The New Mexico Facetor

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In This Issue

NMFG President Scott Wilson

The Prez Sez:

by Scott R. Wilson, Ph.D.

The Flow of Knowledge

One of the greatest traditions of the New Mexico Faceters Guild was celebrated as we held a faceting workshop at the home of Steve and Nancy Attaway on October 20. Faceting workshops have provided the primary means by which the art and science of faceting has been passed along to interested members of all levels, from beginners to advanced to the very experienced. Workshops run all day and cover a lot of territory.

We are very fortunate to have both a group of enthusiastic students and a number of very experienced gemcutters to provide personal instruction. Attending workshops is a great way to become acquainted with your fellow Guild members and share the excitement of the day.

We will be doing more of these workshops, next month and into the year 2002, so look for them to be announced at the meetings and in the Guild newsletter. I would recommend that you attend as many workshops as you can. These learning sessions are as fun as they are intense.

I found it particularly interesting as an instructor that I learned aspects about faceting by watching how the students approached the various problems that they encountered. I also really enjoyed getting an opportunity to become familiar with the Graves faceting machine, which is very different from my own faceting machine, a Facetron. This particular workshop was hosted by Steve and Nancy Attaway and was directed by Ernie Hawes. Tables and desks were arranged for student faceters in a big room inside the Attaway's new addition to their house. Three folks brought their faceting machines from home, a Ray Tech, a Graves, and a Facetron. Ernie Hawes also brought a Facetron for several members to try. Ernie, Steve, Nancy, and I served as instructors. It was a fine session, and I want to extend my thanks to Ernie, Steve, and Nancy for making it happen. Pizza was served for lunch. Thanks to all who brought snacks, tea, coffee, and desserts. May the flow of faceting knowledge continue! I certainly look forward to the next workshop, and I hope to see you there.

Minutes of the NMFG Meeting

September 13, 2001

by Nancy L. Attaway

Nancy Attaway called the meeting to order at 7:10 p.m. and welcomed all members and guests. She substituted tonight for **President Scott Wilson,** who was in Dallas for his company. Nancy asked everyone to introduce themselves to the group. Attendance was very good.

Old Business

Ernie Hawes announced **October 20,** as the date scheduled for the next official **NMFG faceting workshop**. The workshop will include beginning and intermediate faceting. **Steve** and **Nancy Attaway** volunteered their home in the East Mountains as a site for the workshop. The Attaways now have a studio dedicated to faceting, carving, and the computer. Tables for faceting will be erected in the studio. (Nancy Attaway also mentioned that Scott Wilson had previously volunteered his home in Corrales as a site for a future workshop in the year 2002.) Those interested in attending the workshop on October 20 were asked to contact Ernie. Ernie has several faceting machines, including a Facetron and a Ray Tech, and he can bring them to the workshop for people to use, along with various pieces of faceting rough. Bring your machine if you have one and any laps. We will order pizza for lunch.

New Business

Special Events Coordinators, Rainy Peters and **Eileen Smith** will be organizing the **Guild Christmas Party.** Suggestions for restaurants will be appreciated. The date slated for the Guild Christmas party is **December 15.** The finalized plans for the Guild Christmas party will be announced in the September/October, 2001 issue of the *New Mexico Facetor,* and *c*heck the table of contents.

Nancy Attaway mentioned that she will be organizing a party during the Tucson Show for Friday, February 8. She will reserve one of the party rooms at El Parador Restaurant on East Broadway. Special guests, like noted gem author and photographer Fred Ward, famous gemcarver Steve Walters, John and Merle White, Editor of Lapidary Journal, have attended her Tucson parties. Famed facetor John Rhoads and his wife, Donna have attended, as have Tony and Edna Anthony, our Guild Gemologist. Nancy hopes to continue her Tucson party tradition in 2002.

Show and Tell

The Show and Tell Case tonight held cut and carved stones and jewelry recently rendered by Guild members.

Larry Plunket displayed an emerald cut rhodolite garnet that he cut. He polished the stone with alumina. Larry said that the stone exhibited extinction, even with a 41-degree culet. Nancy Attaway suggested 40 degrees or maybe even 39 degrees for a culet angle, as such deeply color-saturated stones like rhodolite garnet can be brightened by shallowing the culet angle. She mentioned how Will Moats successfully used a 39-degree culet angle for his deeply color-saturated liddicoatites to brighten them.

Ernie Hawes displayed a 12x9mm amethyst cut in his "Semi Barion" emerald cut, his latest faceting design published in the July/August, 2001 issue of the *New Mexico Facetor.* Ernie explained how important it was to preform to the proper length-to-width ratio in order to have the facets come out just right. If not, a little careful adjustment of the facets could be executed. He also mentioned how critical it was to have the centerpoint properly aligned to obtain the correct points and lines of the facet arrangement.

Ernie also displayed a 10x8mm emerald cut deep red synthetic corundum that he cut in his "Queen's Fancy" design. He stated how helpful it was to use the outlined preform for the "Queen's Fancy" to establish the centerpoint and the 1.25 ratio. He polished the stone on a Batt lap, a tin/antimony lap, with 100K diamond. Ernie advised to never score a lap. Ernie also brought a citrine that he cut in a new square design. He mentioned the simplicity and the ease of cutting the new square design, as well as its sparkle. The new square design, yet to be named, will appear in the September/October, 2001 issue of the *New Mexico Facetor*.

