoing confusion and inconsistency in diamond grading terminology brought about the demand for a new vocabulary to more clearly express the color, clarity, and cut of individual diamonds. As Bert Krashes (pers. comm., 2001) notes, "There was a lot of ambiguity and confusion when it came to trade grading of diamond color and clarity, so there was a significant need for GIA to create this system."

Liddicoat became the architect of the GIA diamond grading system, developing a practical approach to quality grading colorless to light yellow polished diamonds on the basis of color, clarity, and cut. A central feature was the D-to-Z color grading system for faceted, colorless to light yellow diamonds, which comprise the vast majority of diamonds seen in the trade. The letter *D* was chosen as the starting point (colorless) to avoid confusion with other, more loosely defined classification systems being used, which typically began with the letter *A* (King et al., 1994). Liddicoat remembers that at the time the diamond companies had their own descriptions, which included *A* and *AA*, so it was felt that *D* would be less confusing (R. Liddicoat, pers. comm., 2001).

Having discussed quality grading of diamonds at earlier AGS Conclaves, Liddicoat introduced the GIA diamond grading system at the 1953 Conclave in Philadelphia. "Richard Liddicoat deserves the credit for developing the diamond grading system. He had some assistance from Lester Benson, but it was mainly Liddicoat" (B. Krashes, pers. comm., 2002).

Beginning in 1953, GIA instructors taught this grading system to hundreds of students so they could evaluate their own diamonds. Subsequently, many of these students requested that GIA set up a procedure whereby they could submit their grading worksheets, and eventually the diamonds themselves, for an independent assessment.

Bert Krashes recalls the transition (pers. comm., 2002): "It began as a service we offered students. After they took the courses, whether correspondence or one-week classes, we agreed to double-check their grading of their own diamonds. We would make our comments on the diamond worksheets. Eventually, word reached the industry that we were capable of doing this work, and soon there was a demand for a more formal presentation." Liddicoat teamed with Crowningshield, Krashes, and Eunice Miles to design and develop the Diamond Grading Report (Christie, 1988), the first of which was issued in 1955.

UNLOCKING THE MYSTERIES: GEM IDENTIFICATION AND GEMS & GEMOLOGY

Gem Identification. When Robert M. Shipley set up his Los Angeles laboratory in the early 1930s, the Institute's resources were devoted to identifying gems and to documenting the properties and techniques that would aid in their separation (Jasper, 1948). Late in 1948, following the unexpected resignation of Dr. Mark Bandy as director of the fledgling New York laboratory, Shipley assigned Liddicoat to New York to lead the expansion of that new branch. Liddicoat and his wife Gene drove across the country and arrived there in early January 1949. While Liddicoat and Crowningshield took care of the gem identifications and taught classes at night, Gene was the office administrator (R. T. Liddicoat, pers. comm., 2002). The resources of the New York operation were further enhanced when the Gem Trade Laboratory, which had been established by A. E. Alexander, was turned over to GIA in October of that same year. As director of GIA New York and the GIA Gem Trade Laboratory, Liddicoat was responsible for integrating the facilities of the two labs ("Richard T. Liddicoat Jr.

appointed...," 1952). The early identification work was typically a group effort among staff members who became known as the "Liddicoat brain trust" (Federman, 1985a).

By the 1970s, the GIA Gem Trade Laboratory staff was examining large numbers of gemstones, including the grading of diamonds and the identification of colored stones and pearls. Sensing the need for a group of scientists who would focus on the many emerging technical challenges in gemology, Liddicoat formally established the current GIA Research Department in 1976. Dr. D. Vincent Manson, formerly curator of gems and minerals at the American Museum of Natural History, was named its director.

Figure 7. Along with G. Robert Crowningshield and Lester Benson, Richard Liddicoat pioneered the Gem Trade Lab Notes section of Gems & Gemology. These reports of new findings from the GIA Gem Trade Laboratory first appeared as "Highlights at the Gem Trade Lab" from both New York and Los Angeles. Today, the Lab Notes section remains one of the journal's most popular features.

