# Gems & Gemology

GEMS & GEMOLOGY is the quarterly official organ of the American Gem Society, and in it appear the Confidential Services of the Gemological Institute of America. In harmony with its position of maintaining an unbiased and uninfluenced position in the jewelry trade, no advertising is accepted. Any opinions expressed in signed articles are understood to be the views of the author and not of the publishers.

VOLUME II SPRING, 1937 NUMBER 5

## Gemological Conclave Number

●

*In This Issue:*



●

*Published by*

THE AMERICAN GEM SOCIETY

555 South Alexandria Los Angeles, California

# Construction of a Polarizing Microscope

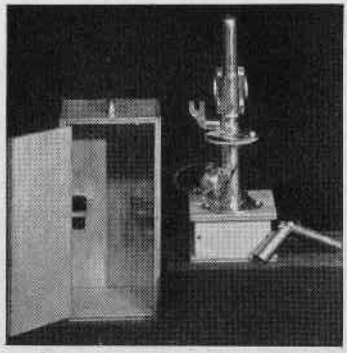
*by*

R. C. HOOVER

*Registered Jeweler and Junior Gemologist, Akron, Ohio*

*(Continued from last issue)*

The clips for holding a glass slide on the stage were made from thin, stainless steel and held down by nuts from dry-cell terminals, the screw part being tapped into the stage. The knurling on edge of the stage and adjusting wheels was done by the machinist who made the threaded collars. Relative dimensions of the other parts can be gained by comparison with those parts in the cuts for which dimensions are given and we believe it possible for anyone with some degree of skill, the necessary time and the urge to make things for one's self to go ahead and turn out a creditable and workable instrument. Many and varied works on microscopy are obtainable giving instructions for use impossible to include in this article, but we will add just enough so that you may be sure that the instrument is operating correctly.



*The Completed Instrument and Case*

With the microscope assembled and black mirrors in place, but no lenses, light the bulb and look through the eye-tube (knee shaped) down at the light. The appearance should be that of a straight tube over a foot-long with the light in front of the tube and centered in it. Revolve the draw-tube around in its holder and watch the effect. When the two mirrors are sloping in the same direction or are parallel, the light is very bright; but swing the draw-tube slowly and watch the light gradually dim until a position is reached where it will appear to go out with the filament weakly visible. This is the position of "extinction" or "crossed Nichols" of a regular polarizing microscope and is the position in which it is used. Put a piece of cellophane that has been folded several times on the stage and notice the colors. Revolve the stage and watch the cellophane go out and light up as it is revolved. It goes out as the crystal axis of the cellophane is parallel with the axis of each of the black mirrors, thus corresponding with the action of a doubly refractive or anisotropic stone.

*The End*

# The First Gemological Conclave

***One hundred and three graduates and students of the G.I.A. and A.G.S. from 12 Central States attend two-day educational session in Chicago, with Chicago Chapter as hosts.***

For the first time in the development of the new gemological profession in America a meeting of more than one regional group of students and graduates occurred in the spacious clubrooms of the Palmer House, Chicago, on Sunday and Monday, May 9th and 10th, 1937. Here Certified Gemologists, Registered Jewelers, Graduate Members and student-jewelers from ten Guilds and twelve states and the Philippine Islands participated in a meeting which many characterized as the most constructive ever held in the American jewelry trade.

The meeting was primarily educational in nature—not unlike clinics of the medical profession. Of the busy two-day session, less than one hour was devoted to Society business. At the business session officers and members from the following Chapters and Regional Guilds discussed both established and proposed rulings governing the Registration of Jewelers: Chicago, Cleveland, Wisconsin, Michigan - Northern Ohio, Iowa - Western Illinois, Nebraska-Western Iowa, Minnesota-Western Wisconsin, St. Louis Study Group. A temporary organization of Chapters, Guilds and students in Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Missouri and Nebraska was formed. Officers of the Chicago Chapter (at present H. Paul Juergens, president; Geo. A. Arbogast, vice president; Hans J. Bagge, secretary; and E. C. Luscomb, treasurer) are to serve as officers of this Central Division, A.G.S., with the presidents of the Guilds in the area as additional members of the Board.

At the enthusiastic request of the members present, plans are already being considered for yearly, or at least bi-yearly, three-day conclaves, not only in this central area, but also in the eastern area. A Gemological meeting of Eastern and Southeastern graduates and student-members will

*Members at Tables 4, 5, 6, and 7 Working with Instruments*

*Lazare Kaplan Answers Questions Following His Description of the Cutting of the Jonker Diamond*

occur at the Waldorf-Astoria in New York on Monday, August 23rd (the first day of the A.N.R.J.A. National Convention). At this short session the educational program will not be as ambitious as at this Chicago Conclave, but will acquaint members with the use of gem-testing instruments; with the new diamond-grading and gem-testing equipment and with other recent developments, including new sales promotional services. Here an organization will be perfected to conduct a gemological conclave in the east in 1938.

