

industry is protected by no patent, nor is it surrounded by any difficulties that I am aware of. The figures relating to quantities have been collected from the gentlemen above named, but whatever measure of success or disappointment may be the result, it cannot fail to be highly interesting to this Society to see such a hopeless looking tree turned to so many useful products, through the aid of science, while to the mind bent on inquiry after the good and the useful, these remarks may convey a lesson never to despair, nor pass over what appears trifling and valueless at first sight.

ART. III.—*Gems and Sapphires.* By the REV. JOHN J. BLEASDALE, D.D.

[Read 12th March, 1866.]

MR. PRESIDENT AND GENTLEMEN,—I trust I shall be forgiven on this occasion, as I have been on many preceding, for taking up a few minutes of the public time without having given previous notice. It is not always in my power to give notice of any little matter I may have to exhibit; and I prefer rather not to give notice than do so, and then disappoint the meeting. On the present occasion it was utterly out of my power to do so. The matter which I wish to bring before you to-night will not detain you many minutes; and that which forms the substance of it will, I trust, interest some and please all.

The very harmless and, to myself, pleasing recreation of collecting and collating the gem stones of our favoured country, has put, and will no doubt, from time to time, continue to put, in my way objects not unworthy of being recorded among the labours of this Society.

To-night I have in my power to bring under your notice a magnificent specimen of the green Sapphire (the Oriental Emerald), one of the very rarest of all gem minerals—so exceedingly rare, that Harry Emanuel, in his work just published, 1865, says of it: “The green variety (of Sapphire), or the Oriental Emerald, is the rarest of all gems, and is scarcely ever seen. In the whole course of my experience, I have only met with one specimen.” Harry Emanuel is, of all living men, about the most likely to have met with specimens, if they were to be found in the trade at all.

You will have an opportunity of saying what you think of it yourselves ; but for my part, I look on it as a most perfect gem, both as to colour, cutting, and size. It was found by a digger in North-east Gipps Land, and is believed to have been picked up about Donnelly's Creek. Unfortunately, Mr. Wright, of Geelong, who owned it in its rough state, forgot to ask particulars from the digger from whom he procured it ; and the man has not been seen about Geelong lately. *In the rough state* it had the appearance of a roundish, flattened drop of rather Polish green glass, much the same in shape and colour, but smaller than the nodules of transparent green obsidian. Its true colour was greatly altered by the presence of two large flaws or "fouls," as lapidaries call them, one on each side, which reflected pale yellowish light right into it. In the rough state, therefore, it looked to great disadvantage. The removal of these "fouls" gave the lapidary, Mr. Spink, much trouble ; while, at the same time, it very greatly reduced the size of the stone. On removing the outer crust a little bubble was seen some depth down, right in the face of the stone ; and this had to be removed, thereby reducing the weight still further. It had, however, still abundance of thickness after this was taken out, and so it did not injure the gem. I mention this because this particular bubble, small as it was, greatly interfered with the true colour of the stone.

Cut and polished it now weighs rather more than five and three-quarters carats ($5\frac{3}{4}+$), and is the largest sapphire of any colour both found and cut in Victoria.

Shape.—It is now a perfect oval, well proportioned, single cut on the bezel, and with four rows of facets on the collet side. The cutting and polishing are unexceptionable.

The *colour* is a peculiar soft, but well-pronounced green of chrysoberyl cast, but yet with not so much of the apple green tint. In fact, the nature of the green is very marked and distinctive. The colour is also equally distributed all through it—a rare occurrence in sapphires. Its *lustre* and fire are exceedingly good, as you can see for yourselves, and as one might expect from a stone of its depth and absolute freedom from fowl, flaw, feather, or speck of any kind. The work reflects great credit on Mr. Spink.

Its *hardness*—diamond being 10—is equal to = 9 +, and is the hardest stone ever cut in Melbourne. The specific gravity 4.001.

The *coefficient* of refraction has not yet been determined.

The two other specimens on the table (one cut, the other "in the rough"), are also from Gipps Land, and certainly from the district of Donnelly's Creek. There is a large piece, but very foul, in Mr. M. Stephens' fine collection, found in the Jim Crow Ranges.

ART. IV.—*The Volcanic Rocks of Rome and Victoria compared.* By JAMES BONWICK, ESQ., F.R.G.S.

[Read 12th March, 1866.]

Having visited above thirty volcanoes in Victoria, to the westward, as well as some in South Australia, I was naturally led, when at Home, to look at the volcanic districts of Europe. I had the pleasure of inspecting those of Auvergne, Naples, and Rome; besides, at the suggestion of Sir Roderick Murchison, having a ramble amidst the singular geology of the German Eifel. My state of health, at the time, did not permit of much walking, and so hindered my researches.

In the present paper I would omit all reference to Vesuvius, where I saw the flow of lava and *felt* a shower of ash, and would confine my observations to the singular parallel existing between the volcanic formations of our western country in Victoria, and that of Rome and its neighbourhood.

Rome, Eternal Rome, has indeed a charm to civilized man. So absorbing was its interest to me, that I was never more in Dreamland than there. I wonder now that the geological found a place in my mind. And if any weakness or error of description appear in my narrative, I must make this the ground of my apology to the Society.

What a history could one atom of Roman dust unfold! In the early ages hurled out of the caverned fire,—trodden by wild races without memorial or name,—entering the sturdy oak or cropped in grass by lowing oxen,—a fertilizer of the glowing Campagna,—a portion of the human frame—perchance of Cæsar,—and then a lowly dust again; how like the tale told of Rome itself!

In some respects, the budding maiden of Victoria, whose blushing beauties are yet unknown to Europe, presents a striking likeness to the long-revered and well-beloved matron of the Seven Hills.

In comparing the Tufa, or Volcanic Ash of the two places,