Highlights at the GEM TRADE LAB in New York



by
G. Robert Crowningshield

Developments and Highlights



at the

GEM TRADE LAB in Los Angeles

by Richard T. Liddicoat, Jr. Gems & Gemology. Robert Shipley's early efforts in gem testing and characterization were incorporated not only into updates of the GIA courses, but also (starting in 1934) into the pages of Gems & Gemology, GIA's quarterly journal. Richard Liddicoat continued this legacy through articles that he wrote and co-authored in G&G, reporting on his activities to improve the ability of jewelers to properly identify gems. (An extensive bibliography of his publications is provided at the end of this article.)

Liddicoat became editor of *Gems & Gemology* on Robert Shipley's retirement in 1952, with Jeanne G. M. Martin as his associate editor. Liddicoat himself led a procession of notable mineralogists, gemologists, and other scientists who contributed groundbreaking articles to the journal. Subsequent associate editors included Dr. Robert Gaal (1973–1977) and John I. Koivula (1978–1980). In 1981, Alice Keller was brought on as the journal's managing editor to oversee its redesign; she was subsequently promoted to her current position as editor and director.

Liddicoat encouraged Crowningshield and Benson to write their "Highlights at the Gem Trade Lab" columns—Crowningshield in New York and Benson in Los Angeles—which debuted in the Winter 1958–59 issue of *Gems & Gemology* (R.T. Liddicoat, pers. comm., 2002). Liddicoat took over the Los Angeles column in 1962 (figure 7). "Highlights at the Gem Trade Lab" later became the Gem Trade Lab Notes section, which continues to describe interesting gem materials that have been seen in the GIA Gem Trade Laboratory.

Five times in the last decade, *Gems & Gemology* has won the American Society of Association Executives Gold Circle Award for best peer-review journal in America. Liddicoat continues to serve as editor-in-chief, writing editorials, reviewing books and articles, and setting editorial policy for the award-winning publication.

CONTRIBUTIONS TO GEMOLOGICAL INSTRUMENTATION

Liddicoat presided over four decades of innovation in gem instrument development at GIA, and established gem instruments as one of the Institute's highest priorities (Federman, 1985b). In addition to his early work with Shipley to develop the Diamolite (figure 8), Liddicoat worked with various GIA scientists on a number of other instruments. Liddicoat's own scientific background enabled him to foster the development of instruments such as the prism spec-



Figure 8. Richard Liddicoat, shown teaching the use of the Diamolite in 1946, helped develop the instrument in 1941.

troscope and the ProportionScope (GIA *Diamond Grading* course, 1994). His objective throughout instrument development at GIA was to provide jewelers with practical tools that could help them in the day-to-day operation of identifying gemstones.

GLOBAL INFORMATION OUTREACH

In the early 1980s, Liddicoat championed the use of computer networks to connect jewelers and gemologists to a vast array of knowledge. In a 1985 inter-

Figure 9. The world's largest collection of gemological books and articles, the Sinkankas Collection, was acquired for the GIA library in 1988. Photo by Shane McClure and Robert Weldon, © GIA.



view in *Modern Jeweler*, he predicted that one day jewelers across the country would be connected to GIA through such a network: "Imagine not having to leave your store or business to consult with GIA" (Federman, 1985c, p. 56). That idea became reality in 1986 with the creation of GIA-Net under the leadership of Dennis Foltz, then director of education and operations at GIA, and has evolved today into GIA Virtual Campus (for students) and the GIA Web site: http://www.gia.edu. Approximately 150,000 people access the GIA Web site monthly.

Liddicoat's contributions to spreading gem and jewelry knowledge were immortalized with the creation of the Richard T. Liddicoat Gemological Library and Information Center in 1989. Although Robert Shipley had built the beginnings of a library from the very first days of GIA, Liddicoat was the one who envisioned a world-class, state-of-the-art library that would serve not only GIA staff and students, but also jewelers, gemologists, and consumers worldwide. This repository was greatly expanded under the direction of one of the authors (DMD) with the purchase of the 15,000-volume John and Marjorie Sinkankas Gemology and Mineralogy Library in 1988 (figure 9). Located at the Institute's headquarters in Carlsbad, California, the Liddicoat Library is now the largest gemology and jewelry library in the world. At almost 836 square meters (9,000 square feet), it houses over 30,000 volumes and journals as well as extensive collections of photos, videotapes, and other media resources.