Those at Chicago left enthusiastically appreciative of having been present at the first history-making conclave of this new profession. What began as a purely experimental meeting ended as a distinct success, principally from the educational results obtained by the members who came from localities as far distant as Newark, N.J.; Youngstown, Ohio; Louisville, Kentucky; Tulsa, Oklahoma; Alliance, Nebraska (near the Wyoming line) and Manila, Philippine Islands.

When a two-day educational meeting at which each man should have an opportunity to actually use both old and new gem-testing and diamond-grading instruments was first proposed, it was contemplated that perhaps 35 students and members *might* attend. As the number of reservations grew in number to 50, then to 75, and finally passed the 100 mark, the problem became a serious one. Indeed, no attempt has ever been made in the jewelry trade even to hold the *attention* of as large a group of jewelers continuously for 12 hours, the period planned for Sunday, and for nine hours, the period planned for the Monday session. The results were extremely satisfactory,

*Members Working at Tables 1, 2, and 3*

*Two Groups of Students at Work: Left, Studying Inclusions in Synthetic Stones; Right, Diamond Grading at the Windows*

and while certain improvements can be made in the program of future conclaves, the success of this first meeting is attested by the fact that at 11 P.M. on Sunday, 94 men were still interested participants in the program, and when the conclave adjourned Monday the only expressions were those of regret that the session was ending.

A.G.S. Headquarters and the Chicago Chapter collaborated in preparation of the program. Paul Juergens, C.G., President of the Chicago Chapter, presided. He was assisted by Robert M. Shipley and Robert Shipley, Jr., President and Laboratory Director, respectively, of the G.I.A., who spoke on various subjects.

Guests at the Conclave included Lazare Kaplan and Leo Kaplan, cutters of the Jonker Diamond; Frank B. Wade, author of *Precious Stones* and of *Diamonds*, and Dr. J. J. Runner of the University of Iowa, both members of the G.I.A.'s Student Advisory Board; Dr. A. J. Walcott of the Field Museum, Secretary to the Examining Board; and Dr. Chester Slawson, University of Michigan, Member of the Examining Board. Dr. Slawson, Frank Wade and Lazare Kaplan contributed valuable talks as features of the session. Mr. Juergens spoke on pearls, using many genuine and cultured pearls as examples.

The sessions were held in the three large inter-communicating banquet rooms of the Palmer House clubrooms. In one room were nine tables seven feet square, each of which ac-

*Students and Visiting Instructors at Tables 8 and 9. At Extreme Left, Dr. A. J. Walcott; Left Foreground, Dr. J. J. Runner; Center Foreground, Prof. Frank B. Wade*

PROGRAM

**Sunday, May 9th, 1937**

*Morning Session*

10:00-10:30 Address of Welcome by H. Paul Juergens, President of Chicago Chapter. A.G.S., and Introduction of Guests.
10:35-11:30 General Lectures on gemological subjects.
11:30-12:00 "The True Nature of the Polished Surface of a Gem," by Frank B. Wade of Indianapolis, Indiana.
12:05-1:25 Buffet Luncheon in Conclave Room 5.

*Afternoon Lecture Sessions*

1:30-2:10 Color of Diamonds. Discussion of Members' Recommendations for Improvement of Color Grading Systems, Methods of Grading and Color Grading Equipment.
2:30-3:30 "Cutting of the Jonker Diamond," Lazare Kaplan.
3:30-4:30 Technique of detection of synthetic stones, illustrated by projection of inclusions,
4:35-5:10 The principle of the polariscope, demonstrated by projection polariscope.

*Evening Session*

7:00-7:30 "The Development of Gemological Education" by Dr. Chester B. Slawson of the University of Michigan.
7:30-7:55 Practical Application of Gemology in the Jewelry Business; An Open Forum of the Experiences of Students.
8:00-8:30 Demonstration of newly released sales promotional materials for Gemological Students and Title Holders (Attendance Optional.)
8:30-9:30 Business meeting. American Gem Society. For Research and Graduate Members, Registered Jewelers and Certified Gemologists.

**Monday, May 10th, 1937**

*Morning Session*

8:00-11:25 Individual demonstrations of new scientific diamond grading methods established for use in the Retail Store.
11:30-12:15 Members' discussion of Diamond Grading and its standardization. Appointment of Committee on terminology of diamond grading.