Dylan Houtman displayed an intricately carved green nephrite jade spiderweb that he carved, which showed a very detailed latticework. Dylan mentioned that he completely wore out several diamond tools in rendering this piece. He also exhibited four stones that he faceted: a tanzanite freeform triangle polished with diamond, a kunzite freeform triangle polished with cerium oxide, a round brilliant lavender sapphire, and a round olive green sapphire. He polished the sapphires on a tin/lead lap with diamond.

Gary and **Rainy Peters** displayed their new line of butterfly jewelry pieces in 14Kt. gold. These held carved Brazilian tourmaline butterfly wings in peach and reddish-pink and were accented with onyx, lemon-yellow citrines, and tourmalines in peach, green, and pink. Rainy explained

that the beds for the carved tourmaline wings were first made in wax for casting. Then, they handwrought the assembled arrangement for each butterfly and set the stones. Rainy lamented that they were not able to locate as many of the carved tourmaline wings as they had.

Refreshments

Elaine Weisman, **Rainy Peters**, and **Nancy Attaway** brought home-baked refreshments to the September meeting. Gourmet coffee was also served. Thank you very much. **Eileen Smith** and **Rainy Peters** volunteered to bring refreshments to the meeting in November.

Future Programs

Scott Wilson was in Dallas for his company and unable to return in time to speak at the September meeting, as was planned. He has been re-scheduled to present his talk on "Opal Synthesis" during the meeting on January 10, 2002.

Program Speaker

by Nancy L. Attaway

Michelle Diamond-Cannaday from Mark Diamond Jewelers in Albuquerque graciously agreed to present the official slide show of the "All That Glitters" Jewelry and Gemstone Design Competition. This gala event is sponsored by the New Mexico Jewelers Association and held every year. Awards were given during the dinner party at the Hyatt in downtown Albuquerque on August 11.

Michelle showed thirty-one slides of individual work. Slide **#1** showed a sterling silver diamond-back (snake design) belt on stainless steel links with a sterling silver clovis point belt buckle by Greg Sems. Slide **#2** showed a white gold pendant with a tanzanite and a tsavorite garnet accented by four diamonds by Emily Benoist Ruffin. Slide **#3** showed a 14Kt. yellow gold pendant with a 21x9.5mm emerald cut blue Nigerian tourmaline accented by three diamonds channel set on top and a black Tahitian pearl hanging at the bottom by Steve and Nancy Attaway. Slide **#4** showed a cast white and yellow gold cubic style ring with a .90-point emerald cut emerald accented by diamond baguettes by Kay Mixon. Slide **#5** showed a sterling silver and 18Kt. yellow gold reticulated necklace with a carved lapis flower accented with diamonds by Garcia del Fuego.

Slide **#6** showed a handwrought yellow gold ring with an emerald cut seafoam tourmaline accented by two trillion cut tanzanites all channel set by Ryan Roberts. Slide **#7** showed a double-sided sterling silver pendant/necklace with a piece of picture jasper on one side and a scene done in sterling silver on the other all strung with rutilated quartz beads and sterling silver beads by D. Robert Smith. Slide **#8** showed an 18Kt. yellow and white gold ring with flush-set colored diamonds surrounding an orange garnet by Joseph de Bella. Slide **#9** showed a sterling silver pendant/necklace with a carved black druzy accented with white and black diamonds by Marsha Kern. This piece was given the Premier Award and was sent to the national competition in New York City. Marsha Kern works with Guild members Mark Guerin and Karen Fitzpatrick at their store, Harris Jewelers/Casa de Oro in Rio Rancho.

Slide **#10** showed a platinum hand-engraved, diamond-encrusted ring by Emily Benoist Ruffin. Slide **#11** showed a sterling silver sculptured cuff bracelet with peach moonstone cabochons and aquamarine cabochons all set in 14Kt. yellow gold bezels by Olga Sanchez. Slide **#12** showed a necklace of 18Kt. white gold wire and monofilament set with synthetic moissanites by Peggy Jez. Slide **#13** showed a 14Kt. yellow gold ring with a starburst cut aquamarine (cut by Mark Gronlund) accented with diamonds by Michelle Diamond-Cannaday. Slide **#14** showed a sterling silver and 18Kt. yellow gold cuff bracelet set with a marquis cut blue topaz by Garcia del Fuego. Slide **#15** showed a pair of yellow gold Omega-backed earrings set with large emerald cut yellow diamonds and yellow macle diamonds by Richard Sanchez.

Slide **#16** showed a pair of large dangle earrings in yellow gold with cut peridots, citrine briolettes, and Chinese pearls by David Moroleon. Slide **#17** showed a 14Kt. yellow gold scroll design pendant set with a cylinder cone blue topaz accented with three marquis garnets by Paul Rex. Slide **#18** showed a hand-engraved platinum ring set with a princess cut yellow diamond accented with princess cut white diamonds by Marcus D. Gillihan. Slide **#19** showed a geometric style 14Kt. yellow gold pendant with a pentagon cut emerald accented with opal inlay by Kay Mixon and Dawn Chansler. Slide **#20** showed a sterling silver pendant with chrysoprase, peridot, and charoite all set in 14Kt. yellow gold by D. Robert Smith.

Slide **#21** showed a platinum and 18Kt. yellow gold pendant slide set with an emerald cut tsavorite garnet accented with diamonds by Jamie Huffman. Slide **#22** showed an 18Kt. green gold ring set with a Lundazi tourmaline accented with diamonds in the ring shank and the prong tips by Karen Fitzpatrick and Mark Guerin. Slide **#23** showed an 18Kt. yellow gold pendant set with a 13.28-carat carved triangular solid black opal from Lightning

Ridge accented with three Yogo sapphires and four diamonds set across the top by Steve and Nancy Attaway.