As director of education and later president, Richard Liddicoat was GIA's ambassador to many gemology and jewelry associations. As indicated earlier, he was a mainstay at AGS Conclaves for more than 50 years, frequently accompanied by GIA's finest gemologists (figure 10). He attended industry meetings and then incorporated the information he gathered into Gems & Gemology and the education program. He actively participated in the International Kimberlite Conferences and the International Gemmological Conferences (IGC), as well as a variety of trade association events. In 1983, Liddicoat retired as president of GIA, but was subsequently named chairman of GIA's Board of Governors, a position that he still holds. Liddicoat is a founding member of the International Colored Gemstone Association (ICA) and the American Gem Trade Association (AGTA). In recent years, he has continued to attend trade shows and visit gem mines, in addition to his involvement with GIA and Gems & Gemology (figure 11).

THE "FATHER OF MODERN GEMOLOGY"

In recognition of his more than 60 years of service to the gem and jewelry industry, Liddicoat has received many awards and commendations. Among the most prestigious are:

- American Gem Society Honorary Certified Gemologist (1947)
- American Gem Society Robert M. Shipley Award (1976)
- Honorary Fellow of the Gemmological Association of Great Britain (1981)
- American Gem Trade Association Honorary Member (1983)
- Consolidated Jewelers Association of New York's Man of the Year (1984)
- *Modern Jeweler's* Lifetime Achievement Award (1985)
- The Morris B. Zale Lifetime Achievement Award (1987)
- Honorary Lifetime Membership of the Gem Testing Laboratory of Great Britain (1987)
- National Home Study Council's Hall of Fame (1991)
- GIA Board of Governors' Chairman for Life (1992)
- GIA League of Honor Lifetime Achievement Award (1995)
- American Gem Society Lifetime Achievement Award (2001)

Liddicoat received special recognition in 1977 with the naming in his honor of a new gem species of tourmaline (figure 12). Dr. Pete J. Dunn and his colleagues from the U.S. National Museum of Natural History (Smithsonian Institution; Dunn, 1977) named "the mineral liddicoatite [the calcic lithium-tourmaline end member], in recognition of his contributions to gemological knowledge and education." Liddicoat is one of only a few gemologists ever to be so recognized (Federman, 1985a).

When Liddicoat was honored as Man of the Year by the Consolidated Jewelers Association of New York in 1984, *National Jeweler* publisher Milton Gralla said of him, "There is not a community of any size anywhere in the United States where one or many jewelers have not been touched, influenced, educated, upgraded or professionalized by the thinking of this particular industry leader—Richard T. Liddicoat" ("Liddicoat honored...," 1985).

In 1994, GIA established the Richard T. Liddicoat Award for Distinguished Achievement to acknowledge those GIA staff members who have provided unique talent and demonstrated unparalleled commitment to the Institute.



Figure 10. Since the inaugural American Gem Society Conclave in 1937, GIA educators have taught gemological courses and seminars to AGS jewelers. In this photo, Glenn Nord, Chuck Fryer (then head of Gem Identification in Los Angeles), Richard Liddicoat, Bert Krashes, and G. Robert Crowningshield participate in a GIA panel at the 1972 AGS Conclave in Washington, DC.

Figure 11. Richard Liddicoat has remained an active figure in the gemological community. In this 2001 photo, Liddicoat is seen touring the historic Tourmaline Queen pegmatite mine in the Pala district of San Diego County, California, with mine owner Ed Swoboda. This mine has produced large amounts of gem tourmaline, for cut stones and mineral specimens. Photo by Brendan Laurs, © GIA.

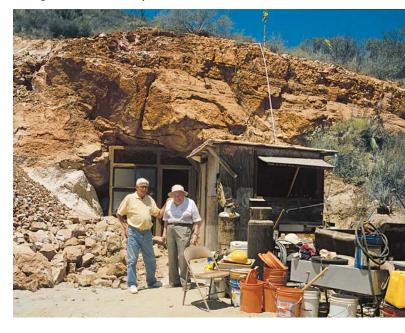




Figure 12. Liddicoatite, the calcic lithium-tourmaline end member, was named in honor of Richard Liddicoat in 1977. In 1985, while attending the ICA Congress, Liddicoat was photographed examining slices of liddicoatite—with its dramatic color zoning—while visiting gem carver Gerhard Becker (left) in Idar-Oberstein, Germany. Photo by Charles Carmona of Guild Laboratories, Inc.



