THE MIDWEST FACETER

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The Official Newsletter of the
Midwest Faceter's Guild

December 2023

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About the Guild

The Guild began in 1979. Its missions are to promote faceting education and recreation.

Developing the art of faceting is its most important responsibility. The Guild also creates an environment of shared information related to faceting via meetings for those of like interests and encourages the achievement of individuals.

The President

Cristine Grimm
cgrimm@silverfirestudios.com or call/text 616-402-3145

The Vice President

Barbara Yost
bsueyost@gmail.com

The Secretary

Caroline Peterson
chuckspeppermintpatty@gmail.com

The Treasurer

Max Lautzenheiser
max.lautzenhelser@gmail.com

The Midwest Faceter Editor

Dr. Reg Williams
rawill@umich.edu

President's Message

Dear faceting friends,

What happened to the year?! The older I get, the faster it goes!

Have you heard about all the great upcoming events scheduled by our Education Committee? If not, pay attention within these pages or on our Facebook page. The information exchange planned for this year is spectacular, and the value of the education is FAR higher than the cost of your membership! Please show your love for our speakers and committee volunteers by participating. We enjoy seeing your smiling faces, and your attendance is the best way to reward the volunteers who've spent many hours planning this amazing schedule.

Speaking of your membership, it's time to renew! You can do that online at midwestfaceters.org/join-or-renew-membership.html. The page also give information for mailing a check, which costs us less than the credit card option. Either method is welcomed. Do what's easiest for you. Thanks to Chester Kiernicki for taking over the Membership Chair position. I'm thrilled to say he's showing me up with the GREAT job he's doing.

We were saddened to learn of the death of longtime member Jim Budnik, who passed in October. We send our heartfelt condolences to his wife Judy, who remains a member. This will be a tough season for her, so we encourage those who are friends to reach out.

The Midwest Faceter's Guild Annual Meeting, November 5, 2023. Thanks to all who attended.

Wishing all of you a joyous holiday and peace-filled New Year! I can't wait to see what the new year brings in our shared faceting journey.

Cristine

The Editor's Gem

Greetings fellow faceters!

I hope you had a wonderful and Happy Thanksgiving and now we are in the festivities of holiday season. May Santa bring you many deserving gifts. Wouldn't a new faceting machine be nice under your Christmas tree?

As I am sure you noticed, the Education Committee has developed frequent workshops that will be conducted over the next year. Do check your e-mail regularly for the latest workshop.

This issue has featured four new Guild members, and our Guild is growing! The Guild's Board is excited to see the growth and with the Education Committee's effort, may spearhead even more growth. As the Editor, I am always excited to see what new members share about their backgrounds and faceting experiences.

I am always looking for ways to increase your knowledge of faceting and keeping with one of the missions of the Guild. Thus, the Test Faceting! Take a stab at the quiz and see how you do. It is all under the rubric of fun learning.

I have overheard some Guild members say they had no idea how to price a gemstone. Here is the reward of being a member. As a professional gem cutter, Roger Dery imparts his knowledge and years of experience. This interview with Roger may well justify the cost of your membership. Even if you do not sell your cut gemstones, understanding how it works may be invaluable at some point. I hope you enjoy his interview.

Marvin Wambua, who you met in the last issue, sent me some pictures of gemstones he has cut. Take a look at these stunning pictures.

Last year, we had some members of the Guild that signed up for the MWFG Instructor Academy. The Education Committee decided to offer the Academy again in 2024. Catherine Harrison and I wrote an article about the Academy and her experience in being an instructor at the Annual Seminar. I would encourage you to consider signing up for it when we send out notice. Watch your e-mail as to when it will be offered.

There is a special dedication for those Guild members who demonstrate faceting at various gem shows. According to all of them, it is a fun activity and they have been doing it for many years. They all deserve a big pat on their backs!

Check out how you can use a stencil to center a rough stone on a dop. The Columbia-Williamette Faceters' Guild is very willing for us to reprint their materials, so another benefit to the Guild, as is the information about the word smithing of karat vs. carat from Gemology Today.

Lastly, Robert James from the International School of Gemology, gave reprint permission about a Quick Reference Guide to Sunstone. It is rumored that Eric Peterson brought back a whole truckload of Oregon Sunstones. Maybe a whole truckload is a bit of an overstatement!

As always, I hope you enjoy this issue of *The Midwest Faceter,* and wishing you a Very Happy Holiday and a Happy New Year!
May all your facets sparkle,
Dr. Reg

Membership

Welcome to the following new members:

Eugene Homme

"**I am now 77** years old and living in Raleigh NC in my old childhood house. I first got interested in gemstones when my father and I joined a local gem and mineral club in the earl1970's. He bought me a UT V2 way back then and I have since updated it to current V5 with a DAD. I don't do very much faceting these days due to vision issues but I enjoy reading about the work that others are doing. Thanks for the welcome to the Midwest Faceter's Guild and I look forward to reading back issues of the newsletter as time permits. I also have a cabbing unit that I cut oval cabs with and like fabricating simple jewelry such as loop-in-loop chain from silver wire, bezel set rings, etc. Too many interests and not enough time!"

Glenn Wood

"**I've be faceting** for at least 15 yrs, my mentor is Don Laufer at Headwaters Lapidary in Cannonsburg, PA.

I own a Facetron, I use both GemCad and GemRay, I design in Gem Cut Studio. I'm a member in a number of guilds, USFG, Australian Facet Guild, Columbia-Willamette Guild, NE1 Guild in England. I mostly cut lab created gemstones, CZ, Spinel & corundum."

Kimberly Straith

"**I live in Littleton, Colorado** and am also a member of the Littleton Gem And Mineral Club. I am a beginner faceter and have an older Ultra Tec. I'm looking forward to learning more from folks in the Midwest Faceter's Guild. Also, I was born and raised in the midwest: Michigan and Illinois. Thank you for accepting me as a member."

Kari Warpinski

"**Thanks for the welcome!** Sure, happy to share. I'm not actually located in the midwest, so I understand if I'm not included. I heard about the upcoming presentations and I joined up so that I could learn from them. I live in Baltimore, MD and got started with faceting this past summer. I use an old UT V2 right now. Here's an itty bitty peridot I cut. 0.55ct, couldn't tell you the measurements as I don't have them handy. I've only cut 6 stones at this point but I'm about to really get into it now that I've made a dedicated workspace. Happy to be in the club."

Jim Bertin

"**I was born in Des Moines, Iowa** in the mid-60s, and lived there until 1982, so I have MidWest roots. After moving to Montana, I met a girl named Kathy and decided in less than 24 hours that she was the girl for me. 40+ years and three sons later, she still is and always will be. We spent a number of years alternating moving, working and going to school, with a new baby intervening every once in a while, until we left California and headed back to Montana almost thirty years ago. I became a math teacher (which was probably always in the cards, despite my years as an auto mechanic), discovered that teaching in high school really didn't suit me at all, and wound up teaching at a tribal college. A year or so later, Kate (she decided Kathy just didn't suit her anymore) joined the faculty as an English teacher. We've shared an office for over a decade now.

During 2020, Kate began a YouTube channel, KatyDid Rocks!, based on her rockhounding along the Yellowstone River and the marvelous Montana agates she finds, mostly because in those early months people were desperate for anything that could give them a sense of not being locked in their houses. That has grown into something that threatens to overwhelm our house with rocks, slab saws, drills, polishers, a boat to access gravel bars and islands, and packing & shipping materials. I tried my hand at cabbing for a bit, but never really got obsessed with it. We went to the gem and mineral show in Tucson last year, after which Kate suggested I try faceting.