Slide **#24** showed a handwrought 18Kt. yellow gold ring set with an oval Burmese red spinel accented with two Yogo sapphires by Ryan Roberts. Slide **#25** showed a 14Kt. yellow gold pendant set with a 9-carat starburst cut citrine (cut by Mark Gronlund) by Mark Diamond. Slide **#26** showed an 18Kt. white and yellow gold ring set with an oval hot pink tourmaline by Kay Mixon. Slide **#27** showed a 14Kt. white gold and 18Kt. yellow gold ring set with an emerald cut bi-colored tourmaline accented with diamonds by Jamie Huffman. Slide **#28** showed a hand-forged bronze necklace depicting dancers by Donna Spray. Slide **#29** showed an 18Kt. yellow gold ring set with a cushion cut brown zircon that had a checkerboard table accented with black and white diamonds by Karen Fitzpatrick.

Slides **#30** and **#31** showed the gemstone carvings by Steve Attaway. One was a carved Namibian chalcedony with deep cut flowing and undulating curves. The other was a triangular white opal with red pinfire from Mintabie carved in a triangle and inserted with a carved triangular solid black opal from Lightning Ridge, where the black opal triangle was accented with a 24Kt. gold wire frame.

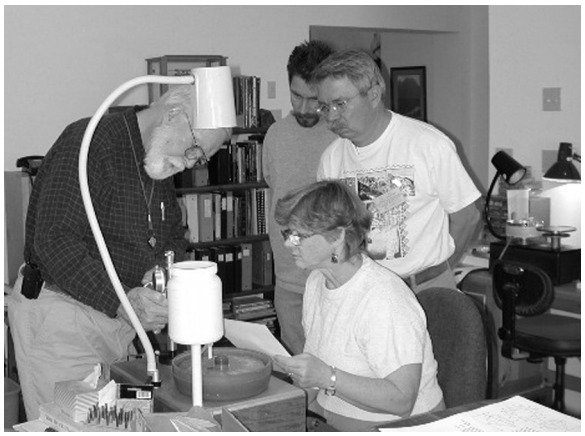
The New Mexico Faceters Guild thanks Michelle Diamond-Cannaday for agreeing to present the "All That Glitters" slide show on such a short notice. Guild members attending the September meeting were able to view many of the pieces from the slide presentation, as the entries were still on display in the museum for a few more days.

Faceters Guild Workshop

by Nancy L. Attaway

The New Mexico Faceters Guild held a workshop at the home of **Steve** and **Nancy Attaway. Ernie Hawes** organized the workshop and served as its moderator. **Ernie Hawes, Scott Wilson, Steve Attaway,** and **Nancy Attaway** instructed the student faceters. Ernie recommended a simple diagram for the first-time faceters. The workshop ran from 9:00a.m. until 5:00p.m. Saturday, October 20.

Gary Peters brought his Facetron faceting machine and cut his first stone, a small amethyst. He completed the entire stone from start to finish. Nancy assisted Gary in cutting his stone. **Bill** and **Ina Swantner** took turns faceting a large smoky quartz on the Facetron faceting machine that Ernie brought. They rendered a nice pre-polish on the pavilion and prepared the stone for polish. Ernie helped Bill and Ina. Scott Wilson instructed **Linda Vayna** with a large synthetic blue spinel on her Graves faceting machine. She was polishing the last row of pavilion facets when she stopped for the day. **Carsten Brandt** ended the day polishing an amethyst on his Ray Tech faceting machine. Ernie assisted him. **Bill Wood, Dylan Houtman, Steve Vayna, Rainy Peters,** and **Magail Medina** observed.



Ernie Hawes instructs Ina Swantner on the Facetron, as Bill Swantner and Carsten Brandt observe.

Pizza was ordered for lunch. Scott Wilson brought chips and dip, Ina Swantner brought a veggie tray with dip, and Nancy Attaway prepared coffee, iced tea, and her famous chocolate-cherry cake. Thank you very much.

Ernie wanted to cover glues and epoxies, the selection of gem rough, the orientation of gem rough on a dop stick, the transfer of a stone from pavilion to crown, and GemCad. The students wanted to facet most of the day, so the other related topics were saved for the next workshop. Some of the nuances of grinding and polishing were introduced to the student faceters, as they experienced the various stages of faceting a gemstone. The new faceters shared their acquired understanding of how the rows of a faceting diagram emerge and how the design changes the shape of a stone as the different facets are cut. The instructors also explained the importance of eliminating the damage from the previous grinding lap and how to work through the different grinding laps to a finer and finer grit before polishing. The workshop session was an intense learning

experience, but a tremendous amount of fun and excitement was enjoyed by all. Thanks to all who participated.

