

Light Fantastic

There are some views in life of which we never tire: waves breaking on the shore, our sleeping child, the welcoming sunrise. The glorious reflection of color in a gemstone, for me, is yet another. Like all the most beautiful things in the world, gems bestow an almost spiritual restoration; they help us touch harmony and balance—if only for a moment. It's no accident that churches have stained-glass windows.

To many artists, life, light and color are the same thing. But even if we are not artists, we can glimpse this experience. Imagine that you're fighting dense traffic on the drive home, when the setting sun hits the gem in your ring at a certain angle. The flashes of colored light lift your spirits off the pavement. A gemstone is a temporary oasis of beauty worn on our bodies.

Seeing a beautiful colored gemstone is an emotional experience, yet that emotion is dependent upon the skill of the gem-cutter, whose ability can turn a natural crystal into a magical object that translates ordinary light into an epiphany for our eyes. These skilled craftsmen also bestow much of the gem's value. Beauty, rarity, desirability and durability combine to determine the value of a gem. And what affects beauty? Color and cut. And if a gem is not beautiful, few people will desire it and the value in the marketplace will be lower.

What color is most beautiful?



Award-winning pendant featuring optimal emerald-cut bicolor tourmaline. Gems by Cynthia Renée Co. Jewelry by Alfieri Jewelers, Michigan. Photo by Weldon.

the many
FACETS
of
Gem-Cutting

Even in a gem, the preferred color is an extremely subjective and personal preference. How can one dictate what color is best and why it is best? It's like choosing a mate—what moves one person may not even stir the other. There are trade standards for preferred colors which translate into varying prices, but the trade can't legislate personal taste. I'm lucky; sometimes I like lighter blue sapphires and pinkish rubies that happen to be not as highly priced as their darker blue or purer red equivalents. My choice isn't wrong; it's what I like.

Cut is not subjective—when you see a beautiful colored gem that captures your desire, it is not simply by chance. The gem in its uncut, rough form was probably unusually fine to start. The gem-cutter paid very careful attention to the preciseness with which he applied the gem's facets, symmetry and polish. Good gem-cutters can't make a silk purse out of a sow's ear, but they will bring out the ultimate beauty that lies in the rough

gem's natural color and quality.

The quality of the cut is controlled by the artisan; gemstone cutters are known as "lapidaries." Like talented tailors or woodworkers, superior lapidaries will bring out the gem's ultimate beauty regardless of the color or clarity; a poor craftsman will cause a gemstone to suffer. Think of a bolt of fabric in the hands of different tailors. Each tailor will handle the material in a distinctive way: some will be great with matching patterns, one with getting the exact cut, another with producing a beautifully finished garment; one tailor may turn out a perfect masterpiece. But most of the tailors will be best at churning out as many coats as possible, no matter if they have irregular stitching, poor finishing and a baggy fit. While inexpensive to begin with, these coats will not give lasting pleasure.

It's no different with gemstones. Most gems are churned out as quickly as possible, usually those with specific length and width requirements to fit in mass merchandised, standardized jewelry settings. Occasionally, though, a true gemstone-cutting artist will be able to go through the process of carefully studying the rough uncut gem crystal, figuring how best to unlock its ultimate beauty through cutting.

What are some of the characteristics of a gemstone cut that are not subjective? We can tangibly judge a gem's degree of symmetry, grade of polish, light reflection and whether

