

GEMSTONE FASHIONING

Preparing a gem for use in jewellery, or for display as an ornamental object, is known as fashioning. In certain cases *no fashioning* is done at all; the gem material is used just as it came from Nature. For example, attractively formed crystal specimens or metal nuggets are sometimes put on display stands, or mounted in jewellery as is.

Perhaps the most common example is pearls

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The art and craft of fashioning gemstones is called *lapidary* (or diamond cutting), and a practitioner is known as a lapidary, (sometimes lapidarist), or a diamond cutter

Lapidary Products

Tumbled stones: The simplest of way of fashioning gems is tumbling.

Accomplished by mixing the rough gems with water and a series of ever finer abrasives, and either tumbling them in a motorized, rotating rubber-lined barrel, or subjecting them to prolonged vibrations.



Tumbled stones

Slabs and slices

- **Slabs and slices: Sawing, with the exception, perhaps, of tidying up a mineral specimen or slicing open a geode, is seldom an end in itself, but rather a preface to polishing or further lapidary work**
- **Lapidary saws come in a variety of sizes from tiny facetors' trim saws with four inch blades, to standard rock slicing saws of 8 - 18 inches, to giant behemoths used to cut boulders.**

Grinding and Polishing

Once a gem has been sawn into slices or trimmed into manageable size, it is then ground to smoothness and polished to a lustre. The grinding machines employ a metal, or in some cases resin, disk with its surface or edge covered with abrasives or polishes of various grit sizes and types. These disks come in two basic styles: flat "laps" which are used horizontally, and upright "wheels" which are used vertically.

Grinding and Polishing

The basic idea here is the same as in tumbling, in that the gem is subjected to grits of increasing fineness as it is shaped and made smooth, then finally a polishing compound is applied which produces the finished shiny surface. The polishes are usually metal oxides or extremely fine grits of diamond. Various abrasives and polishes must be used to achieve success with different types of gem materials, based on their hardness and surface characteristics.

Cabochons

Second only to faceted stones in familiarity as lapidary products, are cabochons (cabs for short). Most commonly cabs have flat bases and smoothly domed tops, and are fashioned from translucent to opaque materials. The cabochon form is particularly good at emphasizing the patterning of a gem, or for displaying most types of optical phenomena

Cabochohs



Cabochons

They are usually produced with a slightly bevelled bottom edge which makes for easier and more secure setting in jewellery. Sizes range from tiny accent gems to large pieces appropriate for use as belt buckles or in bola ties. Standard shapes such as ovals and rounds are commonly produced in "calibrated" sizes that fit exactly into commercial mountings. In other cases, particularly with rare or valuable material, or those intended for designer jewellery, the sizes aren't standard, and the shapes may be freeform

Beads

Beads are one of the most ancient types of fashioned gems, and are enjoying an enormous resurgence in popularity today.

Beads can be virtually any shape: round, oblong, tubular, flattened circles (rondells), briolettes, fancy or baroque.

Beads

Beads are simply gems with holes in them. The fashioning of a round or other symmetrically shaped bead can be done by hand with cabbing equipment, but in commercial operations is usually done with a device called a "bead mill". Sawn slabs are cut into cubes (for a round bead) and fed into the mill which has grindstones that operate at angles to the cube removing its edges until it is uniform. Most mass produced beads then go into a tumbler to be polished and are drilled with a lapidary drill press, using diamond tipped drill bits.

Engraved and Carved Gems

Engraving and carving gems is, like bead making, a very early form of lapidary

Gems fashioned by engraving are incised, so that a design is cut (shallow or deep) into their surface, whereas carved gems are fully three-dimensional.

Engraving and carving should be considered lapidary *arts* rather than crafts, as the vast majority of styles and pieces can only be done *well* if the maker has some degree of artistic talent, an ability not required of those doing tumbling, cabbing, or bead making

Faceted Gems

The most popular fashioning style for transparent gem material is the faceted gem. Because colored stones and diamonds are cut by different methods, and graded and marketed separately, we'll look at each in turn, although some of what is covered below applies to both.

Colored stones

When discussing a faceted stone, the first distinction that is often made is shape (face up outline). As is also true of diamonds, colored stones are either *rounds* or *fancy cuts*. So ovals, pears, freeforms, etc. are all "fancy". Going beyond the outline shape, one might next look at the cutting style. *There are three traditional basic styles (brilliant cut, step cut and mixed cut), with many old and new variations upon them.*

Colored stones

The brilliant cut which is especially suited for producing light return to the eye (brilliance), has triangular and kite shaped facets. The step cut, which is more suited for emphasizing color in a gem, has tiers of rectangular to square facets. Mixed cuts usually have a brilliant style crown with a step cut pavilion, but the opposite arrangement can be seen as well. Occasional variants include faceted gems with an apex rather than a flat table, and those whose crown is formed of rows of parallel facets (opposed bar cut) or a field of intersecting squares or diamonds (checkerboard cut).