The Story of the Diamond

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The Story of the Diamond

By
JAMES RYRIE
(President Ryrie Bros. Limited)
TORONTO · CANADA

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THIS is the second edition of "The story of the Diamond." By the kindly reception this book has received, we are led to believe the story it tells has proved both interesting and instructive. If so, we consider ourselves well repaid for its publication.

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TORONTO CANADA

The Story of the Diamond

ITS NAME

THE word "Diamond" is derived from the Greek word "Adamas", meaning invincible. It is well named "invincible", since it is the hardest, the most unconquerable substance known in nature; it is also the most imperishable, and as we shall find, one of the most mysterious in its origin.

The first mention we have of the diamond as a gem, is by Manlius in Anno Domini 16, whilst Pliny in Anno Domini 100 refers to it as "the most valuable of gems known only to kings."

It was at one time worn as a charm to avert insanity. In fancy one hears some cynical bachelor friend say "that is strange, as usually it now gives evidence of insanity—the madness of love." In the middle ages it was known as "pietra della reconciliziaone" or the peace-maker between husband and wife; from this direction numerous testimonials as to its miraculous cures at the present day are still forthcoming.

WHAT IT IS

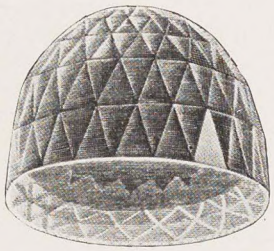
The diamond is carbon—carbon which has become crystalized by intense heat combined with great pressure.

It is chemically identical with graphite and charcoal, into which it may be converted by heat or electricity; yet there is an extraordinary difference between them in character. The diamond for instance, is a poor conductor of electricity, as opposed to graphite which is a good conductor. It can be electrified

or made phosphorescent by friction, and if left in the sunlight for a time, has, to a certain extent, the power of giving out its light in the dark.

Frequently in otherwise fine diamonds, after they are cut and polished, black carbon spots will be found. Owing to refraction and reflection, a spot will sometimes be multiplied anywhere from two to a dozen times. Needless to say, such a spot, however small, is one of the many imperfections seriously affecting the commercial value of a gem. Such a stone is known to the trade as "piquet" or spotted.

Unlike many of the other gems, the diamond is found as a separate unit—unattached as it were, in gravel or diamondiferous clay, from which it is easily washed or separated; whereas many other stones such as the opal, turquoise and amethyst, are found in a matrix of rock, appearing somewhat as veins do in marble.



The Great Mogul

In its natural or rough state the diamond has an adamantine lustre, a rather greasy feeling, and somewhat resembles gum arabic in appearance.

The diamond is found in grey, brown, yellow, white, red, green, blue, and black colors. Some of these colors are very, very rare indeed, and because of this, are correspondingly valuable as specimens.

The white — the pure "blue-white"—of course, is the ideal and most prized color for a gem.

An old proverb says that "a little learning is a dangerous thing," and so with color in a diamond. A slight yellow tint, for instance, which is known as "off-color" or "by-water", affects the diamond very seriously, whereas a deep bright "canary" color, because of its rarity, adds immensely to its value.

As we will require to make frequent use of the word "carat", it might be well to explain here that this word as applied to gold refers to quality only, whereas applied to gems, it refers to weight only. Pure gold is composed of twenty-four parts, but since such gold is unworkable and in any case would be too soft for wear, more or less alloy of silver or copper is necessary. The term "18 carat gold" simply means 18 parts of pure gold with the remaining 6 parts of alloy, thus making the full 24 parts.

In the case of the diamond, it refers to weight alone and is said to take the name from a small Oriental seed, not to be confused however, with the ordinary garden variety of "carrots." It is approximately three grains in weight, giving 151½ carats to the ounce.

In appearance, the end of an ordinary lead-pencil will convey the idea of about 1½ carat stone, but care must be taken not to suppose that a large stone, say of 15 carat weight, is equal in appearance to ten such pencil ends, as the weight is distributed over the entire stone—depth as well as surface—and perhaps would not be equal to more than four or five such surfaces.

ITS USES

As to the uses of the diamond, the part that it is called upon to play for purposes of adornment is too well known to call for further comment beyond this, that for many persons, such gems have a perfect fascination. Even so intellectual a man as the late Henry Ward Beecher is credited with having carried around in his pocket-book, wrapped in soft wool, a number of such stones, simply to look at, from time to time, because of the strong appeal which they made to his love of the beautiful.