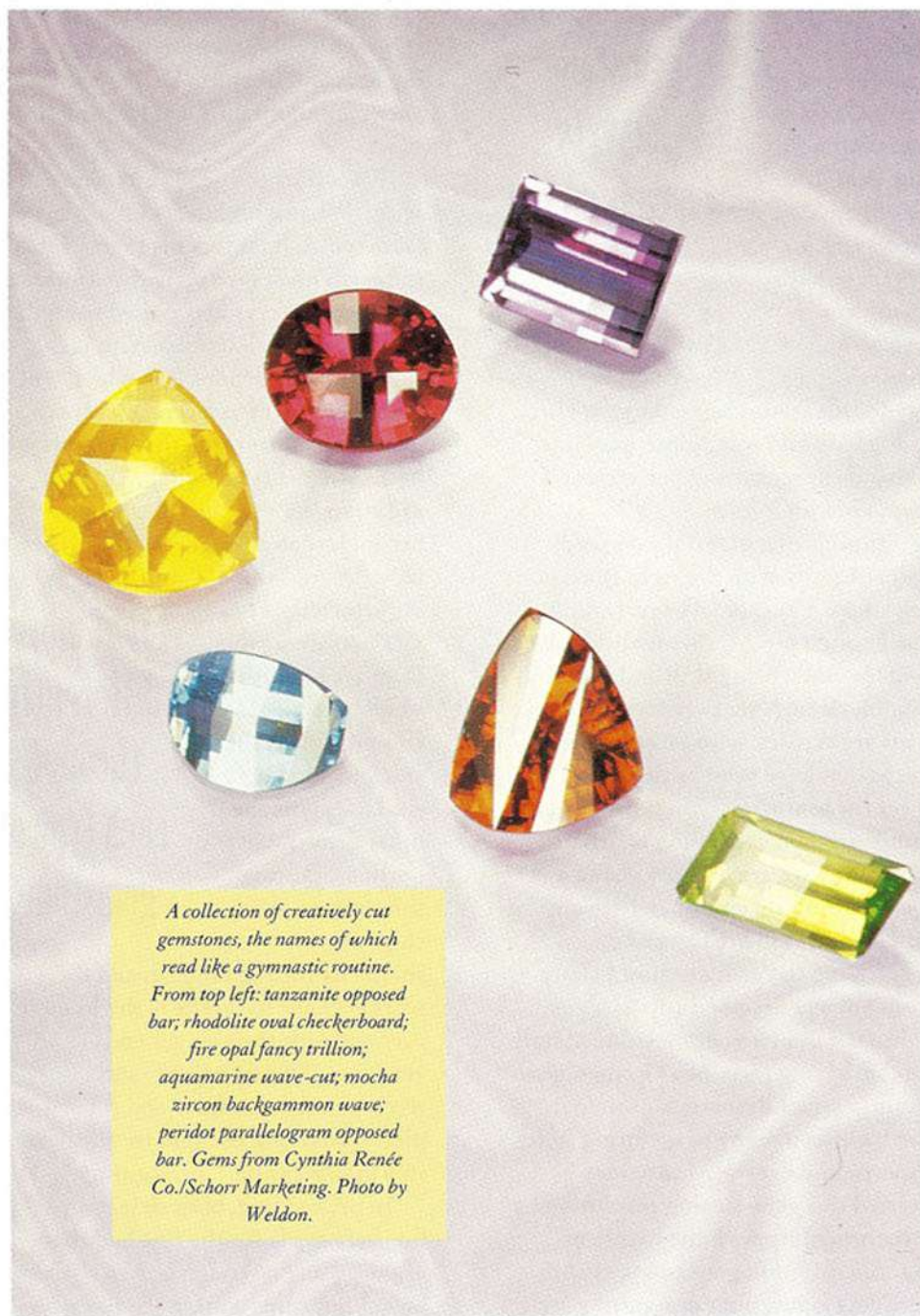
all the facet angles and junctions meet with precision.

When a gemstone is "lively," it shows that the lapidary has paid very careful attention to the angles at which he has put the facets. Well-cut gemstones are designed to refract the

light that enters through their top so that the gem sparkles back at the viewer. Each gemstone has different angles at which this light refraction occurs. To demonstrate this refracting phenomenon in gemstones, rest a lightly colored gem in the indentation

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**Some cuts
are classic;
others are
an original
expression of
artistry.**



A collection of creatively cut gemstones, the names of which read like a gymnastic routine. From top left: tanzanite opposed bar; rhodolite oval checkerboard; fire opal fancy trillion; aquamarine wave-cut; mocha zircon backgammon wave; peridot parallelogram opposed bar. Gems from Cynthia Renée Co./Schorr Marketing. Photo by Weldon.

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formed when you hold two fingers together. In a perfectly cut gemstone, you won't be able to see through to your hand, because after the light enters the gem it will be completely refracted back out the gem's top.

Some gems have what's called a window, where

the light isn't completely refracted,

causing you to see your fingers through the gem. It's

not always necessary for a gem to have

complete refraction; we have to apply

standards according to the gem's origin, rarity and cost. Sometimes it is

wise to expect cutting perfection; sometimes it is folly.

Taking advantage of a colored gem's beauty with the right cut is no easy feat. The lapidary must study each rough piece individually, looking for clues, using skill and intuition to unlock each gem's potential. Some cuts are classics, with faceting patterns that have been passed down over the centuries. Others are a much more original expression of artistry. Currently we are in the midst of a gem-cutting revolution, where creativity and skill are focused on expressing the gem's utmost beauty using newly designed cuts.

In the last two decades, due mainly to the driving force of a German gem-cutter named Bernard Munsteiner, we have seen many new cutting styles emerge and evolve. Munsteiner started this gem-cutting revolution by experimenting with the nature of light in different gemstones, eventually developing a unique cutting style

**The emotion a
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designed to unleash the gem's maximum reflection with the fewest amount of cuts. His techniques were much copied, and his success parted the seas for a whole movement of gem-cutters to develop their own distinctive cutting styles. This playful experimentation has revolutionized the gem-cutting industry. Now it is not uncommon to see faceting patterns with checkerboard tops, opposing bars and freeform shapes with a variety of nontraditional faceting fireworks.