Big mistake on her part. I spent some time looking into it and realized it really fit my mild OCD to a T, in a way that cabbing didn't. Polishing a cab is all about bringing out the beauty that already exists in a stone, while faceting is the creation of something that did not exist before, while using the characteristics of the stone as a starting point. It takes patience, knowledge, practice, and patience. And as Manuel once said to Basil Fawlty, "I learn! I learn!" After much research, I convinced Kate that if I were going to do this, I wanted to do it right, and to my surprise she agreed. I ended up ordering an UltraTec V5, and began the process of throwing money into the bottomless pit. I currently have twenty-some laps, a large assortment of dops, a permanent workbench in my little cave, and decent pile of rough, and I feel guilty for spending so much time playing with my gear while Kate is busy working.

The image is a stone that I designed (although I don't think of myself as a designer yet, I still have much to learn!). Smoky quartz, six carats, 12.5mm.."

The Guild is excited to welcome these newest members!

A cut Above

THESE GEMSTONES were faceted by members of the Midwest Faceter's Guild and demonstrate the talents that exist in the Guild. Thanks to all for sending in their pictures to *The Midwest Faceter.*

Eric Peterson

Eric stated this was an Ant Hill Garnet that was 7.5 mm and 1.95 ct. He retorted that the ants must have been on steroids! The cut is the spectra-bril design by R. F. Thompson.

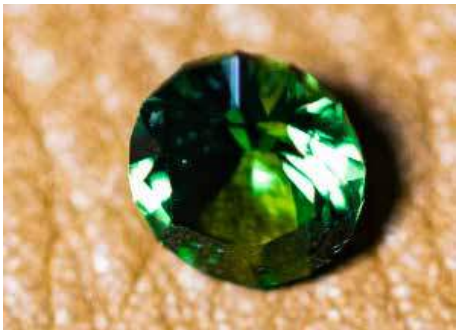
Joe Masterson

Joe cut this Oro Verde quartz, 16.4 x 12.9 x 9.3 mm, 9.90 ct. in a "Turtle Shell" cut.

Joe also cut this Aquamarine that is 10.9 x 10.8 x 6.6 mm, 3.15 ct. that is a "Logo Gem" cut.

Dr. Reg

This is a green tourmaline brought back from Africa. The vibrant color was a draw to the stone, however, it was a bit on the small side. It is an oval 5.84 x 6.33 mm, 0.83 ct.



Test Faceting

By Dr. Reg Williams

One of the missions of the Guild is to promote education. With that in mind, here is a test to challenge your knowledge of faceting. The answers to the questions are on page 32. Have fun in answering the questions. Reward yourself with an ice cream cone if you get 100%!

1. How did the gemstone faceting dop get its name?

2. What was the first gemstone faceting machine?

3. Who was Richard T. Liddicoat?

4. Which one of the following does not belong to Jon Rolfe's GearLoose faceting laps?

A. Matrix

B. BATT

C. Lightning

D. BA5T

5. Cerium oxide (CeO) as a polish compound is the polishing choice for which gemstone?

A. Garnet

B. Topaz

C. Peridot

D. Quartz

6. Pleochroism is a result of the mineral or gemstone appearing to have different colors or shades depending on the direction from which it is viewed. It is caused by variations in the absorption of light as it passes through the crystal lattice of the gemstone. True or False?

7. Who developed, formalized, and promulgated the meet point technique during the mid 1970's?

8. A ruby is the most expensive colored gemstone. True or False?

9. Who faceted the largest gemstone?

10. Jarvi decided to retire from producing the Facetron faceting machine and was not able to obtain a buyer, therefore the company went out of business. True or False?

Pricing Gemstones

By Roger Dery

What are the critical principles in pricing gemstones?

The basic principles for pricing gemstones are made up of three primary components. These components make up the same model that appraisers or anyone who needs to price gemstones for resale is going to use. They are beauty, rarity, and durability.

Can you give an example?

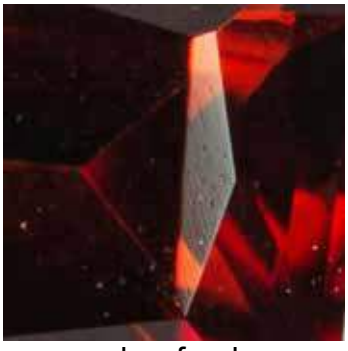
An example of how this would work is if there are two gems that are of similar beauty, weight, and appearance. Both are over 5 carats. One is a very gemmy blue sapphire and the other is a very fine blue tanzanite. The tanzanite might sell at retail for $5,000 or $6,000. Whereas, the nearly identical sapphire might be in the $35,000 range.

Photographs by Roger Dery

That's a major difference. While the beauty might be near-identical, it is the other two factors [durability and rarity] that elevate the price of sapphire over tanzanite. The durability of sapphire is significantly higher than that of tanzanite. In addition, there is the added conundrum of locating fine sapphires in the 5ct range. Due to their scarcity, this takes time.

If one were hunting for blue sapphires in Sri Lanka, you will eventually locate some, but this may take several weeks. Whereas, searching for 5ct tanzanite can be accommodated within days in Tanzania.

Regarding the differences in durability between the two, let me share with you a personal example. My wife's original wedding ring contained a 2.00ct blue sapphire. She wore it daily for 25 years. As we were preparing to upgrade her ring, we removed the original sapphire so that I could recondition it. There wasn't wear showing on the pavilion, but there were several visible "wear points" on the crown and table. After some touch up work and repolishing, it now weighed 1.97ct. To acquire only a small number of visible abrasions after 25 years of wear is rather normal and typical for sapphire. On the other hand, if she was wearing a tanzanite for the same 25 years, the top would look like it had been buffed off and the facet junctions would no longer be visible.



As another example of value comparison is in similar hues but different gems. You could have a red spinel and a ruby potentially look identical on the hand. The spinel is less durable although it is almost as rare. You will have difficulty finding gem quality red spinel almost as much as you have difficulty finding gem quality ruby. But there's a jump in durability between the hardness 8 of spinel and the hardness 9 of ruby.

Regarding the beauty part of the equation for any gem type, the purer the blue, the red, or the green, the three primary colors, they really

dictate the highest values.

How does supply and demand play as part of pricing a gemstone?

On the supply side of things, once you get outside of the basic pricing principles of beauty, rarity and durability, other things may come into play as world events such as government intervention, natural disasters, or weather issues. As one unique example, in 1997 to 1998 the El Nino weather phenomenon was taking place worldwide. Due to this, in April of 1998 there was a huge flood in the tanzanite mining area and many miners' lives were lost. The government estimated between 100 and 200 people drowned while working in the mines.

Due to the disaster most of the tanzanite mining operations came to a halt. This lasted for several months. In a very short time, there was an interruption to the flow of tanzanite rough to the major cutting centers like Jaipur, Bangkok and others. This affected pricing worldwide and lasted longer than one might expect.

In addition to weather issues, it is possible that government interventions can have a cause-and-effect situation. In the early 2,000's, the Burmese junta government stepped in to control the flow of gem minerals, especially ruby and jade. Then, due to all the infighting and human rights abuse, in 2008 the US government stepped into the fray and instituted a ban on importing ruby (and other minerals) into the US. This lasted until 2016, but the damage to the Burmese ruby market had been done. Due to scarcity, prices had escalated dramatically.

Fortunately for the ruby trade, a new source of gem quality surfaced in northern Mozambique. While mining action initially began in 2009, it didn't convert into a major operation until 2011, and then became financially viable by 2014 with an auction that took place in Singapore. It was at this point that ruby prices leveled off. As now there was consistency in the market.

Price Demand…. well, there are many nuances to the demand part of the value equation. Most readers may be aware of the blue sapphire ring that Prince Charles gave to Princess Diana as their engagement ring in 1981. Afterward, the demand for blue sapphires escalated significantly and their prices were up as well.