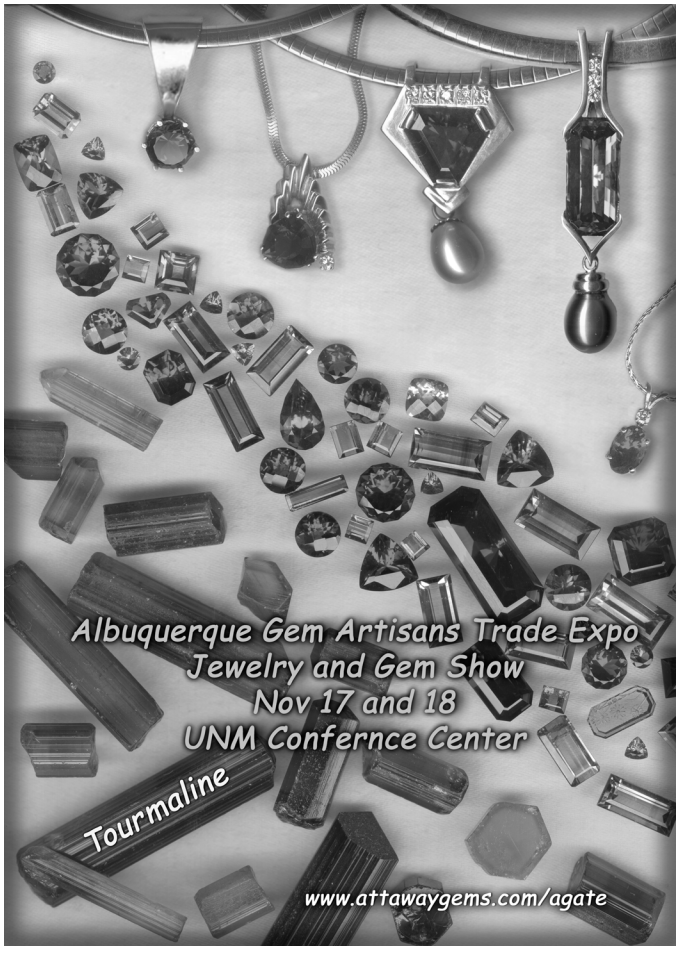
Scott Wilson helps Linda Vayna with her Graves.

Introducing:

Carsten Brandt faceting with his Ray Tech

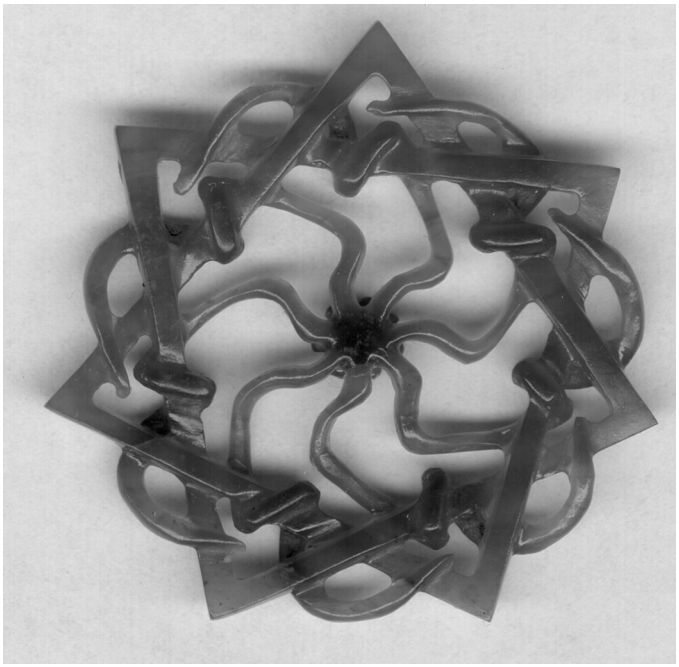
AGATE: Eighth Annual Jewelry and Gemstone Show

The Albuquerque Gem Artisans Trade Expo (AGATE) has scheduled their Eighth Annual Jewelry and Gemstone Show for **November 17 and 18** at the UNM Conference Center on 1634 University NE in Albuquerque. On Saturday, November 17, the show runs from 10:00a.m. until 5:00p.m., and on Sunday, November 18, the show runs from 11:00a.m. until 5:00p.m. The show provides a venue where customers can meet local, independent artisans who specialize in unique and custom jewelry designs, fine mountings in silver and gold, precision-cut gemstones, carved stones, and beaded jewelry. Parking is free, and a door prize will be offered. Several New Mexico Faceters Guild members will be dealers at the AGATE Show. The show theme this time is tourmaline.



Introducing:

Dylan Houtman



A very intricate nephrite jade star carved by Dylan Houtman.

Nephrite jade knife blade with dragon handle rendered in cocobolo wood carved by Dylan Houtman.

In the News

New Owner of the Benitoite Gem Mine

Source: Colored Stone September/October 2001

Since AZCO dropped their latest option to renew their lease, famed gem miner, Bryan Lees purchased the Benitoite Gem mine last November from Buzz Gray and Bill Forrest for an undisclosed sum. Bryan Lees then dug in an area, a vein that was thought to have been played out, and unearthed a new deposit of benitoites. The new find was a rediscovery of the Level 2 main vein. A 100-foot section of the original benitoite vein had fallen thousands of years ago down the mountain from Level 1 to Level 2 and was buried under thirty feet of debris. This new digging area has yielded a new batch of gemmy benitoite.

Mining at the Benitoite Gem mine only occurs for eight weeks a year, during March and through April. That is the time when the headwaters of the San Benito River are strong enough to pump into the screening equipment.

New Locality for Blue Tourmaline

Source: GIA's News and Events/GIA Insider (OnLine)

A new deposit near Llorin, Nigeria unearthed tourmalines in a wide range of colors, including bright blues that resemble Paraiba tourmalines. Some of the gem material is heat-treated, and some is not. Among the non-treated gem materials are tourmalines in violet, purplish-pink, blue, and bluish-green. EDXFR qualitative chemical analysis of these samples revealed the presence of copper, manganese, iron, and bismuth, all in varying relative intensities. Prior to this find, gem quality tourmalines containing copper and manganese had been only found in the Paraiba and Rio Grande do Norte states in northeast Brazil.