Figure 13. Richard T. Liddicoat, the "Father of Modern Gemology," was honored with the American Gem Society's Lifetime Achievement Award on July 31, 2001.

During his 60-plus years with the Gemological Institute of America, Richard Liddicoat has brought practical gemology to hundreds of thousands of students and industry colleagues. Just as GIA has touched the lives of thousands in the industry, so has Liddicoat with the wisdom he graciously shares.

When Liddicoat received the AGS Lifetime Achievement Award on July 31, 2001 (figure 13), more than 300 jewelry industry professionals stood in ovation. GIA president Bill Boyajian said, "Richard Liddicoat's achievements and contributions to the world of gemology and jewelry have been monumental. The living title 'Father of Modern Gemology' pays tribute to his success, yet only begins to describe the extent to which his efforts on behalf of an entire industry and the consuming public have changed the course of history."

ABOUT THE AUTHORS

Ms. Dirlam (ddirlam@gia.edu) is director of the Richard T. Liddicoat Gemological Library and Information Center, Dr. Shigley is director of GIA Research, and Mr. Overlin is assistant editor of Gems & Gemology, at GIA in Carlsbad, California.

ACKNOWLEDGMENTS: The authors thank Bill Boyajian, Robert Crowningshield, Chuck Fryer, George Kaplan, Bert Krashes, Glenn Nord, Bill Shuster, and Al Woodill for providing information on Richard Liddicoat and the history of GIA. We also acknowledge Judy Colbert and Peggy Tsiamis for their photographic research and for preservation of the black-and-white photographic images. Unless otherwise indicated in the caption, photos are from the GIA Visual Resources Archives. Most early photos were scanned from black-and-white prints from GIA historical files, and information on them is limited.

Chronological Bibliography of Books and Articles by Richard T. Liddicoat

Shipley R.M., Liddicoat R.T. Jr. (1941) A solution to diamond color grading problems. *Gems & Gemology*, Vol. 3, No. 11, pp. 162–168.

Liddicoat R.T. Jr., Ball S.H. (1941) The mining of gems and ornamental stones by American Indians. Gems & Gemology, Vol. 3,

No. 12, pp. 178-181.

Liddicoat R.T. Jr. (1946) Identification of synthetic gems: Part 1— The detection of synthetic corundum. *Gems & Gemology*, Vol. 5, No. 7, pp. 349–354.

Liddicoat R.T. Jr. (1946) New fluorescence test for doublets and triplets. *Gems ⊕ Gemology*, Vol. 5, No. 5, pp. 303–307.

Liddicoat R.T. Jr. (1947) *Handbook of Gem Identification*. Gemological Institute of America, Los Angeles, CA, 283 pp. Liddicoat R.T. Jr. (1951) Heavy-media separation proves effective.

Gems & Gemology, Vol. 7, No. 4, pp. 116-119.

Liddicoat R.T. Jr. (1955) Diamond selling practices. Gems € Gemology, Vol. 8, No. 6, pp. 165-171.

Liddicoat R.T. Jr., Crowningshield G.R. (1955) Strontium titanate. Gems & Gemology, Vol. 8, No. 5, pp. 148, 156. Liddicoat R.T. Jr. (1955) Techniques employed in the identification

of gemstones. American Mineralogist, Vol. 40, No. 11/12, pp.

Liddicoat R.T. Jr. (1956) Diamond selling practices in America. Journal of Gemmology, Vol. 5, No. 6, pp. 310–318.

Liddicoat R.T. Jr. (1957) Beauty versus excess weight. Sonderheft zur Zeitschrift der Deutschen Gesellschaft für Edelsteinkunde, Vol. 20, No. 79, pp. 58-59.