*Afternoon Session*

1:15-5:30 Entire afternoon devoted to demonstration of use of Gem-Testing Instruments. Every student present was able to handle each instrument.

commodated from ten to twelve student-jewelers. Upon each table was placed, as nearly as possible, a complete Registered Jeweler's Laboratory, consisting of refractometer, specific gravity scales, polariscope, dichroscope, and hardness points, supplied by the G.I.A. laboratory or loaned by graduates and students. Each table was in charge of a Certified or Junior Gemologist, assisted by a Junior Gemologist, who demonstrated and directed the gem-testing activities of the students. The programs in this room were divided between sessions at these tables, educational talks from the speaker's table, and demonstrations of the new diamond-grading instruments at Table No. 10, after which this diamond-grading equipment was made available to the various tables for actual practice. Leaders and their assistants were:

Table No. 1: H. Paul Juergens, C.G., Chicago; Assistant, Charles Carolyne, J.G., Youngstown. Table No. 2: Hans J. Bagge, C.G., Chicago; Assistant, Nolte C. Ament, J.G., Louisville. Table No. 3: Leopold Kahn, Jr., J.G., Manila, P.I.; Assistant, E. C. Luscomb, J.G., Chicago. Table No. 4: Milton Gravender, C.G., Minneapolis; Assistant, Warren R. Larter, J.G., Newark. Table No. 5: F. Otto Zeitz, C.G., Chicago; Assistant, G. A. Arbogast, Chicago. Table No. 6: Karl Johnson, C.G., Minneapolis; Assistant, Ed. F. Herschede, C.G., Cincinnati. Table No. 7: Paul Cohard, C.G., Peru; Assistant, R. C. Hoover, J.G., Akron. Table No. 8: Edwin E. Olson, C.G., Milwaukee; Assistant, Jack Lund, Chicago. Table No. 9: Earl E. Jones, C. G., Cleveland; Assistant, Hubert A. Fischer, J.G., Chicago.

The speaker's table, seven feet by twenty-one feet, contained the more complex instruments, microscopes, endoscopes, and spectroscopes, which

*The Certified Gemologists: Left to Right, Hans J. Bogge, Karl Johnson, Ed. F. Herschede, F. Otto Zeitz, Edwin Olson (front), Paul Cohard (rear), H. Paul Juergens (front), Milton Gravender (rear), Earl Jones. Right: Leopold Kahn, Jr., J.G., of Manila, explains a point to H. C. Kirkberg*

were demonstrated and explained by Robert Shipley, Jr. Eight compound microscopes were used, particularly to demonstrate—by means of especially prepared specimens—methods of distinguishing synthetic from genuine stones. At intervals during the program the students from each table were given the opportunity to examine these instruments and to study the effects seen through them.

In the second large room, 120 chairs were arranged for observation of views projected upon a screen directly from actual specimens under the microscope. Here Robert Shipley, Jr., conducted a "clinic" in the technique of the identification of genuine from synthetic stones by means of their inclusions.

In a third room was exhibited a fine collection prepared especially for the Conclave by members of the Chicago Chapter. This included almost every variety of colored gem including colored diamonds. Also, samples of sales promotional materials were displayed. These included window displays, signs, newspaper mats, booklets, pamphlets, etc., being made available to Registered Jewelers and Certified Gemologists. In this room on Sunday evening occurred Dr. Slawson's talk (See program) and a two-hour session on the Use of Gemology in Business. Various jewelers described their use of gemology to increase business and profits by means of sales talks, window and store displays, newspaper and radio advertising, lectures at schools and clubs. Nolte Ament, Junior Gemologist of Louisville, played one of four electrical transcriptions which he prepared specially from his most recently released programs, offering these transcriptions to Registered Jewelers. There was shown the first

*Members at Tables 6 and 7 During Lazare Kaplan's Talk*

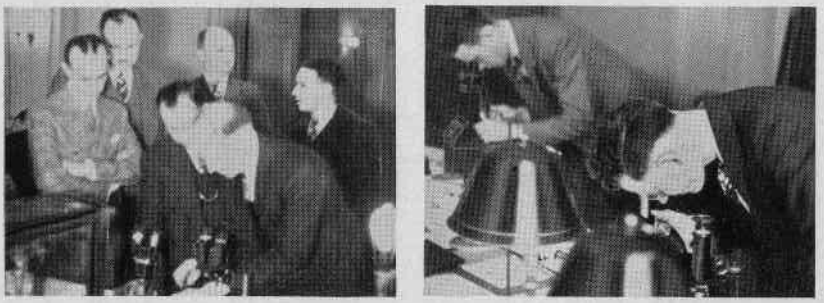
*Robert M. Shipley Explains Diamond-Grading Equipment*

of a series of still film lectures being prepared by the A.G.S. for presentation in a standard projector for Registered Jewelers. The subject was the Mining of Diamonds.