In 1967, tanzanite was discovered in the Merelani Hills in northern Tanzania. In 1969, cut and rough tanzanite were promoted to Tiffany's in New York. In turn, Tiffany's fell in love with tanzanite and decided to take it on as a staple in their inventory and promoted it around the world. Within a ten-year span, blue tanzanite was now competing with blue sapphire in sales.

We have heard some Guild members tell others, "You will not make any money selling your gemstones." Your thoughts and reaction?

It is possible the people who made this type of statement either have never tried to sell what they cut, were not successful, or they have the false belief that it cannot happen. I know many faceters that are successfully cutting gems and selling them.

For someone starting out fresh, they need to build a network of places they can sell. They need to be good and fast at how to cut a gemstone. If you take two days to cut it, that's not making a living. If you are cutting a gemstone over two days, that is because you have a passion. That's different than trying to make a living.

Faceters should focus on being effective with their time. If taking longer than two hours cutting a round gemstone, they need to look at how they can improve their efficiency.

How do you know if you like faceting?

You need to cut your first five or six gemstones to find out if you actually like it. My recommendation is to participate in a class to see if faceting is a good fit for you. Some suggestions of where to try out faceting would be the William Holland School of Lapidary Arts in northern Georgia, Rio Doce in western NC, the Wildacres retreat in NC, and of course the Midwest Faceters Guild annual seminar. And with a Google search, I am sure you will find others.

Where does a person start?

Once they have determined they like faceting, and they get past those first 5 or 6 gems, it is after completing 55 or 60 gems they really start to get the hang of it. To become truly effective though, one must develop a consistent and dependable routine or system, and this will happen once they have finished roughly 150 to 200 gems.

Actual mastery though, of every phase of gem cutting, will take place once they cross the threshold of 500 to 600 completed gems. Then they have the moment of, "I think I could make a living with this."

In addition to mastery, it is at that 500 to 600 gem range, they have developed speed. They are not dependent so much on diagrams because some of the designs they have performed 20 or 30 times. They may know them by heart. They may even make the changes for the refractive index on the fly. These are people that have done a particular design or concept so many times that they do not need to make notes anymore. Being able to do that on the fly is very beneficial and that comes with time and practice.

How does a person know what to price a gemstone?

It depends on which market you plan to sell your gems.

On the lower end of the pricing scale would be providing gems to dealers or resellers either in person or like those found online. Sales in this category will be lower margin but faster turnover. If you are cutting for jewelers, this will be at a price point above selling to dealers, but you may have to offer terms to be paid, and it will likely require some salesmanship.

If you are intending to sell direct to consumers this is a higher margin market than selling to dealers, resellers, or retail jewelers. However, it will require much more time, effort and planning to attract consumers to you, your website, and

your social media presence. It is not uncommon for someone entering this type of sales venue to secure a marketing specialist with a strong focus on working social media.

As an example of how you may price your cut gem, if you have $500 into the gem rough and you're going to sell it to a dealer or reseller you are probably asking $750 to $800 for the finished gem. Then, if you provide it to a retail jeweler, you would be asking $900 to $1,100. That same gem may go to a consumer for $1,600 to $1,800. This is not an unusual situation.

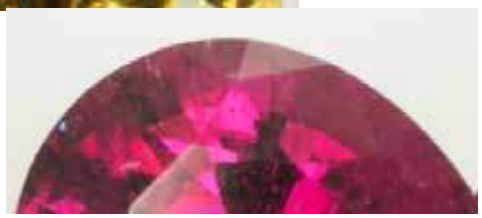
There is another factor as far as pricing categories--observing your contemporaries.

Let's say the cutter is attempting to sell to a consumer. This consumer is probably going to research on the internet various sites that sell gemstones and look at what other people are selling similar gems for. The cutter needs to do the same thing, so they are assured they are pricing their goods in a similar manner.

Should a Guild member build a relationship with jewelers in their area?

Well, if you are going to sell to jewelers you need to figure out what the jewelers like or prefer, and how much they would typically pay for a particular gem. Just because you are a custom cutter, that does not mean as much to them as it does to you.

Your presentation is everything. Make sure the gems are totally clean. Use alcohol and paper towel to ensure there aren't any leftover particles from faceting. If you can, avoid having sharp points on the girdles and keep them less than 5/10 of a millimeter if you can. In addition, jewelers generally prefer rounded girdles over faceted girdles. As for polishing the girdles, using a 3,000 or 8,000 pre-polish finish is acceptable.



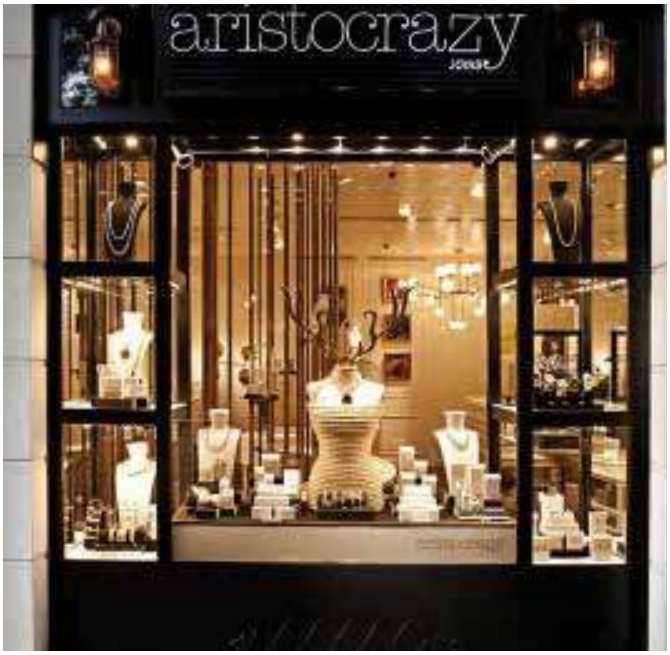
If who you approach happens to be a custom jeweler, and they fabricate every piece themselves, and they take pride in their craftsmanship, that outfit would probably pay more attention to the fact that you cut the gem and how you did it. You would be sharing your expertise to someone who likely appreciates your expertise. That kind of jeweler will not be in every jewelry store. You will have to make the effort to find them.

Since you are custom cutting, many of your gems are not going to be standard shapes or sizes. Which means the jeweler will have to do custom work anyway.

What we have learned is that in doing custom work, the jeweler is not going to sit down and draw something with customers and have that be the last time they meet with them. A smart jeweler is going to have customers come back in several times to review the ongoing work before it's finished to ensure it's exactly what they want.

Though, due to advances in technology, today the jeweler can use Zoom or FaceTime to show the customer the progress to get it approved along the way or even the finished project. But in our experience the greater number of actual in-person contacts with the consumer increases the likelihood of having a happy customer after the sale is complete.

How best to identify potential jewelry stores?



If you happen to live in a metropolitan area like Cincinnati, Columbus, or Indianapolis, those cities probably have 75 to 90 independently owned jewelry stores in their region. You will need to research online, check store websites, following them on social media or possibly visit in person to see if they may be a good fit. Your time will not be wasted.

Once you have isolated your key store locations within a reasonable driving distance then it is time to “drive by.” Visit the stores from the outside to see if they are really into jewelry and not a coin shop or a pawn type of location.

Try to determine how many employees they have. If they have 20 or 30 employees, you will get lost in the mix in a store like that. They do not need a cutter coming in with a few stones to show off. You need to be focused on the mom-and-pop independent retail jewelers that have a storefront location with probably less than eight employees. That’s going to be your key jeweler to work with. They will like the exclusivity and they will like the uniqueness.