New Deposit of Black Jade in Nevada

Source: Professional Jeweler October 2001

Michael Randall of Gem Reflections in San Anselmo, California now sells black nephrite jade from a source in Nevada. The material yields fine cabochons with few or no inclusions. The black color is homogenous not mottled or irregular, and the material takes on a high luster when polished. Chunks as large as 44 pounds have been unearthed.

More on Canadian Diamonds

Source: Professional Jeweler November 2001

Canada expects to join the ranks of the largest diamond producing countries of the world by 2005, and predictions have Canada producing 12%-15% of the world's supply of diamonds by then. Currently, almost half of DeBeer's exploration budget is directed towards Canada. Besides their high quality, Canadian diamonds are attractive because they are not traded to finance wars, as is the case in several African countries (conflict diamonds). Despite working with the complex Canadian permit process and funding the expensive recovery operations, mining companies can bring Canadian diamonds to market in a stable political environment, as opposed to the turmoil in Africa.

Several pipelines have been producing diamonds, and the possibility of even more viable pipelines may well exist. Besides the Northwest Territories, exploration efforts have identified potential diamond sites in Alberta, Manitoba, Ontario, Saskatchewan, and Quebec. The major players operating in Canada include DeBeers, who work the Snap Lake properties, Broken Hill Properties-Billiton, owners of the Ekati mine, and Rio Tinto/Aber Diamond Corporation, the joint venture that owns the Diavik mine.

Stingray Coral

Source: JCK November 2001

Stingray coral, a new gem material from the Prince of Wales Island in Alaska, is a gem quality fossil coral. It has been identified as 400 million year old favosite coral that has been replaced by silica-rich calcium. It exhibits a black outline of hexagonal honeycomb structure with white centers in a 1- 2.5-mm cell size when cut on the horizontal. In Alaska, it is also known as arctic lace. The gem fossil is not enhanced in any way, and the color is completely natural.

Do Not Boycott Afghan Gems

Source: JCK November 2001

Fred Ward, the noted gem author and photographer, and Gary Bowersox, a gem dealer in Honolulu, recommend that people not boycott gemstones from Afghanistan. Lapis lazuli, emeralds, ruby, aquamarine, spinel, tourmaline, kunzite, and other gems are found in the small region that is controlled by anti-Taliban rebels. Ward and Bowersox think that a boycott of Afghan gems will hurt the fighters of the Taliban and would cut off a legitimate source of cash.

Facet Designer's Workshop

By Ernie Hawes

Nancy Attaway has been working on a new design that was delayed until now because of major remodeling of their home. The Attaways' now have a fabulous shop area that any facetor or jeweler would be proud to own. Nancy's new design was worth waiting for though, and it will make a nice addition to anyone's design library. The following is Nancy's description of her new design and how she created it. As always, Nancy designs by cutting, and then has Steve put her cutting data into GemCad.

"You may recall that the ***"Oval Flair"*** faceting design was originally intended to be an emerald cut flair. The design changed into an oval by accident. I had overcut four facets on the pavilion and returned to the girdle facets to even them up with my established line of facets on the girdle. This shape then became an oval, and the design resulted in a unique shape for a gemstone. I still had it in my mind to render a design that was an emerald cut with flared sides, so I dopped another large citrine and went back to work.

I did not flair out the long sides at 96 and 48 as much as I did in the ***"Oval Flair***", and that appeared to be more workable. Then, I flared out the short sides where 24 and 72 are located. In shaping the original design, I had the two sets of flared girdle facets nearly meet, then I cut in the cut-corners at 12, 36, 60, and 84. This shape reminded me of an ornate picture frame.

In selecting the facets for the pavilion, I modified several pairs of facets that mimicked some of the facet arrangements seen on barion emerald cuts. The pavilion is somewhat simple, but it seems to work well. It is not really a meetpoint design, as some of the facets float. However, the facets do touch at precise points on the stone. I chose three rows of parallel step cuts for the crown, two at the same width and one tiny row surrounding the table facet. I like those, because I like the clean lines. Step cuts may even allow the viewer to see into the stone a bit easier, but I imagine that could be debated. The idea to incorporate four diamond-shaped facets to add decoration to the crown was actually Steve's. They are a nice touch, I think, and are a clever idea. The finished gemstone really did not resemble an emerald cut at all, so I re-named the design the "***Cushion Flair"***. I now have a design in my head for an emerald cut that just might work this time (three times equals a charm), and I hope to have it ready in time for the November/December, 2001 issue of the *New Mexico Facetor*."

Our second design is one I came up with a while back, as I was trying to think of a pattern that would be easy for a beginning facetor, but would not be a round design. I have seen all too many faceters cut a dozen or more rounds before trying anything else. I figured that if I came up with something that would be even easier than a round brilliant, then beginners should be willing to try a different shape earlier in their leaning stage of how to facet.

I think I have accomplished my goal with this new design which I call simply "***Easy Square Emerald***". The pavilion is truly a piece of cake for anyone and gives practice at cutting several facets to a culet point. One desirable feature of the pattern is that the pavilion can be faceted very quickly, which also makes this design a desirable one for commercial faceters. It probably works best for fairly small stones between five and ten millimeters, although it does not look bad cut somewhat larger than that. The crown is a modified scissors pattern that requires slightly more attention to meets than does the pavilion, but still, it should be easy to do. The eight star facets are split facets that can be cut as four facets if desired. The index settings would be the same as for facet row "a" and the angle would be 23 degrees. I do not think that the scintillation is quite as nice, but it still cuts into an attractive stone. If you were at the last meeting, then you saw the pavilion for this design with a step cut crown. I believe that you will like the finished design as presented here even better.