Liddicoat R.T. Jr. (1957) Are present diamond rules adequate? Gems

& Gemology, Vol. 9, No. 2, pp. 38–42.
Copeland L.L., Liddicoat R.T. Jr., Benson L.B. Jr., Martin J.G.M., Crowningshield G.R. (1960) The Diamond Dictionary. Gemological Institute of America, Los Angeles, CA, 361 pp.

Liddicoat R.T. Jr. (1961) A report on European laboratories. *Gems & Gemology*, Vol. 10, No. 5, pp. 131–141, 157–158.

Liddicoat R.T. Jr. (1962) Developing powers of observation in gem testing. Gems & Gemology, Vol. 10, No. 10, pp. 291–303, 319. Liddicoat R.T. Jr. (1962) Developments and highlights at the Gem

Trade Lab in Los Angeles. Gems & Gemology, Vol. 10, No. 8, pp. 247-251. [The first in a series of "Lab Notes" sections authored and/or edited by Richard T. Liddicoat.]

Liddicoat R.T. Jr. (1962) Rapid sight estimates of diamond cutting quality, Parts 1 and 2. Gems & Gemology, Vol. 10, Nos. 11 and 12, pp. 323–335 and 365–375.

Liddicoat R.T. Jr. (1964) The GIA Photoscope. Gems & Gemology, Vol. 11, No. 7, pp. 195–199.
Liddicoat R.T. Jr. (1964) The International Gemmological

Conference in Vienna. Gems & Gemology, Vol. 11, No. 7, pp.

Liddicoat R.T. Jr., Copeland L.L. (1964) The Jewelers' Manual. Gemological Institute of America, Los Angeles, CA, 361 pp.

Liddicoat R.T. Jr., McKague H.L. (1966) De Beers and Kaplan make important gift to GIA. Gems & Gemology, Vol. 12, No. 2, pp.

Liddicoat R.T. Jr. (1966) The International Gemmological

Conference. Gems & Gemology, Vol. 12, No. 4, pp. 99–102, 126. Liddicoat R.T. Jr. (1967) Diamond proportion grading and the new ProportionScope. Gems & Gemology, Vol. 12, No. 5, pp.

Liddicoat R.T. Jr. (1967) Cultured pearl farming and marketing in

Japan. Lapidary Journal, Vol. 21, No. 5, pp. 662-666.

Liddicoat R.T. Jr. (1967) Cultured pearl farming and marketing. Gems & Gemology, Vol. 12, No. 6, pp. 162-172.

Liddicoat R.T. Jr., Crowningshield G.R. (1968) More about zoisite, a new gem sensation. Lapidary Journal, Vol. 22, No. 6, pp. 734-740.

Liddicoat R.T. Jr. (1970) The Russian diamond industry. Gems € Gemology, Vol. 13, No. 8, pp. 259–265. Liddicoat R.T. Jr. (1970) Summary of the 1970 International

Gemmological Conference. Gems & Gemology, Vol. 13, No. 7, pp. 206-220.

Liddicoat R.T. Jr. (1971) Diamond prices a century ago. Gems €

Gemology, Vol. 13, No. 10, pp. 325–327. Liddicoat R.T. Jr. (1974) Industry developments including Cape Town Kimberlite Conference. AGS Guilds, May-June, pp. 11-13.

Liddicoat R.T. Jr., Fryer C.W. (1974) Three new gem materials.

Zeitschrift der Deutschen Gemmologischen Gesellschaft, Vol. 23, No. 2, pp. 125-127

Liddicoat R.T. Jr. (1976) The mid-1970s GIA explosion. *AGS Guilds*, Vol. 30, May–June, pp. 20–21.

Liddicoat R.T. Jr., Koivula J.I. (1978) Synthetic cubic stabilized zirconia. Gems & Gemology, Vol. 16, No. 2, pp. 58–61. Liddicoat R.T. Jr. (1981) A brief summary of gemmological instru-

ment evolution. Journal of Gemmology, Vol. 17, No. 8, pp.

Liddicoat R.T. Jr. (1981) An introduction to the new Gems € Gemology. Gems & Gemology, Vol. 17, No. 1, p. 1. [The first of several editorials Liddicoat wrote for the new format of Gems & Gemology.]