Since but a limited proportion of the stones found, are of sufficiently fine quality to be used for adornment, the balance serve a very useful purpose in the industrial fields. The impure diamonds, or such as cannot be advantageously used as jewels, are known by the name of "Bort" and include all shades and colors, even to the coal-black. Because of their excessive hardness such stones are valuable for the drilling of glass and porcelain, engraving of stones, dentists' drills, the cutting of glass, whilst for rock drills in the mining fields they are almost indispensable. The term "diamond cut diamond" finds its verification in the fact that all diamonds are cut and polished by the use of dust from such pulverized Bort.

WHERE FOUND

The diamond is a cosmopolitan stone; it has been found even in meteoric stones as crystallized carbon, due to the intense heat and pressure. The diamond has been found in almost all quarters of the globe, although in

few, if any, areas of Europe, outside of the Ural mountains. It has been found in India, South America, South Africa, Australia, Queensland, New South Wales and the sea sands of New England (although never known to be water worn), in 15 or 20 states of the Union, and one stone of twenty-three carats weight, from away down in Old Virginia. We have in our possession one of 35½ carats, which was found in Ontario within a few hours run of the city of Toronto, some eight or ten years ago. We secured an interview with the DeBeers people in London with a view to interesting them in this, only to find, much to our disappointment, that they did not enthuse, as they claim all such appearances in America thus far, have been due to glacial action and would not justify the expense of further investigation. At least one research party from across the line, spent considerable time making such investigations in the Hudson Bay district, without however, any satisfactory result.

Nearly all the great diamonds of historical interest had their birth in India. In fact, until the middle of the eighteenth century, India had no rival in the field. They are there found in old sandstones and river gravel, and sand derived from them.

At one mine in India, as far back as 1650, no less than sixty thousand natives were employed. Although the name Golconda is associated with the diamond in the public mind, this place really was not so important as a producer, but obtained its fame from being the market for a considerable mining area.

When visiting India some few years ago, finding ourselves in Secunderabad, and hearing of Golconda a few miles away, we had a desire to visit the place. We were accompanied by the proprietor of the leading hotel, a rather intelligent fellow. In the olden times this was an important fortress, situated at the top of an almost interminable flight of steps. Speaking to him on our way there, about the Golconda diamonds, our guide said he had never heard of them, but drew our attention in passing to a very large mass of cube-like stones covering acres and acres. "These," he said, "are the only stones I ever heard of here;" the tradition is that the Great Architect of the universe completed his work at Golconda, and that these stones represented the surplus material after the work was finished. Needless to say, we will not vouch for the truth of the statement, although accepted by the natives there in perfectly good faith.

About the middle of the Eighteenth Century, somewhat important discoveries of diamonds were made in South America at various points in Brazil, and in one instance a camp of twenty thousand workers was established at one time.

Diamonds were found there under conditions very similar to those prevailing in India, and those two countries continued to supply the diamond needs of the world, until completely eclipsed by the discoveries made in South Africa.

The story of the South African mines reads like an Arabian Night romance, and adds to the mystery surrounding the origin of the

diamond, because of the different conditions under which it is there found.

In the year 1867, an old hunter and trader, John O'Reilly, stopped for the night at the home of a farmer named Van Niekerk. He noticed the children playing with some pebbles which they said they had found in the river bed near at hand O'Reilly was sufficiently interested in one of these stones to take it to Dr. Atherstone at Cape Colony, who pronounced it a diamond weighing 22½ carats, and found sale for it at nearly $3,000.00. This stone created quite a sensation at the Paris Exposition of that year, where it was on exhibition.

Niekerk, although a farmer, was by no means a "rube," for having in mind a very large stone of the same character which he had seen used for incantation purposes by a Kaffir doctor, he finally secured it in exchange for some five hundred sheep, a number of horses and other farm chattels, disposing of it on the same day for $56,000.00—his motto evidently being "quick sales and not too small profits." This stone weighed 84 carats in the rough; when cut it was finally sold to the Earl of Dudley for $125,000.00 and is known as the "Star of South Africa."