Recently, Nancy Attaway has been the only designer in the Guild besides myself creating any new designs. At our recent workshop, Dylan Houtman showed us a couple of cut stones and gave me a sketched drawing with angles of a very attractive pattern. I will be working on getting it into GemCad, and hopefully, will have it to share with everyone in the next issue.

Written on a Rock

by Merrill O. Murphy

Once upon a very long time ago, about fifty years ago, ours was, in many ways, a more kindly world. We called ourselves "Rock Hounds", and we collected almost everywhere. In those days, as is now, people owned the land, mostly ranchers and Indians on their reservations. Gates were seldom locked back then. We collected nice, red agate on the lower end of the Rio Puerco, peridot and topaz on Indian lands, smithsonite on the mine dumps at Magdelena, and agate over a wide area around Apache Creek.

Ranch owners and cowboys smiled and greeted us back then. They were particularly happy if we cut a cabochon or a faceted stone for them. Indians even smiled and waved to us if we happened to be on their reservation. Nowadays, however, is a time of locked gates and tenuous relations.

Amidst the beauty of the land and the rock specimens, however, was a strange carving in hard rock. We would gaze with awe at this rock carving, found near the crossing of State Highway #6 and the lower Rio Puerco. The carving is particularly interesting to me because it is a thing of mystery. It seems to have been written in a language from a faraway place in the Middle East. It might be a forgery, or it may be genuine. Unfortunately, the origin is lost.

This is what we know. Its location is just off State Highway #6, a few miles west of Los Lunas. Years ago, we drove out there quite close to it. We crossed the Rio Puerco, parked, and walked less than one quarter of a mile south by a bit west. You see two little joined peaks there, and the carving is on a ledge at the base of the southern-most peak. Many people drove there for photographs. Some altered the carving by scraping over the writing to make it more "photogenic". In those days, a rancher from Los Lunas owned the land. Today, I think it is Indian-owned and very private. Various people tried to interest the folks at the University of New Mexico about the carving, but back then the folks at UNM scoffed at the idea of the carving being authentic.

The area encompassing the rock carving has a rather interesting background. The railroad ran from Los Lunas for many years and eventually joined the Albuquerque-bound branch well to the northwest. Later, State Highway #6 was built to parallel the earlier railroad branch. A tiny village was built at the Rio Puerco that served as a water source for the thirsty steam engines. That lasted only a few years before the watering source was no longer necessary. Without the railroad jobs, the village disappeared.

Various theories have been advanced to account for the carving. One involves a Catholic priest from Los Lunas. Could a priest from Los Lunas have visited the village from time to time and have carved the writing in stone himself? I think that this is rather unlikely, considering that not many people, priest or not, could actually read and write the ancient languages. That village disappeared fifty years ago.

Two similar carvings on hard rock have been reported on boulders along a creek a few miles south of Taos. Perhaps, these ancient writings on stone marked the location of some special place. Or, the carvings may have served as a map and may have provided directions to significant sites. Until we unlock the meaning and interpret the carvings, the mystery of the carvings on rock will remain unsolved.

Ernie Hawes and I visited the carving site this fall. Ernie photographed the carving. During the 1980's and 1990's, scholars visited the site. George Moorehouse, a professional geologist, determined that the boulder on which the carvings were placed is the same basalt as the cap of the mesa. He estimated the weight at 80 to 100 tons and said that the boulder had moved about 2/3 of the distance from the mesa to the valley floor since it broke from the mesa. The inscription is tilted about 40 degrees clockwise from horizontal, indicating that the boulder has settled or moved from its position at the time that it was carved.

Professor Frank Hibben, retired archaeologist from UNM, is convinced that the inscription is genuine, and that it could date back 500 years or even as far as 2000 years. The carving shows Greek tau, zeta, delta, and kappa

(reversed) in place of their Hebrew counterparts taw, zayin, daleth, and caph, which indicates not only a Greek influence but a post-Alexandrian date. The letters yodh, qoph, and the flat-bottomed shin show a distinct Samaritan form.

Cyrus Gordon proposes that the carving may well be a Samaritan mezuzah. The ancient Samaritan mezuzah was commonly a large stone slab placed by the gateway to a property or synagogue. He also proposes that the age of the inscription falls in the Byzantine period.

The carving is now known as the Los Lunas Inscription and is thought to be an abridged version of the Decalogue or Ten Commandments. The language is Hebrew, and the script is the Old Hebrew alphabet, with some Greek letters included. See the website at http://economics.sbs.ohio-state.edu/jhm/arch/loslunas.html for more information.

It is hoped that further study of this remarkable carving will unlock the secrets of its mysterious inscription. In our wonder of it, we always wished to learn its meaning.