When visiting a jeweler for the first time, focus on building a relationship. If you like each other everything becomes easier going forward. Do not overwhelm them at first by showing dozens or hundreds of gem capsules. Keep it simple and show them just a few gems they may recognize. It would be best to not take in gems that they are unlikely to have ever heard of or may have difficulty in pronouncing.

Should you do repair work for jewelers?

Early on in my own faceting career I was able to see that my foreign cut inventory was no longer satisfactory. Now that I knew what I was capable of as a gem cutter, I had to correct the appearance of our stock. That was kind of an awakening, and I knew I needed to invest the thousands of hours in the recutting of our goods. From this, I could see myself performing the service for others.

So, as you begin developing relationships with store owners or managers, one of the first things they will ask of you is--are you willing to do repairs on existing gems? That could be your way in. However, it would not be without risk.

For me, I needed to ensure that the jewelers knew that my main focus was to supply gems to jewelry stores. One of the things that needed to be implemented was how to say no and yes

without damaging a budding relationship. So, it came to: “Yes, I will perform some repair work, however my main focus is supplying cut gems.” At this point I was able to say, “I would like your permission to stop by every couple of months and show you my latest work.” If they sense they have a level of exclusivity on your custom cut gems, they are more likely to give you permission to stop by and show them your goods.

Is there a need to be knowledgeable about gemology?

It is helpful for faceters that are providing gems to retail stores to have a basic working knowledge of gemology. Most store owners have either a graduate gemologist title or they too have a working knowledge of gemology. The more that you know about gemology the more valuable you will be to the store.

It is not just that you have the expertise as far as the cutting of the gems, but you have the expertise about what the gem is and where it came from. If you can provide the actual location that would be a bonus. So, that is one of the things you want to focus on. You are adding value to the gem without doing any additional work. All you’re doing is collecting and providing information.

Should a gem cutter have a website for gem sales?

A website offers credibility assuming it is done well. That is paramount to being successful in selling gemstones. Your online presence is important to reaching potential buyers. It will allow them to read about you and learn of your path to who you are today. It allows them to investigate you without asking you direct questions. They can learn of your background and history, all the places that you have been to buy gem rough. This is what you will use to draw them in.

Adding credibility and the believability of who you are is important to retail stores and consumers as well. Once you have a website, you have documented what you’re doing and what you’re selling and what you make available.

You could consider having something on your website that states something like: “Thank you for appreciating our gems. We contribute a lot of time to ensure they are beautiful and that we can document the process, as well as where they came from. If you’d like to view some of our gems in person, let me suggest some retail stores where we can ship the gems to.”

Then the store makes a sale, you make a sale, and a customer is thrilled. Now you’re in business!

Any last words of wisdom for the Guild members?

1. Become an excellent gem cutter. If you aren’t already finding someone to train you and then be a willing student. Take advantage of all the excellent teaching opportunities--USFG-Tucson, Franklin Symposium, and MWFG annual seminar.

2. Find your niche and develop it. Skip the temptation to use the shotgun approach of taking on everything.

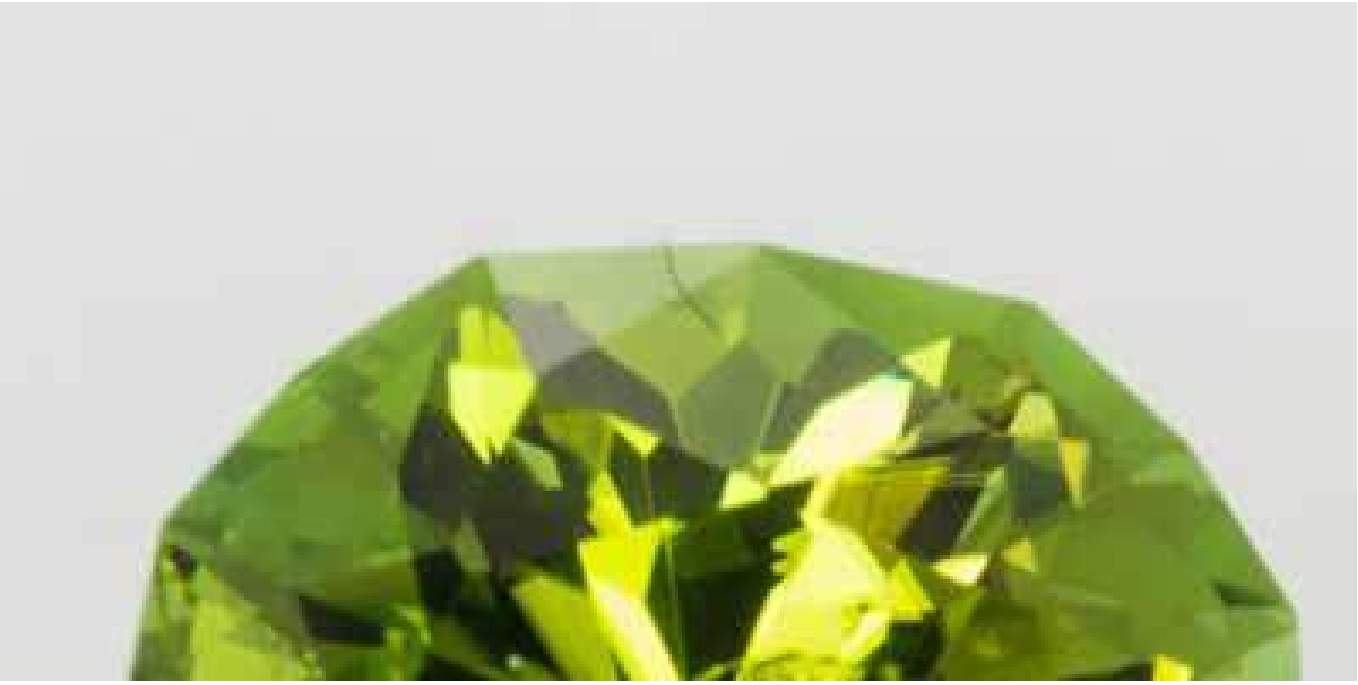
3. You need to have a story. This is who you are to the public. Eventually this will be the most important thing because why would anyone want to buy from you? I would say develop the story first before going out and selling gems. Document everything from the beginning of your faceting life so that you become the person they would want to buy from.

4. Develop efficiency. Don't be wed to faceting diagrams. Do not be afraid to outsource the parts of being in business that do not suit you well.

5. Once you get into a jewelry store and visiting with the owner you need to use the best parts of your personality to try to encourage them to like you. Because if they don't like you, no matter how great your stones are they aren't going to sell.

6. Do not be defensive. If the buyer just does not like the color, or the make, or the design, there is nothing you can do if their first reaction is that this not for them. Without speaking you need to pick up on the little nuances of how that works. Pay more attention to their body language.

7. Build your network. Associate with others who are encouraging and helpful. Stay on top of things in the gem cutting world that works for others – without copying them.



Some Gemstones from Africa!

Editor's Note: Recall in the last issue of The Midwest Faceter, you were introduced to Marvin Wambua. He and I connected because we use epoxy to dop a stone to the chagrin of Roger Dery, the maestro of wax doping! I thought the Guild would enjoy seeing some of his beautifully cut gemstones.

Photographs by Marvin Wambua

Play It: Faceting Instructors

Image created in Adobe AI Firefly

By Dr. Reg Williams and Catherine Harrison

Do you recall the famous quote, “Play it again, Sam”? It is the most widely misquoted line from films. The actual line was, “Play it, Sam” said by Ingrid Bergman in the 1942 film Casablanca.