Liddicoat R.T. Jr. (1982) The development of gemological training in America by GIA. In D. M. Eash, Ed., International Gemological Symposium, Proceedings, Gemological Institute of America, Santa Monica, CA, pp. 5-11.

Kane R.E., Liddicoat R.T. Jr. (1985) The Biron hydrothermal synthetic emerald. Gems & Gemology, Vol. 21, No. 3, pp. 156-170.

Liddicoat R.T., Boyajian W.E. (1990) The 1980s in review: New realities of the gem and jewelry industry. Gems & Gemology, Vol. 26, No. 1, pp. 1-2.

Liddicoat R.T. (1991) Development of GIA's diamond grading system. In Focus, Vol. 10, No. 2, pp. 13-15.

Liddicoat R.T. (1991) How end of G.I. Bill legislation gave birth to the GIA grading system. Diamond World Review, No. 63 (May), pp. 20, 27.

Liddicoat R.T., Keller A.S. (1999) Gems & Gemology turns 65. Gems & Gemology, Vol. 35, No. 4, p. 173.

REFERENCES

Christie A. (1988) Focus on: Bert Krashes. In Focus, Fall, pp. 6-7. Dunn P.J., Appleman D.E, Nelen J.E. (1977) Liddicoatite, a new cal-

cium end-member of the tourmaline group. American Mineralogist, Vol. 62, pp. 1121-1124.

Executive staff changes announced by Robert Shipley (1948) The Loupe, Vol. 2, No. 1, p. 1.
Federman D. (1985a) Lifetime achievement award: Richard T.

Liddicoat, Jr. Modern Jeweler, Vol. 84, No. 12, pp. 33-42, 70-72

Federman D. (1985b) Richard T. Liddicoat, Jr.: An appreciation. Modern Jeweler, Vol. 84, No. 12, pp. 47-51.

Federman D. (1985c) Richard T. Liddicoat, Jr.: A conversation. Modern Jeweler, Vol. 84, No. 12, pp. 52-58

Focus on: Kenzo Yamamoto (1984) In Focus, July, pp. 9-10.

GIA courses to have new look (1958) The Loupe, Vol. 7, No. 1, p. 1.

GIA Diamond Grading course (1994) Gemological Institute of America, Santa Monica, CA.

Gilbert M. (1977) Robert M. Shipley, Mr. Gemology. Jewelers' Circular-Keystone, Vol. 147, No. 6, pp. 99–104, 106–107.

Jasper D.M. (1948) The story of the GIA laboratories. Gems & Gemology, Vol. 6, No. 2, pp. 52–55, 58.

King J.M., Moses T.M., Shigley J.E., Liu Y. (1994) Color grading of

colored diamonds in the GIA Gem Trade Laboratory. Gems & Gemology, Vol. 30, No. 4, pp. 220–242. Kraus E.H., Slawson C.B. (1939) Gems and Gem Materials.

McGraw-Hill, New York, 287 pp.

Liddicoat honored by New York jewelers (1985) Lapidary Journal, Vol. 39, No. 2, p. 30.

Liddicoat resumes work at headquarters, named director of research

(1946) Guilds, Vol. 2, No. 3, p. 5.
Richard T. Liddicoat, appointed director of G.I.A (1952) Gems & Gemology, Vol. 7, No. 5, p. 162.

Shipley R.M (1947) Jewelers Pocket Reference Book. Gemological Institute of America, Los Angeles, CA. 332 pp.

Shipley R.M., Liddicoat R.T. Jr. (1941) A solution to diamond color grading problems. Gems & Gemology, Vol. 3, No. 11, pp. 162–168. Shuster W. A History of the Gemological Institute of America.

Gemological Institute of America, Carlsbad, CA, in press special tribute to Richard T. Liddicoat's 50th Conclave (1997)

Spectra: Special Conclave Issue, July/August, p. 27.

Standardization of color grading of diamonds established! (1941) AGS Guilds, Fall, p. 3.

Youngs B.A. (1980) Richard T. Liddicoat: The man behind the image. The Goldsmith, Vol. 158, No. 1, pp. 40-42, 44, 46-47, 50, 54.