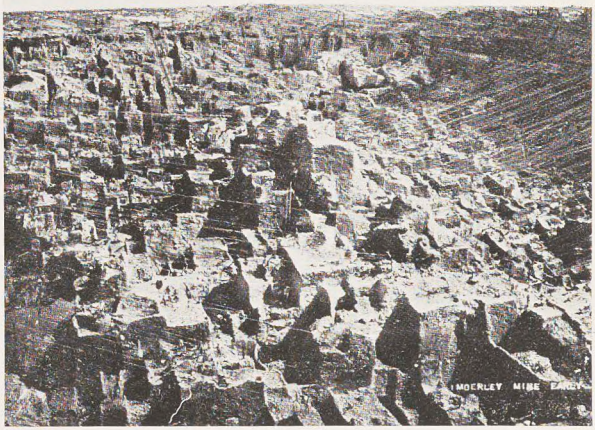
Ninety-five percent of the diamonds now come from South Africa, all other sources of supply being virtually exhausted.

HOW MINED

Before the discovery of the Kimberley mines, the principal source of African diamonds was in the neighborhood of the Orange river,

which discovery was made in 1867. They were there found in the banks of the river and in gravel, much the same as in Brazil. As many as ten thousand people were engaged in mining there at one time.

This was followed by the discovery of the mines at Jagersfontein, Dutoitspan, and later, in 1871, of the Kimberley, lying close by, and still later of the Premier mine.



Kimberley Mines—Early Days

At each of these places is found a dip somewhat like an old lake basin, five of such basins being found within a three mile radius. That at Kimberley covers ten acres, Dutoitspan twenty-three acres, and the Premier in the Transvaal seventy-five acres.

In addition to the finding of diamonds near the surface, it was found as the excavation progressed, that there were funnel-like pipes filled with blue clay reaching downwards, which were rich in stones. To account for this, some have ventured the opinion that at one time small lakes existed here, whose waters, through some convulsion, were discharged into the bowels of the earth; through eruptions which followed, these were shot forth. One strange fact is that the stones found in one such pipe frequently differ in character from those found in adjacent pipes.

These discoveries were immediately followed by the usual exploiters and soon brought fifty thousand adventurers to "try their luck."

Committees were formed to restrict claims to thirty-foot squares and to make other arrangements for the smooth running of affairs.

Bearing in mind that each of these camps was really like a collection of thirty-foot cellars adjoining one another, one can readily understand, as these excavations deepened, the air would be filled with other than love ditties.

When the excavation had in some places reached a depth of four hundred feet, the whole proposition became unworkable. It was at this period, in 1889, that the amalgamation known as the DeBeers syndicate, came into existence, under the combined efforts of the late Cecil Rhodes and Alfred Beit.

Under this new administration, modern systems and appliances were introduced for the carrying on of the work on a scale hitherto undreamed of. The compound was enclosed, natives were engaged and properly housed;

they were required to serve for three or six month periods, during which time they were not allowed to leave the compound. Before discharge, they were interned for a week or two, and given a most thorough examination.

Thieving had previously attained such dimensions that very heavy penalties were inflicted by the Government upon any one daring to purchase such stones; it was felt that with the I.D.B.'s, that is, illicit diamond buyers, out of the way, all temptation to steal would be removed.

Instead of the old aggregation of thirty-foot cellars, one huge shaft was sunk, with the necessary underground tunnelling; this shaft some years ago attained a depth of twenty-seven hundred feet — over one half mile.

A Large Distributing Floor

Modern machinery was introduced; a large distributing floor was formed, capable of holding four million, five hundred thousand truck

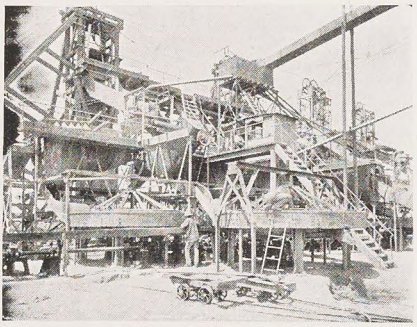
loads of clay. Sometimes this was left to weather for a year or more, a steam harrow meanwhile aiding in its disintegration. When ripe, this soil was placed in large perforated cylinders, thence to large pans where it was shaken and washed. Under the old system, the resulting conglomeration of stones and other material was sorted by hand. Now it is done automatically upon inclined tables with a greased surface, for by mere accident, it was found that grease thus used would retain a diamond, while allowing all other stones, etc., to pass along freely.