What in tarnation does this have to do with faceting? Well, the Guild was planning to have a beginner’s faceting class in August 2022, but we had very few experienced instructors. Therefore, Dr. Reg and Barbara Yost developed the Midwest Faceter’s Guild’s first ever Faceting Instructor Academy in April 2022. With an abundance of caution, we decided to not offer the beginner’s class because of COVID that year. So, we finally were able to offer the class in August 2023. Six instructors helped teach the nine students who enrolled. It was a smashing success, and both students and instructors left the weekend on a high! Would it not be nice to train enough instructors to have an instructor per student? Thus, play it again!

The Education Committee of the Guild decided to offer the Faceting Instructor Academy again. The specific date has not been set yet, but if you are interested in joining this class, we will be sending out notice for you to register. We often heard from Guild members that they would like to be an instructor but felt they did not have the essential skills to teach beginners how to facet. Catherine was such a person who took the plunge to be a faceting instructor. Do read her reflects on becoming a faceting instructor. But to start, below is the description of the course.

MWFG Instructor Academy

Course Description:

The MWFG Instructor Academy is to prepare faceting instructors the essential skills to provide effective teaching beginners how to facet. The focus of the Academy will be on beginner faceters, but additional strategies to teach intermediate and advanced faceters will also be included. The course will include understanding approaches to adult learners, principles of novice to expert, anticipating the typical frustrations of learners in acquiring a new skill, how to encourage learning, and providing opportunity for the learner to ask questions and reinforce effective skill sets. Upon completion of the MWFG Instructor Academy the Guild member will receive a certificate of completion.

Objectives:

Upon completion of the MWFG Instructor Academy, the participant will be able to:

1. Describe the principles of teaching adult learners and movement from novice to expert.
2. Discuss the typical frustrations of learners in acquiring a new skill.
3. Discuss effective teaching using the “2-minute” teaching strategy.
4. Distinguish encouragement of beginning students without criticism.
5. Differentiate teaching beginners,

intermediates, and advanced learners.

A Brief Discussion About What We Will Do In The Academy

The course was planned for 3-hours with several breaks. A principle of teaching is that people cannot hold their attention for more than hour, and sometimes even less. Nonetheless, we talked about principles of adult learners and novice to expert. Frequently, experienced faceters forget what it was like to be a beginner and neglect to explain basic principles. There is a need to teach to the learner rather than how you were taught. The course will give you teaching strategies to manage those differences. We will discuss the manual that is used for the Annual Seminar (most often in August). One technique we will use is a "2-minute teach." You will teach on a topic for 2-minutes, reflect on how you did, and get feedback. It is a powerful and fun tool to increase your skill to teach faceting. Simply put, you will walk away from the Academy with your certificate of completion and the confidence that you too can be a MWFG Faceting Instructor!

The Perspective of a New Faceting Instructor

Catherine took the plunge to be a faceting instructor. Here is her story. . . .

When Dr. Reg invited me to take the faceting instructor course (by which I mean when he twisted my arm to take the instructor course), I was extremely resistant. I consider myself very much a journeyman faceter at best. I just didn't have the experience or expertise to teach. Nevertheless, I yielded to peer pressure and took the course.

The course was very well taught and interesting (just as I expected it to be from a lifelong professional educator and two experienced faceters and faceting teachers). My main takeaways were approaches to encourage a new learner, and how to provide gentle guidance without discouraging them in their efforts. I still felt anxious about teaching, but I definitely felt ok with being an "assistant" to a more experienced teacher. When the time came in August for the annual seminar, I forged ahead.

Much to my shock, I did fine! The ratios were such that I was a one-to-one teacher to a first-time faceter. My anxieties about not knowing enough about faceting to teach were unfounded. While I don't know enough to teach an experienced faceter, that's not the task! I know more than enough to help someone cut their very first stone. The experience was extremely gratifying, giving someone else the pleasure that I remember of taking that first piece of rough from a pebble to an honest-to-goodness gem. Another benefit was that I somehow gained more confidence in myself as a faceter.

If you're on the fence about teaching someone to facet, take the plunge and at least take the instructor course. It was a small step, which led to a bigger step. Just as every skill I learn gives me a new sense of mastery, the experience of helping someone else learn to facet has given me more confidence that, yes, I am a real faceter.

A Parting Thought from Dr. Reg

As a faculty member teaching numerous courses, I can say, without equivocation, you will learn as much or even more than the student. When I have known I impacted students and opened a skill they will take into the future, it is a reward that you can shout from tall buildings. That is the outcome to effective teaching. Stay alert for the messages about the MWFG Faceting Instructor Academy and be sure to sign up for it.

Gem Shows

Editor"s Note: *This article is a tribute to those Guild members who have demonstrated faceting at various gem shows this year. I am confident that if you are interested in demonstrating in your local gem show, anyone of these individuals would be happy to tell you how to go about it. Thanks to these members for your contributions to the Guild and the art of faceting.*

Blake Glupker and Ernie Aughenbaugh demonstrating at the Kalamzoo Rock and Mineral Show, May 6-7, 2023.

Barbara Yost at the Indian Mounds Rock & Mineral Club in April.

Eric Peterson demonstrated at the Tulip Gem and Mineral Show on the 15-17 September 2023.

Virginia Steele who demonstrated at the Nichiana Gem & Mineral Show in South Bend, IN August 17 - 20.

Joe Masterson demonstrated at the Indianapolis 500 Gem & Mineral Club show on September 8-10, 2023, in Greenfield, Ind.

Melvin Lehner was at the October Central Michigan Lapidary and Mineral Society Show in Mason, MI.

Tips Tricks

Stencils

Reprinted by permission from Columbia-Williamette Faceters' Guild, November 2023, Number 585, by Dianna Carroll.

Stencils can make the dopping process easier less error-prone.

One of the things I've learned is that the smaller the stone, the less room for error when it comes togetting it properly centered on the dop. With large stones, there's usually more wiggle room (although if it's an expensive piece of rough you're probably just as concerned about accuracy), but with small stones, getting it even a little off-center can mean either having to re-dop the stone, or having a much-reduced diameter in the finished stone.

Further complicating the issue is the fact that since pre-forming a sub-4mm stone isn't very feasible, the smaller stones are often irregularly shaped. Getting the stone properly aligned on the dop by eyeball alone isn't very accurate, at least not with my eyeballs.

I've found that having a stencil in the size and shape of the future stone is hugely helpful to finding that "middle" to adhere the dop. You can create your own stencils, of course, but I found a set of plastic ones on Amazon that has most of the shapes and sizes I use regularly, circles and squares, hexagons, ovals, rectangles and triangles. I like height of the plastic better than paper because I can snuggle the stone in for a better fit.

For small stones, my sequence is usually to identify and (if necessary) prep the site of the future table, and then place the stone on the stencil and use that to help me find the center. I then mark that location with a sharpie, and that's where I place the dop.

Not sure if it makes the dopping process easier, but for me it's made it a lot less error-prone. Stencils can make the dopping process easier less error-prone.

One of the things I've learned is that the smaller the stone, the less room for error when it comes to getting it properly centered on the dop. With large stones, there's usually more wiggle room.

WORD smithing: The Tale of Two Carrots

It seems odd that in an industry, two different terms that sound the same, would be used to describe both gold purity and the weight of a gemstone. So, what is the difference between carat and karat?

GOLD PURITY (KARAT)

The purity of gold is expressed in karats and refers to how much gold is present. Pure gold is described as 24 karat or 1000 (although pure gold is actually considered to be 999.9 since it is impossible to get absolute purity in a metal). In North America, 10K, 14K, 18K and 22K are popular, in Europe, 14K, 18K and 22K are widely used, while in the United Kingdom and Australia, you will find 9K, 14K, 18K and 22K. This is not to say that you will not find intermediate purities of gold but generally speaking, this is what you might expect to find in most jewellery stores.