A fourth room in the hotel was used as a Committee Room. Here a Diamond Terminology Committee appointed by Robert M. Shipley and consisting of diamond men from nine representative retail firms assisted in an advisory capacity by three manufacturers met and drew up rulings and recommendations on terms and definitions used in the descriptions of diamond qualities. The Committee will probably be expanded to include the remaining areas of the U.S.A., and a meeting is being considered for New York in August.

The Resolutions Committee included Percy Loud, Bruce McCague, and Carleton Broer. A resolution was prepared for presentation to Mrs. Godfrey Eacret, which eulogized the late Godfrey Eacret, the first Chairman of the Board of Governors of the G.I.A., for his unshakable faith in the ideals of Robert M. Shipley and his untiring efforts in the development of the gemological movement into the national profession which but he and a few others envisioned.

Other Resolutions were adopted providing for a temporary organization for the Central Division; and thanking the Chicago Chapter for its hospitality and the untiring efforts of its officers, especially Mr. Juergens in "Making this Conclave an epoch in the history of our industry."



*Students Practicing with Diamond-Grading Equipment*

# BOOK REVIEWS

***Trade Winds,* by Louis Kornitzer; *Pearls and Men,* by Louis Kornitzer, published by Geoffrey Bles, Ltd., London.**

These are two quite similar books, written by a man, who, in addition to an intimate practical knowledge of the pearl trade, has a decided ability to write. In *Trade Winds,* he describes his early experience as a pearl dealer, ending with his establishment as an important buyer in the Philippine Islands. Of especial interest is the story of the former pearl trade of the Philippines—now greatly curtailed.

In both his books, Kornitzer is fully as interested in the men whom he met as in the gems he handled, and his writing is full of anecdotes. This makes more interesting general reading, especially so in view of the author's power of graphic characterization, but the gemological reader will probably regret that he does not stay closer to the subject of pearls.

*Pearls and Men* deals with pearls in a more concentrated and effective manner than does *Trade Winds.* Especially interesting are the descriptions of the pearl business of Paris, and of the men connected with it. There is a considerable amount of information of practical value in this book as well. The author explains in detail his method of improving inferior pearls by peeling, even describing the tools he uses. He also gives a fairly detailed explanation of the bases of pearl valuation. His description of methods of buying pearls "out of income" should furnish some excellent selling points for a retail jeweler handling genuine pearls.

*Pearls and Men* has a chapter on the wearing of pearls by ancient peoples, followed by one on the use of pearls—and other gems as well—in "more recent times." A chapter on "Pearls and Superstition," dealing particularly with the beliefs of men connected with pearl fishing, is very interesting.

At the time the first culture pearls made their appearance, the author was buying in the Philippine Islands, and through a friend was able to inspect specimens—said to have been produced off the Island of Mindanao—before culture pearls were generally on the market. He tells several interesting stories of the first effects of these substitutes on the pearl market.

Both these books, *Trade Winds* especially so, are "adventure stories" very nearly as much as discussions of pearls, but the jeweler should find much of value in them.