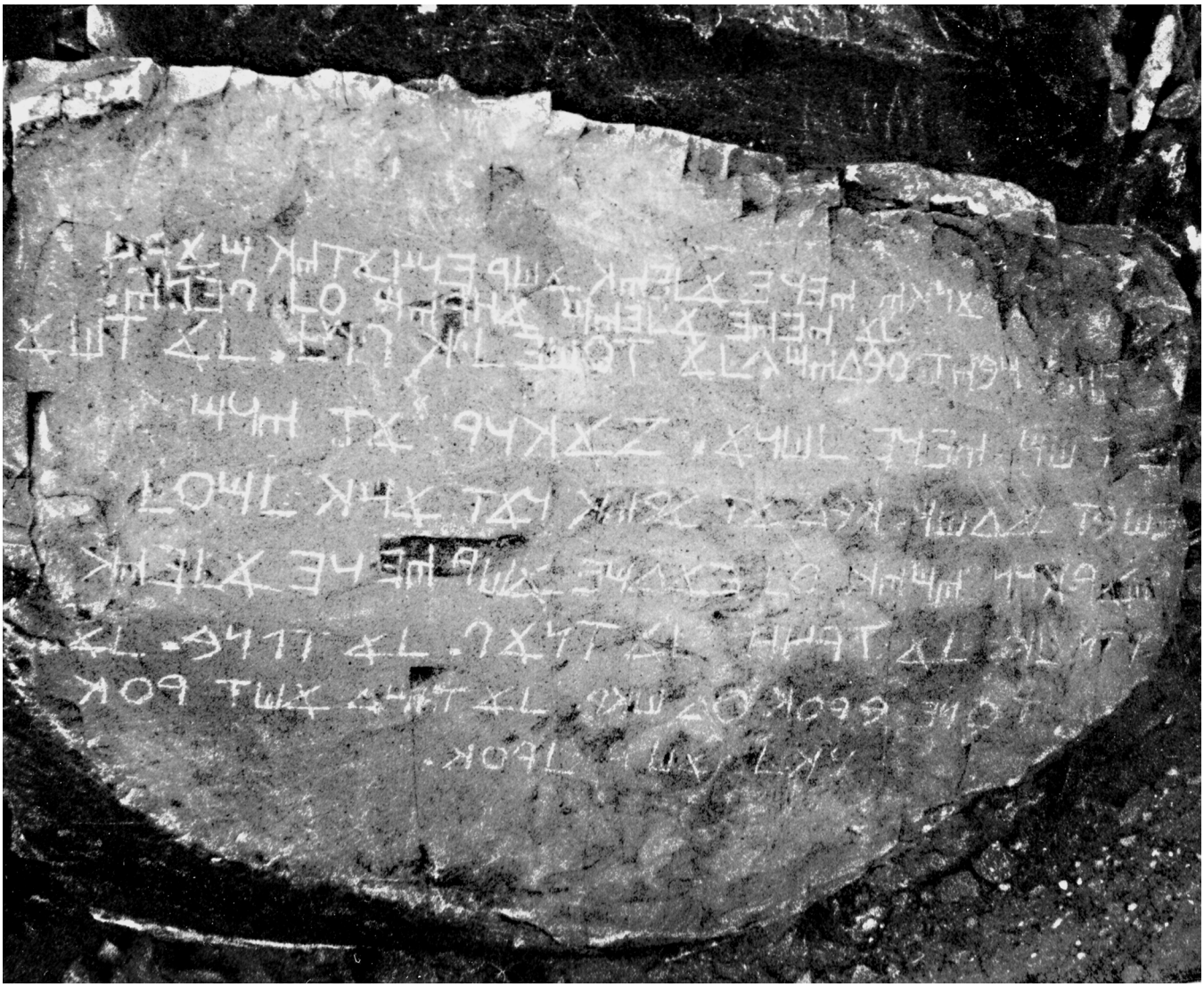


Photo by Ernie Hawes

LET'S TALK GEMSTONES

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The Ugrandites

Andradite

The **andradite** species of the calcium-containing garnets was named to honor the mineralogist Jose Bonifacio de Andrada e Silva. The brown and green varieties of andradite often occur in regional contact zones of metamorphosed impure siliceous limestones. [Tsavorite, the rich green garnet colored by vanadium and chrome, is a grossular garnet.] Brown material is seldom faceted except for collectors. Schists and serpentines yield the **demantoid** and **topazolite** varieties of andradite. The **melanite** and **schorlomite** varieties require an alkali-rich environment of igneous rocks.

Andradite [calcium iron silicate] and grossular [calcium aluminum silicate] garnet are the end members of a series. The difference in the chemical compositions of the members of the series and variations of temperature and pressure of the environment where crystallization takes place can produce the unusual iridescent garnet. Iridescence occurs with the incorporation of extremely thin layers of grossular in andradite's isometric structure. The slight differences in the refractive indices of the layers of the two minerals affect the light reflected from within the stone to the observer and cause the spectral effect. Rare chatoyant material, caused by inclusions of fibrous amphibole (byssolite), is found in San Benito County in California. Fine green, chrome-bearing crystals occur in a deposit in Korea.

The specific gravity of andradite can vary from 3.7 to 4.1. The iron content negates the presence of luminescence, and fusion produces a black magnetic globule. Fracture is uneven to conchoidal. The diaphaneity can vary from transparent to opaque with a luster range from vitreous to metallic. Large gem quality crystals are unusual, so faceted gems are typically rather small. With a normal refractive index range of 1.88 to 1.94, andradite has the highest dispersion (0.057) of all the garnets. However, the tremendous fire of these gemstones is frequently masked by the body color. Despite garnet's tendency to brittleness, a hardness of 6.5 to 7, and the absence of cleavage planes combine with andradite's extreme dispersion to make it suitable for use in all types of jewelry.