What does the gem-cutter start with? What is his block of marble from which he carves his Pietà? First, the earth must give up her treasures. When a gem crystal is pulled from the earth, it is not all usable. With luck, there will be portions of it which will lend themselves to faceting a superb gemstone. More often than not, most of the rough crystal will be cracked, milky and/or opaque. The rough crystal is then subjected to the process of "cobbing," during which the crystal's outside surfaces are hit with a small hammer, chipping away the cracked outside rind to expose the inner gem-quality portions. During this process, sharp chips of rock shards fly through the air, and the workers have to carefully shield their eyes and tape their finger ends to prevent cuts. The crystals are successively cobbled into finer and finer pieces, readying the gem for the next step in processing: "preforming."

In preforming, basic determinations are made for the finished shape of the gem. The rough is then shaped by holding and rotating the piece

against a grinding wheel until the desired shape outline is achieved. The finished preforms are weighed. Now the faceting can begin.

Most American gem-cutters use sophisticated cutting machinery that regulates the cutting angles assuring precise facet angles. Imagine, if you will, adhering the gem preform to a stick (called the "dop") with wax. The end of the dop is inserted into a device similar to a protractor that measures the facet angles. The dop holds the gem preform against a rotating wheel that grinds away the portions of the gem that fall outside the desired angles. The preform's position is changed many times to achieve a routinely even faceting arrangement.

Oftentimes the layperson assumes that we can cut gems to any size and shape like so much fabric. It would be easier if gems behaved like fabric, but they don't. We are limited by the way light moves through the gemstone and by weight recovery considerations from the rough crystal. Light moves differently through each type of gemstone. For example, it's no an accident that green tourmaline is usually seen in the rectangular emerald cut. If the emerald cut, which has very steep ends on the bottom, is not used, an unattractive brown or yellow component will usually be seen in the beautiful green—its color will become muddied. Conversely, it is possible to cut a sapphire or ruby in a rectangular emerald cut, but the emerald cut's long rectangular facets on the bottom don't do much to enhance these gems' liveliness. As a result, the rectangular cushion cut is more commonly employed. The cushion has more facets underneath, lending more brightness, while not detracting from the gem's beautiful color.

Gemstones also come in different

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Above: Necklace in eighteen-karat yellow gold and platinum with aquamarines and diamonds. Large central aquamarine oval particularly well cut and very reflective. David Sacco for Master Touch Gallery, Hawaii.

Right: Briolette-cut ametrine and amethyst in Simple Chic eighteen-karat yellow gold pendants. Jewelry from Cynthia Renée Co. Photo by Weldon.

Below left: Dramatic drop earrings featuring carved onyx cameos with swan motif, tanzanite trillions and small round aquamarines. David Sacco for Master Touch Gallery, Hawaii.

Below right: Eighteen-karat yellow gold ring sculpted to showcase a strikingly unusual kite-shaped rhodolite with bar top. Gem from Cynthia Renée Co. Jewelry from Distinctive Image, Wisconsin. Photo by Weldon.



cut very creatively with excellent standards of perfection. We also have to operate within the constraints of what is found in the market. Most gems are from Third World countries and cut under conditions much more primitive than Western technological standards. When these gems are very

The last two decades have seen a gem-cutting revolution.

rare and/or costly, sometimes we have to overlook slight cutting irregularities.

With fine rubies, sapphire and emerald, because of their rarity and expense, exceptions must be made—unless one is willing to pay the

price. Sometimes the gem material itself is so beautiful and rare, as in Kashmir sapphire or Imperial topaz, that to turn it aside because of slight asymmetry would be foolish. The situation is similar to buying an original Old Master painting. The Rembrandt's frame may be slightly damaged and the canvas may be faded and/or damaged, yet repairing the frame or the canvas will only decrease the value of the original Rembrandt. A high price is paid for the Old Master which won't be perfect; those requiring perfection can purchase the retouched print. Oftentimes, with an unusually fine and rare gem, it would be silly to destroy a rare material to achieve absolute perfection in cutting.

It seems in our frenetic world that beauty is often considered superfluous. I don't think so. Beauty is a necessary component of living well, especially under modern conditions. With beauty we flourish, not merely exist. The light emanating from a carefully cut colored gemstone may be just enough beauty to keep you going. ■

As principal of Cynthia Renée Co., Cynthia Marcusson gets a first-hand look at colored stones from the mines to the marketplace. Her company specializes in providing exceptional colored stones for custom jewelry design.



Photos by Weldon

Only Life Is More Colorful

Cynthia Renée Co.

Specializing in Fine Colored Gemstones
for Designer Jewelry Pieces



*Please call for a Jeweler specializing in colored gems in your area.
619-728-5150.*