# SELECTED BIBLIOGRAPHY

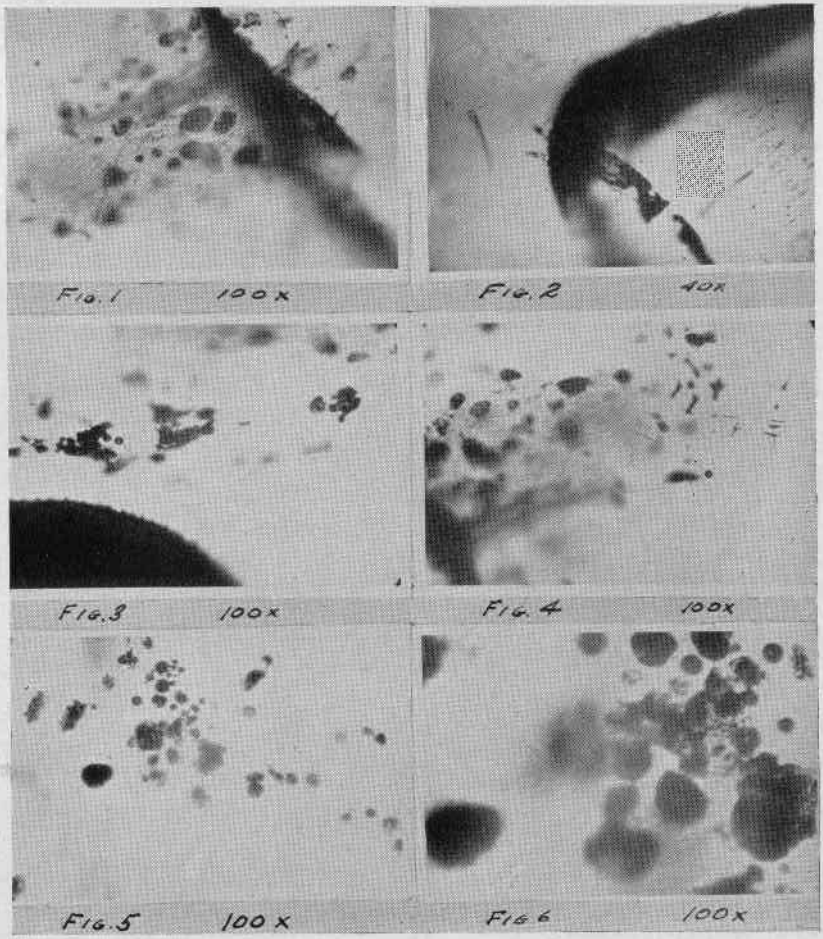
Fischer, G. de Waldheim
**Essai sur la Turquoise et sur la Calcite.** Moscou (Moscow). 1810, **Essai sur la Pellegrina,** ou la Perle incomparable des frères Zozima. Moscou (Moscow). 1818.
Fladung, J. A. F.
**Versuch uber die Kennzeichen der Edelsteine und deren vortheilhaftesten Schnitt.** Pesth (Budapest). 1819.
**Edelsteinkunde.** Wien (Vienna). 1828.
Fobes, H. K.
**Mystic Gems.** Boston. R. G. Badger. 1924.
Foshag, Wm. F.
**Minerals from the Earth and Sky.** Part II. Gems and Gem Minerals. (N.Y. Smithsonian Institution series.) 1929.
Frischolz, J.
**Lehrbuch der Steinschneidekunst, fur Steinschneider, Graveurs,** etc., und Jedens, welcher nich über die Veredlung der Steine zu unterrichten wünscht. München (Munich). 1820.
Garrad's (1721-1911)
**Crown Jewellers and Goldsmiths** during six reigns, and in three centuries; with some account of their business in the Haymarket and their new home in Albermarle St. Lond. S. Paul & Co. 1912.
Valuable information regarding the origin and early history of the Haymarket. The Garrad's at Coronation of Edward VII (1902), and George V (1911), Investure of Edward, Prince of Wales (1911), and the Imperial Delhi Durbar (1911).
**Gemstones**
The Mineral Industry of the British Empire and Foreign Countries. Imperial Institute, London (H. M. Stationery Office), 1934.
Goetzke, O.
**Gems and Gem Minerals.** Newark Mus. Assn. 1929.
Gold and Gems
**Mawe's Travels in the Brazils.** 1812.
Goodchild, W.
**Precious Stones,** with a chapter on artificial stones by Robert Dykes. London. Constable. 1908. Guide to genesis, occurrence, composition and physical properties of the principal gem minerals. Illustrations few and unimportant.
Gorceix, H.
**Les Diamants et les Pierres Precieuses du Bresil.** (In Comptes Rendus, 1881, p. 981; also in Rev. Sci., xxix., 1881, p. 553.)
Gratacap, Louis P., A.M.
Curator, Mineralogy, American Museum of Natural History. **A Vade Mecum Guide to Mineral Collections.** New York.
**The Collection of Minerals.** Supplement to American Museum of Natural History Journal, vol. ii, No. 2. February, 1902. Guide Leaflet No. 4 to the Museum.
Gravender, M. F.
**Fascinating Facts about Gems.** [Preface by Robert M. Shipley.] Los Angeles. [Pub. especially for Retail Jewelers' Research Group by Gemological Institute of America.] 1933.
Groth, P. H.
**Grundriss der Edelsteinkunde.** Leipzig. 1887.

*(To be continued)*

## UNUSUAL INCLUSIONS IN SYNTHETIC RUBY*

Since the first of the year, several synthetic rubies showing very irregular inclusions have been received for testing at the laboratory of the Gemological Institute of America. Ten microphotographs, all views of different features in the same stone, are reproduced here. Figures 1 and 2 especially illustrate the crystallized appearance of some of these inclusions. In neither of these views are any of the typical bubbles of a synthetic stone visible. In figures 3 to 7 inclusive, both crystalloids and a few bubbles are seen in the stone, and in figure 7, prominent bubbles are shown.

