

A gemological series of articles would be posted on the gsm.org.my website entitled 'Understanding Gemology'. Each article touching on various aspects of gemology would be changed on a monthly basis. In this article the following are discussed :

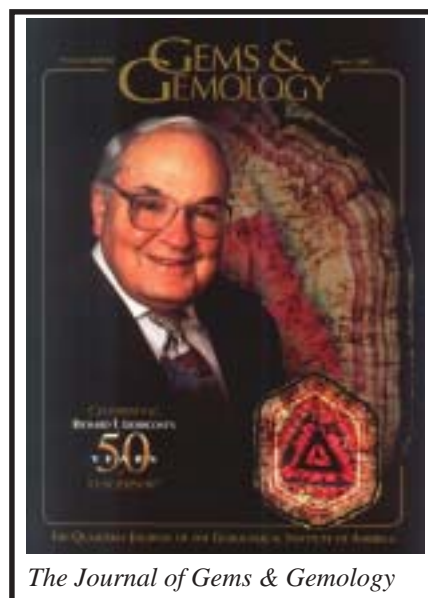
- o A brief historical perspective on gemology

A Brief Historical Perspective on Gemology

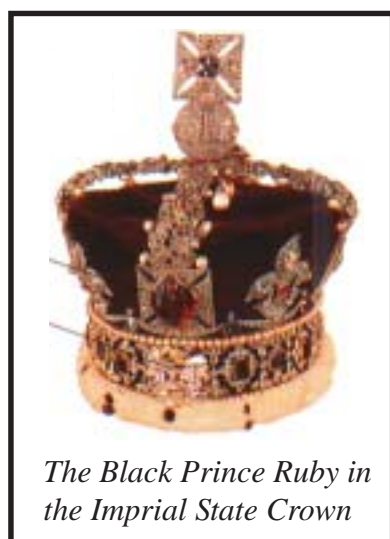
Gemstones have fascinated mankind since civilization. They are often associated with symbols of status, wealth and supernatural powers and for the past hundred years they are associated with the ultimate expression of love. Historically kings and queens, rajahs and sultans, men and women of immense wealth and powerful mandarins of influence are collectors of rare gemstones. When connoisseurs are willing to pay a high price for a piece of natural and beautiful gemstone this has spawned a progression of greed on producing fakes, imitations and synthetics. Gemology is thus an evolving science out of necessity and out of labour of love to a few to differentiate the genuine and the fakes, the natural and the treated and the different varieties of the same coloured gemstones.

The science of gemology is concerned with the study and identification of gemstones and gem materials. It has only a recent history of about 70 years when given the number of synthetics and fake gemstones in the market a young visionary Robert Shipley formed the Gemological Institute of America (GIA) in 1931 and began to offer correspondence courses on gemology. In 1934 he founded the American Gem Society as a professional body of jewelers and in 1935, the same year where the American Gem Society held its first examination, Volume 1, Number 1 of *Gems & Gemology*, was published as the journal of GIA. He was later joined by his son where he helped pioneered a series of gem testing instruments for the identification of gemstones. To this day GIA is now at the international foremost front of gemological research and education, gemstones identification services and diamond grading.

Over the past 100 years gemological technology has accelerated in parallel with the creation of lab-grown synthetic gemstones. Almost every known gemstones has been synthesized and this has made the task of a gemologist a more demanding and exact one.



Corundum (family name of rubies and sapphires) was first synthesized in 1837 and in 1891 the French scientist A. Verneuil perfected the blast furnace of growing synthetic rubies from alumina oxide powder mixed with a minute amount of chromium. The separation of natural rubies from synthetic rubies and other look-alike 'red' gemstones became more urgent as there is a huge price differential between a natural and synthetic. History is full of remarkable mistakes where gemstones are wrongly identified based on colour and luster itself - the most famous one being the Black

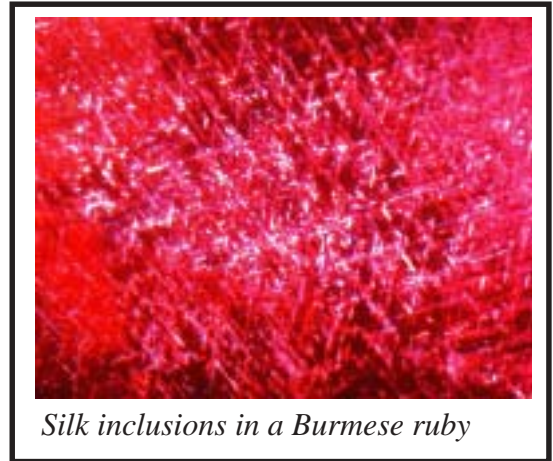


Prince Ruby set in the Imperial State Crown of England. For centuries the sparkling red stone was thought to be a priceless ruby until modern gemological instrument made it possible to identify the stone as a rare spinel of unsurpassed beauty. Had it been a ruby its worth would be priceless.



On the other hand the science of gemology also made it possible to identify natural gemstones which have been 'treated' to enhance its beauty and mask its flaws, gemstones whose black inclusions are busted with laser and filled with clear polymer, surface coating to give it a vivid hue, irradiation to change its body colour to a desired rarer colour and the more primitive method of dying to improve the appearance of a gemstone. A deeper understanding of gemology would also enable a gemologist to identify the origin of a gemstone between a Burmese ruby and a Thai ruby.

Unlike the olden days where the identification of a gemstone was based on the whims and personal experience of the dealer or the soothsayer, gemology is now an exact science due to the various scientific instruments available and the great body of knowledge accumulated and dispensed over the years by various international gemological institutions.



Silk inclusions in a Burmese ruby

The next series of gemological articles is on Organic & Inorganic Gemstones

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