So, what do we mean by 9K, 10K, 14K, 18K and 22K?

Since pure gold is 24, anything less is defined as a percentage of pure gold. 9K is therefore 37.5% pure gold (9/24 x 100), while 10K is 41.7% pure gold (10 /24 x 100), 14K is 58.3% pure gold (14 /24 x 100), 18K is 75% pure gold (18 / 24 x 100) and 22K is 91.7% pure gold (22/24 x 100). You will often hear people refer to karat in terms of parts of gold and parts of alloy. So, if we are talking about 14K, we could describe it as 14 parts gold and 10 parts alloy. If we are using the 1000 system, since 9K is 37.5% pure gold, it can be written as 375 (1000 x .375). 10K would be 417 since it contains 41.7% pure gold (1000 x .417), 14K would be 583 (although normally it is written as 585) since it contains 58.3% pure gold (1000 x .583), 18K would be 750 since it is 75% pure gold (1000 x .75) and 22K would be 917 (1000 x .917).

Now you may be asking why all jewellery is not made from pure gold. In reality, gold is an extremely soft and malleable noble metal when pure. While it is used for its beauty and corrosion resistance, gold is too soft in its pure form for many practical applications. It is therefore hardened by the addition of other metals called alloys. By making gold alloys, its durability and hardness is improved but its resistance to tarnishing is weakened, meaning a balance must be struck. The higher the proportion of other metals, the harder the alloy becomes, and each metal tints gold to various shades.

Gold alloys are especially common in jewellery, where the maker will choose between the strength of the metal, the desired colour, and of course the cost. Zinc, copper, nickel, iron, cadmium, aluminium, silver, platinum, and palladium are all common metals alloyed with gold.

Gold and copper are the only two-coloured pure metals. Gold is yellow and copper is a reddish brown. All other metals are white or grey in colour but have various effects on the colour of gold alloys. A gold-coloured alloy for jewellery will typically be one of three colours; yellow, white, or rose (pink).

Depending on the alloy, gold appears in four basic shades: yellow gold, white gold, rose gold, and green. A huge range of other coloured golds are also possible, including grey, purple, blue, and black, with blends between possible depending on the amounts used. Yellow gold is the most popular and the shade most commonly thought of as being truly golden. It is an alloy of gold, silver, copper, and zinc. Because it is mixed with silver (another noble metal) it is hypo-allergenic, meaning it is unlikely to cause an allergic reaction. This also makes it very

tarnish resistant.

White gold appears almost like silver or platinum. A very popular gold for jewellery, it is an alloy of gold and platinum or palladium. Parts of nickel and zinc may also be added. The hardness of platinum or palladium makes white gold extremely durable and scratch resistant.

Rose gold gets its reddish tint from the inclusion of copper. Silver is also part of the alloy. The relatively low cost of both copper and silver makes it a more affordable option.

Green gold is an alloy of gold, silver, and sometimes copper. The very subtle green tint is created by its silver content. It is the only naturally occurring alloy. Found in the Earth's crust, with trace amounts of copper and other metals, it is termed electrum. Green gold can also be created with cadmium. This alloy, however, is toxic to the skin.

Typically, jewellers will not distinguish their prices based on the colour of gold and the alloys used, with prices based on the percentage of gold present.

WEIGHT (CARAT)

The name carat derives, via Medieval French and Italian, from Arabic qīrāt, meaning 'bean pod'. which is itself from Greek 'keration', referring to both the carob bean and a small weight.

In the past, carob beans were used to measure very small weights and pure gold coins. It was said they were preferred because carob seeds varied very little in weight compared to other species of seeds. Of course, we now know that this is not true. High precision scales now show us that there can be plenty of weight variation between carob seeds, meaning that in the past, you may have been blessed or cursed depending on the seeds that were used to weigh your precious gold coins or gems.

Early in the 20th century, the weight of the carat was set at 200 milligrams, or 0.2 grams. Thus, a 2-carat diamond weighs 400 milligrams or 0.4 grams, a 3-carat diamond weighs 600 milligrams or 0.6 grams, a 4-carat diamond weighs 800 milligrams or 0.8 grams, and a 5-carat diamond weighs 1000 milligrams or 1 gram. A carat can also be described in 'points' with 100 points equal to one carat or 200 milligrams. Therefore a 25 pointer equals .25 carat (or 50 milligrams), a 50 pointer equals .50 carat (or 100 milligrams), a 75 pointer equals .75 carat (150 milligrams), and a 100 pointer equals 1.00 carat (200 milligrams). Carats and points are most used to describe the weight of a gemstone since it sounds better than describing a one carat diamond as a 200 milligramer!

A common misconception of diamonds (in particular) is that the carat weight correlates with the size of the diamond. This is true in some ways but only to a small extent.

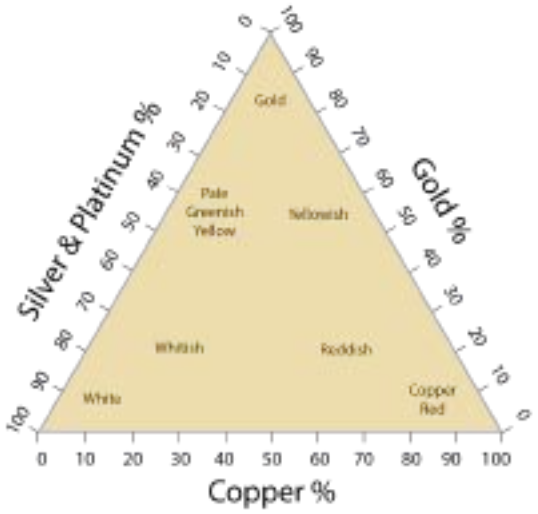
Round brilliant cut diamonds are cut to stricter parameters than any other diamond shape. A round diamond cut to correct proportions should measure approximately 6.5mm in diameter. A poorly cut 1 carat diamond may be much deeper than it should be and may have a diameter as small as 5.8mm. Imagine a piece of A4 paper. Let's say it weighs one carat. If we scrunch it up, will it weigh more, less or the same? Of course, the weight will not change but the size will. Consumers should be wary of diamonds that are cut to achieve certain key weight categories such as .50ct (half a carat), .75ct (three-quarters of a carat) and especially 1.00ct (one carat) since the price per carat changes dramatically. Remember it is not so much the weight that matters but the brilliance. If you buy a diamond that has been cut to retain weight, you may pay more but get a less

brilliant diamond.

Just to confuse matters…… In the United Kingdom and Australia, they spell ‘karat’ as ‘carat’. So weight and karatage are spelled the same!

However, it should be noted that while ‘carat’ can be used to describe gold purity and the weight of a gemstone, ‘karat’ can only be used to describe the purity of gold.

An altogether different homophone is caret: the name for the wedge-shaped mark (^) that is used by copy editors and proof-readers to indicate the place where text is to be inserted. While its unrelated meaning makes confusion with the weight of a gemstone or the purity of gold unlikely, it is strange that a language with so many possibilities should choose to have four words (carrot, carat, karat and caret) that all sound the same!



Reprinted by permission from *Gemmology Today*, June 2023 Quarterly Publication, p 5.