Figures 8, 9, and 10 were taken with the stone immersed in methylene iodide, and, therefore, the curved striae are easily seen. However, these




*A.G.S. Research Service

striae *were not* sufficiently prominent to betray the stone's identity without immersion in a highly refractive liquid.

The difficulty of detecting this type of synthetic lies in the fact that only the genuine-appearing inclusions may be perceived upon a hasty examination. In every specimen tested so far by the G.I.A., the bubbles, when found, were very large and prominent.

From the illustrations it will be immediately apparent that double care must be taken before stating that a ruby is genuine. Moreover, though these inclusions have so far been noted only in synthetic rubies, they *may* occur in synthetic stones of other colors.

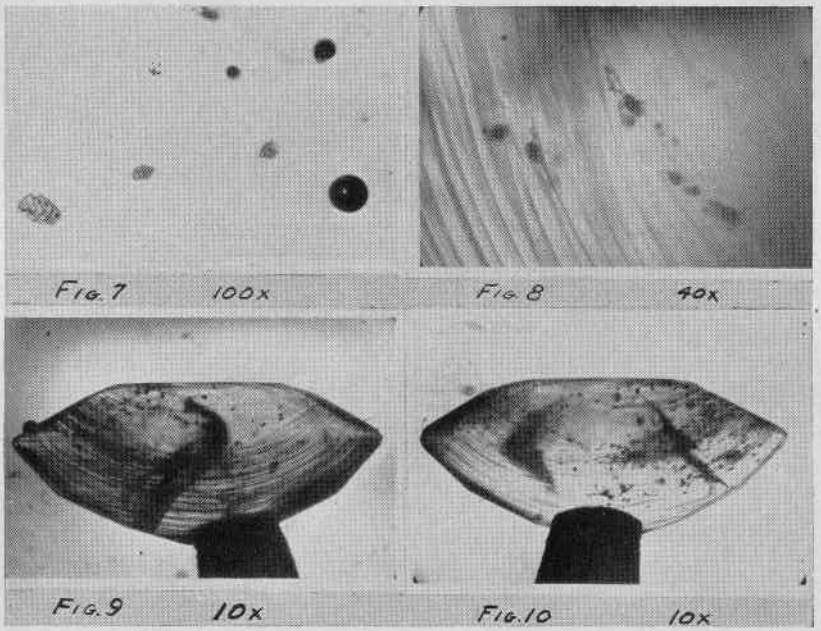


FIG. 7 100x FIG. 8 40x

FIG. 9 10x FIG. 10 10x

## DECEPTIVE USE OF CULTURED PEARLS*

Many undrilled cultured pearls have recently been presented to retail jewelers by customers who either intentionally or innocently offer them for sale or appraisal.

In some instances they are represented to jewelers as having been found in oyster or clam shells in local waters. In other instances they are represented as coming from the Orient. The majority of these cultured pearls are apparently originating in cans containing a preserved pearl-bearing mollusk and a cultured pearl, which are offered for sale in advertisements which have appeared in jewelers' and amateur mineralogists' magazines.

Also, it has been reported that café owners are placing cultured pearls in oysters for advertising purposes, apparently in the hope that the ensuing publicity will attract new customers to their premises. The majority of these cultured pearls are extremely inferior in quality and easily identified by experienced dealers.

*A.G.S. Research Service

# A GEMOLOGICAL ENCYCLOPEDIA

HENRY E. BRIGGS, Ph.D.

Always a gem should be cut so that total reflection will be taken advantage of, for by so doing the brilliancy of the gem is greatly increased. Many volumes have been written on the subject of gem designing but oftentimes the rules given do not prove out in actual practice. The rules here given are not mere mathematical calculations but are rules which have proven themselves during many years of practice. Thus the author is positive of the reliability.

The emerald cut is not uncommon in diamonds and other gems and consists of twenty-five facets above and twenty-five below the girdle, totaling in all fifty facets including the table and culet.

The marquise cut at first consisted of only six main or bezel facets. However, this method has been dropped and now the marquise has the same number of facets as the brilliant cut, the only difference being in the general shape or outline of the gem. The same is also true of pear shape and some of the heart-shaped gems.

In cutting colorless gems which are anisotropic, the gem should be so oriented that the axis of greatest index (refractive) will proceed through the gem in a direction intersecting the center of the table and of the culet. This will give the greatest brilliancy. In colored anisotropic gems (dichroic) the gem should be so oriented that the best color is obtained. Where the depth of color is desirable as in the ruby or emerald, the gem should be cut perpendicular to the optic axis, that is, the table should lie in that plane. Such minerals as tourmaline, zircon, etc., should be cut parallel to the optic axis, or so that advantage is taken of the dichroism of the mineral.

