IX.—*The History of a Remarkable Gem.—The "Maxwell-Stuart" Topaz.*

By J. H. Collins, F.G.S.

IT is only within the last century that the Cingalese have become the most astute judges upon all matters relating to gems in their uncut or natural state. That this is so is proved by the number of remarkable stones which previously found their way to England, unrecognized as being of any value; amongst them is the stone in question. How it could have been passed over and treated by the merchants as of no value is a mystery, unless its great size contradicted the probability of its being a gem. Such, however, was the case; it having been sent to England mixed with the ordinary pieces of inferior Rubies and Sapphires used by watchmakers. It was sold for a mere nominal sum, as a piece of Quartz, or Crystal, and passed into a private collection of minerals, the owner of which regarded it also as a specimen of Quartz. At his decease it was sold by public auction with his minerals, by Messrs. Stevens, the natural history auctioneers, of Covent Garden. Again, remarkable to relate, not any of the mineralogists or dealers in gems recognized it, and it was purchased with other stones by a private gentleman, Mr. Herbert Maxwell-Stuart, of Scarthingwell Hall, Yorkshire, for the sum of £3 10s.

This gentleman, having collected gems for many years, and being an authority on uncut gems, immediately discovered its true nature, and for many years it formed the centre of attraction in his cabinet, and was shown to the gentry of the county as being the largest gem in the world. At last Mr. Maxwell Stuart decided to have it cut and polished, and travelled from York to Edinburgh, to consult the lapidaries there on the subject. However, a great disappointment awaited him. He was informed, after examination, that it would be impossible to cut such a large stone (measuring about 4½ inches square) of that material, its hardness being so great. It was also stated that even if cut, it would not be pure, two or three large flaws to all appearances running nearly through the stone. Some London lapidaries said the same, and the gem lay for some time untouched, until Mr. Maxwell-Stuart showed it to Mr. Bryce-Wright, of Great Russell Street, London, who, upon examination, not only pronounced the cutting perfectly feasible, but believed it could be accomplished without leaving a single flaw. He further offered to purchase it for a large sum if he was satisfied on re-examining it with the aid of a powerful artificial light. This was allowed,

and Mr. Maxwell-Stuart, perhaps doubting the feasibility of its being cut, and especially without a flaw, was tempted to part with the stone.

On securing the gem, Mr. Bryce-Wright had several moulds taken of it, from which were cast in gelatine eight or ten perfect models upon which to operate. The gem itself was then examined with the greatest care under a lime-light, being previously dipped in a preparation of turpentine to render it more transparent, and the exact position, width and length of the flaws carefully noted. These were then measured and imitations of them made *in wood* of the precise length and width; they were then inserted in the models of gelatine in exactly the same positions as the flaws were in the original. Thus several imitations of the real gem were made, containing pieces of wood in place of the flaws. These were then cut out of the gelatine in several directions, care being taken to cut perfectly straight, or in a manner that a lapidary's wheel could act, leaving several irregular blocks of gelatine representing the gem *without* the flaws. It was then easy to choose the form of cutting, and to determine upon which model the true gem was to be cut.

The stone was then placed upon the wheel and cut precisely to the shape of the chosen model, thus effacing all the flaws. Here victory seemed complete, as the polishing was all that had to be done, when unfortunately, what is termed a feather appeared, perhaps through the strain in cutting, in the position in which it was determined to place the table. This seemed at first sight an insurmountable difficulty, until Mr. William Lunan, the lapidary employed proposed to remove the "feather" by reversing the original plan, and placing the table where it had been arranged the culet should be. The feather which was horizontal was thus removed in the cutting and polishing of the large plane. The gem was cut as a brilliant on a diamond wheel, without further mishap. The polishing was the next step, the wheel for this purpose was of an unusual size, and made of bell-metal. The rapidity with which this had to be driven to polish such large facets on such a hard stone was very great, and rendered it impossible to continue the work for more than a minute or so at a time; the stone being so hot, as also the cement forming the handle to which it was attached, that it could not be held in the hand.

Plate III is an outline shewing the original size of the gem with the positions of the principal flaws. The final result of the cutting is seen in figs. 1 and 2, plate IV.

The operations of cutting and polishing commenced on the 12th May, and ended on the 12th June, having thus occupied 28 days of incessant labour.

That it is the largest cut precious stone known (exclusive of the Cairngorum, which is only Quartz, and much softer) there can be little doubt. It is pure white, and possesses a brilliancy hardly, if ever, equalled in this gem. Its weight is 1,475·9 grains, or 368 carats 3·9 grains; its specific gravity is 3·5685. As to its value, this is simply hypothetical, there being no standard on which to reckon the value of such an exceptionally fine stone.