	Karat	Gold (Au)		Copper (Cu)	Zinc (Zn)	Palladium (Pd)
Yellow Gold	9K	37.5%	42.5%	20%		
Yellow Gold	10K	41.7%	52%	6.3%		
Yellow Gold	14K	58.3%	30%	11.7%		
Yellow Gold	18K	75%	15%	10%		
Yellow Gold	22K	91.7%	5%	2%	1.3%	
White Gold	9K	37.5%	62.5%			
White Gold	10K	41.7%	47.4%		0.9%	10%
White Gold	14K	58.3%	32.2%			9.5%
White Gold	18K	75%			2	5% (or Pt)
White Gold	22K	N/A	N/A	N/A	N/A	N/A
Rose Gold	9K	37.5%	20%	42.5%		
Rose Gold	10K	41.7%	20%	38.3%		
Rose Gold	14K	58.3%	9.2%	32.5%		
Rose Gold	18K	75%	9.2%	22.2%		
Rose Gold	22K	91.7%		8.4%		

A Little History

Angle Transposing

This article appeared in the January 1998 issue of *The Midwest Faceter*, Vol. 19, No. 1 by Warren F. Morrison

You have a diagram that has the declaration "angles for quartz" and you want to cut that pattern from a material that has a much higher refractive index. How, with confidence, can you change all the angles of the crown and pavilion so that they will be appropriate for the material that you want to cut?

In those instances where the facet angles are whole numbers you can subtract the main angle difference from the quartz angles given and be fairly close though not perfectly certain. If you are looking at a computer derived pattern with angles in degrees that have decimals, you just can't simply subtract easily. If you want to cut at and odd angle, you need more than subtraction.

I use Long and Steele diagrams often and almost every one of their angles is a decimal degree. They do include a range of main angle variations; their main angle is termed "design Angle", but sometimes the choices offered do not include the one I feel I need. Usually, I select the closest angle and proceed but wish I could have used a different angle.

This dissatisfaction led me to reread their text on how angles are mathematically transposed.
I believe that the following is essentially their method. Some words are changed but that is all. I now transpose angles with confidence, certainty and often surprise.
The really basic tool to accomplish this is a pocket calculator that has the trigonometric functions like Sin, Cos, and Tan. Such calculators are no longer very expensive. One can use tables of trigonometric functions but be sure you convert the degrees and minutes given into decimals.

The calculator is much easier to use.
The Long and Steele method of transposing angles is termed the "tangent angle ratio" and the end product is a formula that I write as,

$$\frac{\text{Tan Old facet angle}}{\text{Tan Old design Angle}} \times \text{Tan New Design Angle}$$

Now, don't get nervous, this is not as bad as it might appear. With a little explanation and an example it can be readily done.

Suppose you have a diagram in which the angles given are for quartz, the pavilion mains are 43 degrees but you want to cut a garnet and use 41 degrees for the pavilion mains. Also assume one of the pavilion facets in the quartz diagram is 59.5 degrees. What does this angle become when you cut the garnet?

Here is what you have:
Old facet angle = 59.5 degrees
Old design angle = 53.0 degrees (main angle)
New design angle = 41.0 degrees (main angle)

Using your calculator enter 59.5, push the Tan button and enter 43, push the Tan button and enter the number 1.697663 (A) as below. Now enter 43, push the Tan button and enter the number 0.932515 (B) as below. Finally, enter 41, push the Tan button and enter 0.869286 (C) as below.

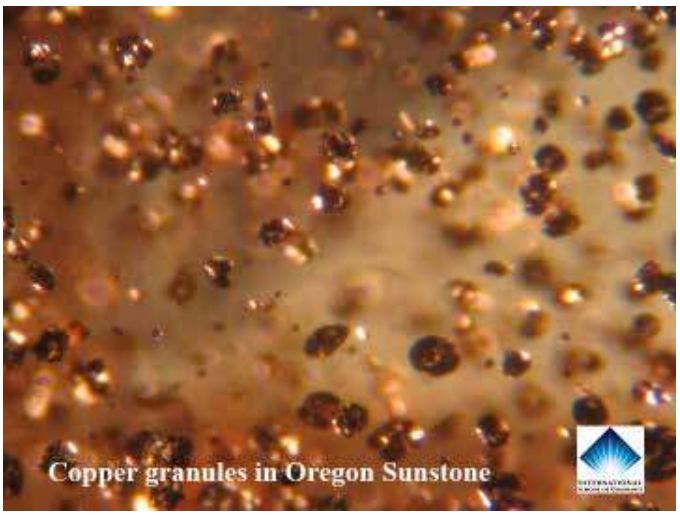
Divide A by B and then multiply the answer times C. This answer will be Tan 1.582554. With the calculator, convert this number to an angle. The ansewr will be 57.71 degrees or the new angle needed.

The method works on crown or pavilion and you can transpose either between a larger main angle or smaller on or the reverse.

Quick Reference Guide to Sunstone

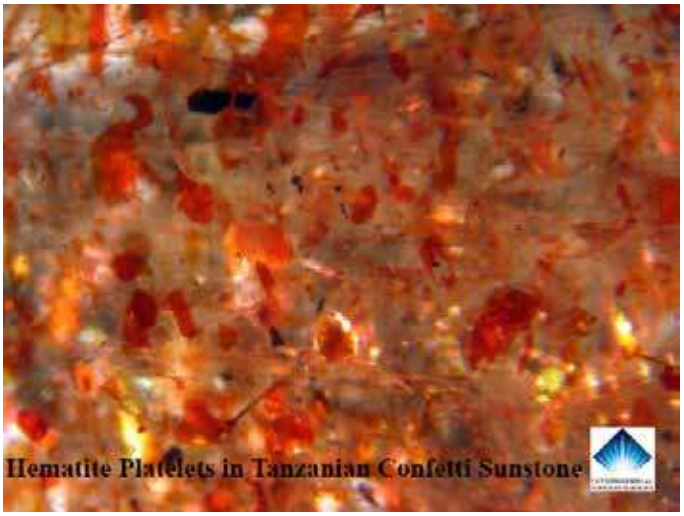
Reprinted by permission by Robert James,
International School of Gemology, October 5, 2023

With the growing popularity and demand of Oregon Sunstone, there is a great deal of confusion (or maybe not) among many gemstone dealers regarding the difference in Oregon Sunstone and other types of sunstones on the market. The name “sunstone” is formulated for the obvious reason that the various gemstones who use that name provide a unique beauty and reflective qualities. The key issue is what creates those unique qualities that make each sunstone unique. Since Oregon Sunstone is fast becoming the most in-demand and therefore the most valuable of the sunstones, all too often dealers in the other types try to assimilate terms like Oregon Sunstone’s “schiller” into their own sales presentations. To clarify the issues, today we will present a quick reference guide to the most often seen sunstones on the market. Each is unique. All are beautiful. But qualities and values vary greatly among them. Therefore, today we present a Quick Reference Guide to Sunstone.



Copper In Oregon Sunstone

We start with the most rare and valuable, Oregon Sunstone. Below is a high magnification look at the copper granules in Oregon sunstone. This is copper schiller. We won’t go into the red and green colors that result from this copper as this is an inclusion directory, but it is important to know that only Oregon Sunstone has copper inclusions and they do not appear as platelets.



Tanzanian Confetti Sunstone

The picture below tells the story of the name. Here the red color of the platelets identify these as hematite platelets. While hematite and goethite are both types of platelet-appearing iron inclusions, the red color of the Confetti Sunstone is the indicator of the hematite. The “confetti” appearance is the most often seen appearance of the Tanzanian Confetti Sunstone.