If tempted to complain at the cost of your diamonds, please bear in mind that the average yield, after all this trouble, is but 1¼ grains per ton, which, when further reduced by the removal of all inferior stones, brings it down to an almost irreducible minimum. Yet, the return from the DeBeers in 1906 was no less than twenty-five million dollars.

Just here we might say a word regarding the marketing of this output, which is done in London. In so doing we may incur the risk of making those of you who are engaged in competitive trade, quite envious.

Diamond Washing Machine

When prepared to market any of their output, it is carefully assorted according to the company's ideas as to sizes, qualities, prices, etc. Notice is then forwarded to a certain number of cutters that they may have the opportunity of "a view" at a certain hour on a certain date—no drummer's trunks, no waiting on the door mat for the DeBeers salesmen. Although not so specified, it is pretty well understood that if these invitations are ignored, or if there is a too frequent failure to purchase, it may be considerable time before another such invitation to their little party is extended.



Diamond Crushing Machine

The stones thus purchased are taken by the cutter for his expert treatment, for it must be remembered that the diamond in the rough is not at all attractive; its beauty is brought out by the faceting or cutting of these little faces, having regard to the laws of refraction and reflection of light.

THE CUTTING OF THE DIAMOND

Before proceeding with its cutting and polishing, the diamond must be suitably trimmed, and much skill and judgment are

called for at this point, that the very best results may be obtained.

With some of the cutters, the sawing of the stones has been introduced of late, but the process of cleavage is the one generally adopted. There is a line of cleavage which has to be followed; this discovered, the sharp edge of one diamond is used to make a slight cut or mark in the stone to be operated upon; this made, a steel edge like that of a dull knife is inserted and with a smart knock or blow the cleavage follows.

Grading The Rough Diamonds

This done, the stone is ready for polishing. The present method was first introduced by one Von Berquin, in the town of Bruges about the year 1450, and is quite a simple operation.

A flat solid disc of soft steel, of sixteen or eighteen inches diameter, (somewhat like a grindstone laid on its side), revolves at the rate of three thousand revolutions per minute. Upon this is placed a paste of diamond dust and heavy oil. The diamond is set in a little core of fused spelter, or some such soft metal, to hold it absolutely firm; when cooled it is gripped in a sort of claw upon the end of an adjustable arm, and weighted down upon this

fast revolving disc. As the grinding or polishing process is a very slow one, owing to the extreme hardness of the diamond, the one operator is thus able to attend to several machines at the same time. In the case of stones of a fair size, the process is comparatively simple, but with those of pin head size the virtue of patience must be greatly taxed.

There are three different styles of cutting nominally, but the first of these is so seldom called for, that it need only be mentioned. It is the "table cut," simply being a flat oblong surface with the edge trimmed somewhat like a mansard roof. This really does not appear in modern stones, and when it has been used in the old stones, it is because the rough diamond was of such shape that neither of the other two cuttings would be suitable. The "rose cut" stone stands on a flat base; it is convex in shape, covered with numerous facets and terminates in a somewhat dull point. This style is never used where a stone is sufficiently deep to admit of being cut "brilliant"—which is really the only desirable style.

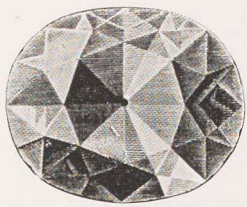
In the "brilliant cutting," the upper portion of the stone is known as the "Crown", and the lower portion as the "Pavillion," the edge at which they join being known as the "Girdle." The cutting is not on chance lines, but due attention is given to the angles of refraction and reflection.

The importance of this may be illustrated by the old boyish trick of using a piece of mirror to divert the sun's rays into the eyes of the victim; at a certain angle the mirror is harmless, at another angle it produces results.

The Crown or upper part of the diamond

should be one-third the depth of the whole stone, and should have thirty-two little faces or facets exclusive of the flat center called the "table." The lower portion of the stone, the Pavillion, should be two-thirds of the entire depth, and should have twenty-four such facets apart from the "culet" or flattened point.

For several centuries, Amsterdam and Antwerp have been the great cutting centers of the world; but since the beginning of the war, the cutting industry is being well established in England, aided no doubt by the inflow of many of the natives of Belgium and Holland who are familiar with the work. This being one of the industries open to wounded soldiers, it is gratifying to know that they are being satisfactorily employed in it. One firm already has four hundred cutters at work, with another similar unit under construction and prospects of still further additions. We would fain hope that this may be a movement towards retaining the whole industry from first to last within the bounds of our Empire; but it remains to be seen whether the attractions of their old continental life and the higher standard of wages in England, may not prove disturbing factors.