Demantoid is the most valuable of the andradite garnets. The finest material is found in metamorphic formations and alluvial gold-bearing deposits in the Ural Mountains in Russia, but other sources are located in Italy, Kenya, Tanzania, and Zaire. Demantoid has been called Ural emerald and Siberian chrysolite. Production today is very limited, so antique jewelry is a source of this prized gem. Demantoid's color can vary from a very pale green to a rich medium green colored by chrome. Its density varies from 3.82 to 3.88. A singly refractive index of 1.88 to 1.89 is the norm. The presence of chrome creates the "red" reaction in the Chelsea filter and, at times, the chrome spectrum is visible. Faceted gems of over a carat are extremely rare. The collections of several museums in the former USSR contain many of the world's finest and largest demantoids. The Smithsonian cabinet in the United States includes one demantoid of 10.4 carats, as well as others of 4.1 carats, 3.4 carats, and 2.3 carats. "Horsetail" inclusions, composed of fine hairlike fibers of byssolite, are common and exclusive to demantoid, and these are diagnostic when found. Such inclusions weaken the facets and edges and increase a gem-

stone's fragility. Round brilliant and mixed cuts best exhibit demantoid's gem properties. Square or rectangular step cuts are rare. Careful examination of its physical and optical properties is necessary to distinguish demantoid from some green zircons with a weak birefringence, as well as from green grossular and green YAG.

Topazolite garnets rival demantoid in gemstone qualities, but the exceptionally small, pale to dark yellow and yellowish-green crystals, found in metamorphic deposits in the Italian and Swiss Alps, seldom yield gems of a practical size for use in jewelry. Faceted gems larger than 2 to 3 carats are very rare. Topazolite crystals (density of 3.77 to 3.81), associated with the unusual andradite cats-eye material from San Benito County in California, exhibit a somewhat lower refractive index (1.855 to 1.877) than the usual 1.887 of the European material. It is known that an 18-carat gem was purchased in New York by a private collector. An extremely large green topazolite crystal, weighing approximately one ounce, graces the cabinet of a collector in California. In his *Color Encyclopedia of Gemstones,* Dr. Joel Arem tells us that this one ounce specimen would yield faceted gems of over 20 carats.

Melanite occurs in igneous formations on the island of Elba and in Trentino, Vesuvius, and Monte Somma, Italy, as well as in Kaiserstuhl, Germany, France, Norway, and Magnet Cove, Arkansas, and Colorado in the United States. Titanium oxide can make up as much as 5% of the chemical composition of this opaque material. The name is derived from the Greek *melas*, meaning black, but a dark red is also known. Melanite exhibits an approximate specific gravity of 3.9 and a refractive index of 1.89. Its vitreous to metallic luster made faceted melanite gems popular for use in mourning jewelry during the Victorian era.

Schorlomite is also a titanium rich andradite found in volcanic alkali-rich formations. It is not used as gem material. Brown andradite is seldom faceted and used in jewelry.

Joke: A New Addition to the Periodic Table

Element name: WOMANIUM

Symbol: WO

Atomic weight: (Don't even go there!)

Physical properties: Generally soft and round in form. Boils at nothing and may freeze at any time. Melts when treated properly. Very bitter if not used well.

Chemical properties: Very active and highly unstable. Possesses strong affinity with gold, silver, platinum, diamonds, and precious stones. Violent when left alone. Able to absorb great amounts of exotic food. Turns slightly green when placed next to a better specimen.

Usage: Highly ornamental. An extremely good catalyst for the dispersion of wealth. Probably the most powerful income-reducing agent known.

Caution: Highly explosive in inexperienced hands!

The NMFG Christmas Party

The **Christmas Party** for members of the New Mexico Faceters Guild and their guests will be held **December 15,** 2001 at the **Villa Di Capo Italian Restaurant,** located at 722 Central Avenue Southwest. Capo's has a party room for us. Cocktail hour will begin at 5:00 p.m. Dinner entrees may be ordered at 6:00 p.m. A boisterous gift exchange will commence after dessert. Dress up and join the fun.

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Don't forget: next meeting is November 8, 2001 at 7:00 pm.

Meeting Location: NM Museum of Natural History. Dues are $20.

GEM ROUGH FOR SALE

The faceting rough from the estates of Louie Natonek and Rhonda Mills have been placed on consignment with Ernie Hawes. Ernie may be reached by his cell phone at 350-4389, by e-mail, or at his home at 821-3201.

New Mexico Faceters Guild Website

The New Mexico Faceters Guild has a website that may be accessed at: www.attawaygems.com/NMFG. The site contains many interesting articles written by Guild members, informative reports on some of our noted guest speakers, and gemological articles composed by Guild Gemologist, Edna Anthony.

Obituary

Suzanne Cowan, former Registrar at the New Mexico Museum of Natural History, died October 3 after a long battle with cancer. Her eleven-year tenure at the New Mexico Museum of Natural History was marked by distinction. Her knowledge of gems and minerals led to the acquisition of many superior examples for the New Mexico Museum of Natural History's permanent gem and mineral collection.

Suzanne was born in Pierre, South Dakota on January 31, 1955 and later moved to San Diego. Suzanne attended San Diego City College and Monterrey Peninsula College prior to receiving a BA degree in Anthropology from UCLA. She received an MA in Biological Anthropology from UNM and did course-work for a Ph.D. in Bio-Social Anthropology at UNM. She served in the United States Navy and, following active duty, was in the Navy Reserve for several years. Prior to her employment at the New Mexico Museum of Natural History, Suzanne worked at the Chaco Center National Park Service and also for the Maxwell Museum of Anthropology in Albuquerque.

Suzanne was a fan of the New Mexico Faceters Guild and continued to sponsor the Guild in its relationship with the New Mexico Museum of Natural History. We appreciate her efforts with the Museum and will remember her friendliness and enthusiasm. Suzanne will be missed.