Indian Sunstone

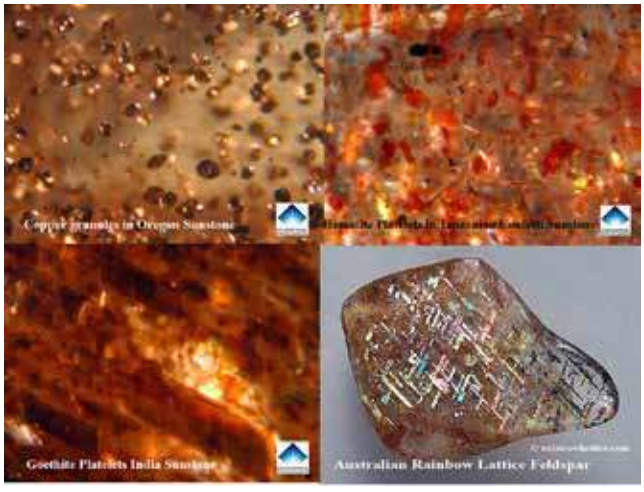
The unique appearances of these goethite platelets are not only an identifier they are also very fun inclusions to study due to the rhomboid shapes of the platelets. The dark brown and yellow colors tell the story of the goethite content, and they are generally aligned based on the crystal structure.

Australian Rainbow Lattice Sunstone

This is a relatively new find of sunstone colored by hematite and magnetite. The dark platelets are generally understood to be magnetite while the rainbow colored platelets are hematite. Like all of the iron based inclusions in this and the above two specimens, the actual type of iron platelet may vary. However, these are all iron based platelet inclusions while only the Oregon Sunstone has copper as inclusions as the coloring element. Image below from rainbowlattice.com, the Australian mining company website.

I hope this short, pictorial Sunstone Directory is of benefit to help both sellers and buyers better understand the identifiers of the types and origins of sunstone. Remember, there always exists the possibility that other types are out there waiting to be discovered or varieties of the above that are not shown. This is a general overview to help you make a quick distinction between the most often seen types of feldspar sunstone on the market.

Other than the Rainbow Lattice specimen, all images were taken in the ISG gem lab using our Meiji Techno GEMZ-5 microscope and Canon A-510 camera at 10x – 90x standard magnification.



A Joke for Faceters

CHANCES are good you are a dog or cat lover. Over 106 million people in the U.S. own a dog or cat. Probably many faceters own an animal. Lynn Wimmer D.V.M., a veterinarian in Carroll County Maryland, has a sign in front of her clinic that has some fun signage. Here are a few examples:

- If a tree falls in the forest and no one's there to see it, a Chihuahua 600 miles away will bark at it.
- Dog is such a small word for something that takes up so much room in your heart.
- The inventor of the doorbell did not own a dog.
- Cats can memorize 120 commands, but they don't want to.
- She believed she could, but her cat was asleep on her lap, so she didn't.
- Accidentally used the dog's shampoo. Now I'm feeling like such a good girl.
- Home is where the dog hair sticks to everything, but the dog.
- Whoever said that diamonds are a girl's best friend never owned a dog.
- I told my cat you are not the boss of me. He disagreed.
- What kind of Dr. is Dr. Pepper? A Fizzician.
- Dogs are living proof that good still exists in the world.

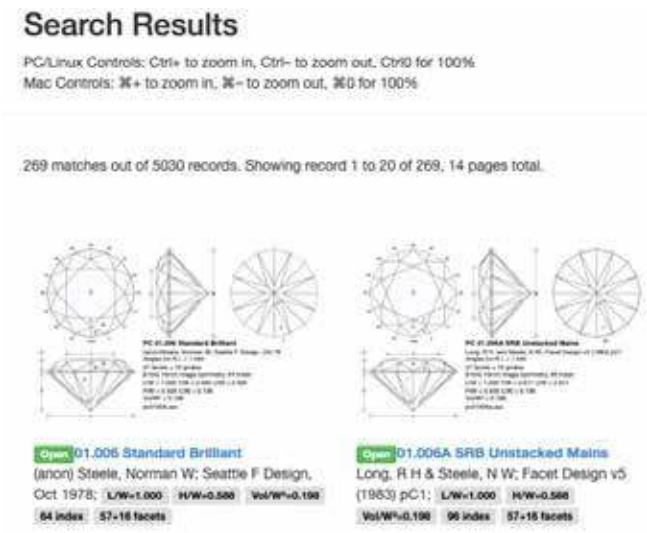
Faceting Diagrams

IN THE past, *The Midwest Faceter* included faceting diagrams. Rather than selecting diagrams that may or may not be appealing to the membership, you can select the faceting diagram of your choosing from two sites that have a multitude of designs. [A note to gem designers--If you use Gem Cut Studio or GemCad, create your own designs and would like to share with Guild members, just send a PDF of your design to the Editor and it can be featured in the next *Midwest Faceter*.]

As a member, if you cut the design and you would like to send in a picture of your gem, look what we could start!

The United States Faceters Guild Website: https://usfacetersguild.org

The Faceting Diagram Website: https://www.facetdiagrams.org



Answers to Test Faceting

Test Faceting Questions from page 10.

1. The term “dop” in “gem faceting dop,” reportedly comes from the diamond cutting industry and is believed to be a shortening of the word “adopt”, which in Dutch means “to hold”. Essentially, this name quickly communicates the primary function of the tool, which is to securely hold the gem for precise faceting and polishing.

2. The first gemstone faceting machine is attributed to a man named Henry Hannibal in the late 14th century. Hannibal was a Venetian lapidary, and he is often credited with inventing the first mechanical device for cutting and polishing gemstones. It was known as a “horizontal wheel cutting engine,” consisted of a horizontal grinding wheel that could be rotated by a hand crank. The gemstone was attached to a dop stick and held against the spinning wheel to shape and polish it.

3. False. The best-selling faceting machine can vary depending on the specific needs and budget of the buyer, as various models have different features, precision levels, price points, and user-friendliness. However, some of the most widely respected and commonly used brands in the industry include Facetron, Ultra Tec, and GemMaster II. These brands are often praised for their quality, precision, and reliability. However, it’s always advisable to research and compare various models before purchasing, as the “best” machine greatly depends on the individual user’s needs and expertise.

4. Richard T. Liddicoat was a notable figure in the field of gemology. He was born on July 7,1918 and died on July 23, 2002. He served as the executive director of the Gemological Institute of America (GIA) for over five decades and was instrumental in the development of the Four Cs (Cut, Clarity, Color, Carat Weight), for evaluating diamond quality. The GIA named their Gemological library after Liddicoat.

5. Answer C. Jon Rolfe designed the Matrix, BATT, BA5T, but the Lightning lap was developed by Marsh Howard.

6. Answer D. Cerium Oxide is the polishing compound used for quartz, beryl, tourmaline, opal, and many soft stones.

7. Thomas J. Ricks, Robert Long, and Norman Steele developed the concept of meet point faceting.

8. Partially True. Rubies are indeed one of the most expensive colored gemstones, mainly due to their rarity and high demand. The most expensive ruby ever sold was the “Hope Ruby” which fetched $6.74 million in 2012 - the equivalent of approximately $1.32 million per carat. However, the title of the most expensive colored gemstone ever sold at auction goes to the “Pink Star” diamond, which fetched over $71 million in 2017.

9. The largest faceted gemstone in the world is the “El-Dorado Topaz”. The gem, which weighs a staggering 31,000 carats (13.67 lbs or 6.2 kg), was discovered in Brazil and was cut and faceted by the gemstone artist, Ed Romack.

10. False. The Yeager family, Wyatt and Wayne Yeager, purchased the rights to the Facetron Faceting machine from Jeff Jarvi in 2023. The Facetron was original built in 1980. The Yeager family also purchased the rights to the Fac-Ette.

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The Midwest Faceter's Guild was established in 1979 for the purpose of developing the art of faceting, to promote education and recreation through the exchange of information, to provide meetings for those with like interests and to encourage the achievements of individuals.

The Midwest Faceter's Guild is also a member of the Midwest Federation of Mineralogical and Geological Societies as well as the American Federation of Mineralogical and Geological Societies.