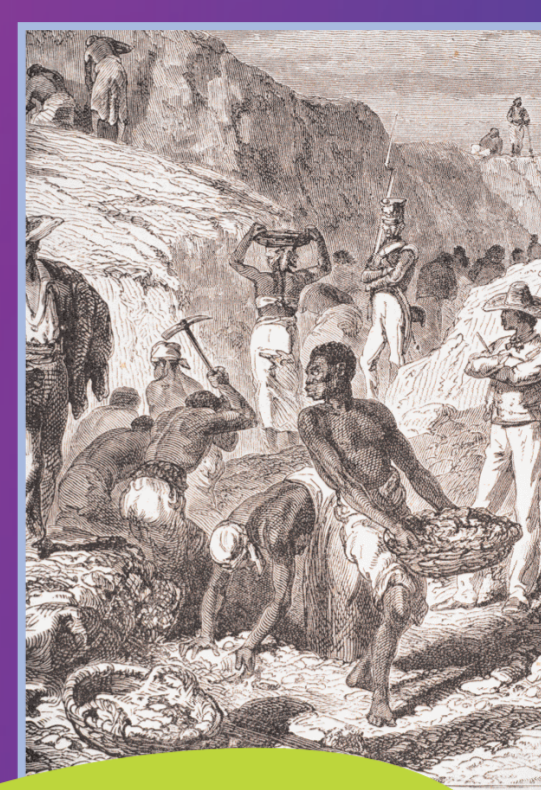


# Crystals and precious stones: magic on the stone face

The colour, transparency, rarity and immutability of certain stones made precious objects of them, for use in jewels and gems. They quickly became symbols of power and wealth.



Diamond mine in Brazil, Diamants et Pierres Précieuses by Louis Dieulafoy.

All the wonder expressed at the beauty and sparkle of precious crystals cannot eclipse the pain and misery associated with their production in poor countries. The potential wealth in the mines has ignited rivalry and continues to generate bloody conflict. The history of slaving in Tijuco (Diamantina) in 18th century Brazil, in South Africa in the 19th century or the mines of Myanmar (Burma) bear bloody witness, as do the recent conflicts in Angola, Sierra Leone and the Congo.

## Fascinating facets

Precious stones have been polished since ancient times into round shapes. They were even sculpted for intaglios and cameos. Diamonds, however, resist all polishing. The growing interest in the facets of crystals must logically have led to the cutting of precious stones, the first of which date back to 13th century Europe.

## Gems for jewellery

A wide range of stones were used for jewellery, from the most precious, such as diamonds, sapphires, rubies and emeralds, to the more modest, often of local origin, such as garnets, amethysts or carnelians. With the rarity and cost of these stones, man soon started to produce imitations out of transparent glass.

## Cutting to reflect the light

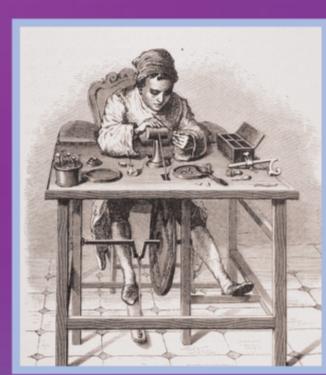
Stone cutting is a difficult art. Its objective is to make the stone as attractive as possible. Certain facets reflect like mirrors whilst others try to trap the light inside the stone so that it eventually emerges more vivid in colour or in sparkling little rainbows.



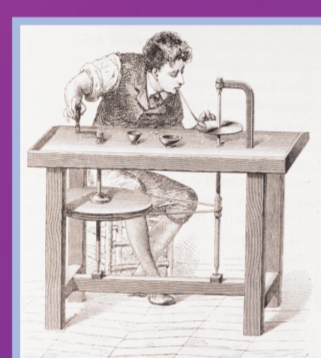
Stone cutting shop, 1476 - Lodewijk van Berken © Eddy-Vleeschdrager



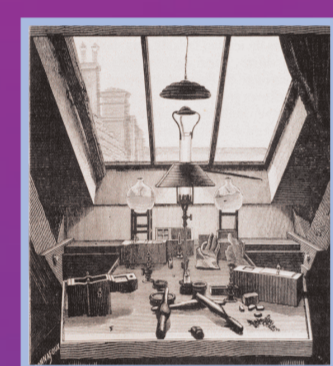
Precious stone cutting became a real industry from the late 19th century onwards. © Eddy-Vleeschdrager



Grinding gems, Diamants et Pierres Précieuses by Louis Dieulafoy



Sawing gems, Diamants et Pierres Précieuses by Louis Dieulafoy



Splitting workshop, Diamants et Pierres Précieuses by Louis Dieulafoy



Various cuttings of Ametrine crystals © Eddy-Vleeschdrager



Facsimile of France's «Regent» diamond

Gem cutting, Diamants et Pierres Précieuses by Louis Dieulafoy.

There are two parts to the cutting of a gemstone: the upper «crown facets» and the lower «pavilion». The crown consists of a large facet (table facet) surrounded by smaller facets. The pavilion consists of different facets oriented to catch and reflect the light like mirrors. The geometry en-sures that the light is either reflected back off the facets of the crown or enters the stone and re-flects off the facets of the pavilion before leaving the stone. The journey of the light inside the diamond reinforces the sheen effect and enhances reflection.