The physical strength of the finished gem should also be taken into consideration and wherever possible the gem should be so cut as to give it the greatest possible strength.

The processes used in cutting of gems are many and varied. In some countries gems are faceted by cementing them to the end of a small stick and rubbing them on a flat piece of metal charged with an abrasive, such as emery sand or diamond dust, depending on the hardness of the gem being cut. Then we go on a step further to the cutters who use a wheel mounted on a mandrel which is turned by means of a bow, the thong of which is wrapped around the mandrel. By drawing this bow back and forth the mandrel and wheel is rotated. Abrasive is used on the wheel to cut the gem. Then we have the cutter who uses foot power to turn the lap. Riggings of various kinds are used to convey the power applied to the pedals into circular motion.

Also we have the hand power cutting machine where the laps are driven with one hand while the other is used to manipulate the gem on the lap. However, in America practically all cutting is done with electric power. Abroad, also, this type of power is utilized more and more every year.

The gems are either cleaved or sawed to obtain the practical size and shape which can be readily worked by the cutter. It then goes to the cutter who shapes it and puts on part or all of the facets on a metallic lap with abrasive. The gem then is sent on to the polisher who polishes each individual facet. This is merely a general outline and the process will vary with the material being cut and the system used by the lapidary. The gems are held in dops while being cut and polished. The dop consists essentially of a brass or copper cup with a piece of rod welded to the bottom which serves as a handle. Mechanical dops are also used. The mechanical ones hold the stones by a clamping arrangement not unlike a pin vise, while the ordinary dop is filled with an easily fusible metal or cement into which the gem is imbedded. Today automatic machinery is also used in diamond cutting but it is not entirely practical with some of the other gems which are more fragile.

In some of the foreign countries especially in Germany and France, large sandstones are used for cutting agate and other soft stones. These stones are of tremendous size, running around four feet in diameter and are usually powered with a water power. The large grindstones are run at a speed of about 150 revolutions per minute. Streams of water are constantly directed on the grinding surface of the stones and often two men work on one wheel. This class of men is called stone grinders in Idar and Oberstein, Germany, where the business is highly specialized. The men who cut on laps and carborundum stones there are termed lapidaries while those who cut diamonds are called diamond cleavers, cutters, polishers, brillianteerers, etc. In America, however, any man who cuts gems seems to be termed a lapidary. Whether he is a cutter of common agates or a cutter of precious emeralds seems to make no difference, he is called a lapidary just the same. Diamond cutter seems to be the only gem cutter in America which goes into a class by himself. However, even here we do not always make a distinction.

## Weight and Sizes of Gems

The carat is almost the universal unit for weighing precious gems although the gram of the metric system, and the grain and pennyweight of the troy system are also used. Other gems are often sold by measure as by the inch or millimeter.

The carat at one time was different in the different countries but today it seems to be fairly well standardized. In all the principal countries of the world now the carat is equal to 200 milligrams or two-tenths of a gram. The metric carat was adopted in the United States in 1913. It is a very decided improvement over the old system of weighing gems. By the metric system a stone weighing ¾ of a carat would be expressed by the decimal .75 Carat. Thus where in the old system where two to three fractions were used, by the metric system we only have the decimal which is never carried more than three places and usually only two.

Diamonds are sometimes sold by the "point," designated as a 10 pointer or a 40 pointer, which would mean the stones weighed .10 and .40 carat respectively. The point is equal to one one-hundredth of a carat and expressed in a decimal as .01.

*(To be continued)*

# A GEMOLOGICAL GLOSSARY

Jadeite (jade'ite). A gem mineral in the Monoclinic system. Hardness 6-7, refraction 1.66, semi-transparent to opaque, mostly light green, also green to yellowish white, white, and green to very light bluish violet. Chloromelanite is a variety of very dark green to almost black jadeite.

Jadeolite (jade'oe-lite). A deep-green chromiferous syenite cut as a gem-stone and resembling jade in appearance, from the jadeite mine at Bhamo, Burma. Possibly the same as the pseudo-jadeite.

Jager (yae'ger; rare, ja'ger). A term originally applied to an especially fine quality of diamond, found in the Jagersfontein Mine. Later, by general practice in the trade, Jaeger has become a term used to describe diamonds with a slightly bluish body color (as distinguished from perfectly colorless diamonds) regardless of the locality in which such diamonds may have been found.