The Koh-i-noor

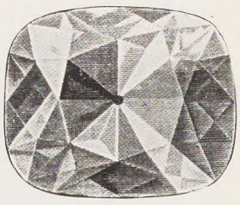
Before closing, it may be of interest to have some particulars regarding the four or five most important diamonds in existence, and which are within our own Empire. Perhaps the best known of these is the Koh-i-noor or "The Mountain of Light," which doubtless

recalls to many, a visit to the Tower of London, where it is shown amongst the Crown jewels.

There is much mystery veiling the early history of this stone, but it is supposed to have had a place in the renowned Peacock throne, which once occupied that exquisite gem of architecture, the throne room in the palace at Delhi. In later years it was owned by the Rajah of Lahore, passing into the hands of the East India Company, by whom it was presented to her late Majesty, Queen Victoria. At that time it weighed 186 carats, being native cut; subsequently it was greatly improved by recutting, although reduced in weight to 106 carats.

THE STAR OF THE SOUTH

Some of the most valuable gems are in the possession of Indian Princes. The Star of the South is one of these, but is not to be confounded with the Star of South Africa, referred to already as belonging to the Earl of Dudley. The Star of the South is owned by the Gaekwar of Baroda, who visited Canada some years ago. This stone in the rough weighed 254 carats, being reduced to 125 carats during the process of recutting. For this stone his Highness paid the sum of $450,000. He is also the owner of the Akbar Shah, for which he paid $175,000. Another large stone, the Empress Eugenie weighing 51 carats, is also in his possession.



The Star of the South

It was our privilege to cross on the same

steamer from Yokohama to San Francisco with his Highness, his wife, daughter and retinue. Although her Highness and the Princess wore the native costume, he was dressed like an English gentleman, for whom he would readily have passed, had it not been for his swarthy skin. He was a very alert, decisive and progressive man, possessed of unquestionable ability.

That he was very wealthy has been manifested by his great liberality in providing our Government during the recent war with hospital ships and other necessary equipment.

THE VICTORIA DIAMOND

This stone, originally weighing 457 carats, was reduced in the cutting to 180 carats and is owned by the Nizam of Hyderabad, who paid $2,000,000 for it.

It was our privilege when in India to visit his palace in Hyderabad, where amongst other treasures, he was accredited with the possession of eighty motor cars and a harem containing five hundred wives. For those of us to whom a kind Providence has bequeathed but one motor car and one wife, the fact that a man can maintain such luxuries as eighty cars and five hundred wives, causes a trifling outlay of Two Million Dollars for a diamond to sink into comparative insignificance; it is hardly worth a passing notice—a mere petty cash entry.

Amongst the important stones discovered in South Africa the first to be mentioned is the one known as the Jubilee, which was found in the year 1895. In the rough state this stone weighed 640 carats, which was reduced when cut to 239 carats.

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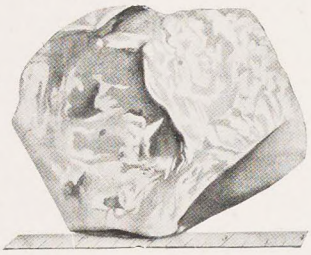
cost less in Canada"

A diamond found at Jagersfontein in 1893, called the Excelsior, eclipsed all previous records. This stone was found by a native when loading a truck, and brought to him a substantial reward. It weighed 971 carats when found, and was subsequently cut into ten stones weighing from sixty-eight to thirteen carats each.



The Cullinan—Before Cutting

It remained however, for the latest discovered mine, the Premier in the Transvaal, to make all previous discoveries sink into comparative insignificance. This stone was of exquisite quality and weighed 3025¼ carats, or if you prefer buying your diamonds by the pound, exactly one and one-third pounds.

This stone was known as the Cullinan diamond, and was subsequently sold to theTransvaal Government, by whom it was presented to the late King Edward.

In the cutting it was subdivided into nine large stones and some small brilliants, the two largest weighing respectively 516½ and 309 carats, these being the two largest diamonds in existence. What more fitting, as a recognition of the service rendered Africa, than they should find a home amongst the highly prized treasures of the British Empire.

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