"Japan (or Japanese) Pearls." Cultured Pearls produced in Japanese waters.

Japanese Coral. Coral from Japanese waters. Usually pink in color with white centers. Beads and cut specimens pink, often flecked with white.

Jargoon or Jargon (jar-goon' or jar'gon). Colorless to grayish variety of zircon. Term is sometimes incorrectly applied to all varieties of zircon.

Jasp Agate. Intermediate between jasper and chalcedony with predominate opaque jasper.

Jaspopal (jasp-oe'pal). Jasper Opal.

Jasper (jas'per). An impure chalcedony quartz. Semi-translucent to opaque; usually red, yellow, brown, rarely green. A grayish jasper from Nunkirchen is stained blue and sold as "Swiss Lapis," "German Lapis" or "Italian Lapis."

Jasper Opal. A greasy, opaque, yellow, yellow brown, reddish brown to red variety of common opal, with a resinous luster, resembling jasper. The color is due to impurities, principally of iron oxides.

Jet (jet). Fossilized coal. Term sometimes used incorrectly for black glass.

Jeweler's Topaz. Citrine (topaz quartz).

Jewels. Gems set or mounted. Strictly speaking, the term is incorrect when used for unset gems.

Jig. A sieve shaken vertically in water to separate gem gravel from worthless material. Also, a pulsator.

Jigging. The using of either a jig or a pulsator.

Joaillerie. The French term for jewels, separate and distinct from the term bijouterie, which refers to jewelry containing no gems. See also Bijouterie.

Job's Tears (jobe). Local name for peridot from Arizona and New Mexico.

Jolly Balance (jol'i; prop., yole'e). A spiral spring balance especially adaptable to rapid determination of specific gravity of medium to large-sized specimens of cut and rough gem material.

Karat (kar'at). Originally a unit of weight, now replaced by carat. Karat now refers to the proportion of pure gold in an alloy. Pure gold is 24 karat; 10 karat gold is 10/24 or 41⅔% pure gold, etc. See also Carat.

Kashmir (kash'mere or kash"-mere"). Same as Cashmere.

Kauri Gum (kow'ri). A substitute for Amber. See Dammar Resin.

Keystone (kee'-stone). A style of cutting in the shape of the conventional keystone.

Keystoneite. Blue chrysocolla or chalcedony colored by copper silicate.

"Kidney Stone." Nephrite.

"Killiecrankie Diamond" (kil"i-kran'ki). Colorless topaz from Tasmania.

Kimberlite (kim'ber-lite). Mineralogical name for the serpentine breccia, more usually called "blue ground," which is the diamond-bearing rock of the South African "pipes."

"King Topaz." Clear, transparent orange, yellow, or brown corundum.

King's Coral. Black Coral formerly abundant in Persian Gulf and on Great Barrier Reef of Australia. Not used in Occident.

Kinradite. Local trade-name for a spherulitic jasper-like quartz from California.

Kite. A style of cutting for gems.

Knife-edge. The girdle of a diamond cut to a sharp edge.

Knots. In diamonds. Apparently included crystals of smaller diamonds partly protruding through surface; troublesome to the cutter.

Kopje (kop'i). A small hill in South Africa.

"Korean Jade" (koe-ree'an). Artificially colored soapstone or other mineral, which may fade. Also, various impure jades; also, green glass imitations of jade.

Kunzite (koontz'ite). Pink or lilac spodumene. (Named for George F. Kunz, American gem expert.)

Kyanite (kye'a-nite). Same as cyanite.

Labrador Feldspar (lab"ra-dore' or lab'ra-dor). Labradorite.

Labrador spar. Labradorite.

Labrador Stone. Labradorite.

Labradorescence (lab' ra-doe-res'-ens). The phenomenon notably possessed by labradorite, of showing a solid change of color when turned about in the light.

Labradorite (lab"ra-dore'ite or lab'-ra-dor"ite). One of the species of the Feldspar group. As a trade term, "Labradorite" refers only to the varieties of this species which show labradorescence.

"Lake George Diamond." Clear quartz crystal from Herkimer, New York.

Lake Superior Greenstone. Chlorastrolite.

Lamellae (la-mel'ee). Thin plates or layers; laminae.

Lamellar (la-mel'ar or lam'e-lar). Consisting of laminae; or tabular.

Laminae (lam'i-nee). Thin plates or layers, usually, but not always, of repeated or polysynthetic twinning. See Repeated Twinning.

Laminated (lam'i-nate"ed). Consisting of plates or layers.

Landerite. Pink grossularite from Xalostoc, Morelos, Mexico. Also called rosolite and Xalostocite.

*(To be continued)*