
The District of Gemology

Volume 3 Issue 3

August 1996

Learn Everything About Montana Sapphires From Shirley Beck

Of

The Sapphire Mountain Mineral Gallery
Tuesday, September 17, 1996
Holiday Inn - Rosslyn, VA

We are very lucky to have Shirley Beck as our speaker for September. A former manager of the Gem Mountain sapphire mine, Shirley is now co-owner of The Sapphire Mountain Mineral Gallery in Philipsburg, Montana. She has done just about everything there is to do in the sapphire business in Montana. You won't

find a person that is more knowledgeable Montana sapphires. So mark your calendars for Tuesday, September 17th and prepare to learn everything, from top to bottom, about the sapphire business in general and sapphire stones in particular.



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Martin Fuller and Bruce Gaber look over a catalog from a recent meeting.

President's Letter

By Fred Ward

As we move well into the second half of 1996, it seems a good time to review where we are and make our plans for the rest of the year. Our chapter continues to grow. At the July meeting we had 125 people who had paid their local annual meeting fees. That was our maximum number for 1995 and we still have five months to increase it for this year. Our treasury is sound, we have speakers booked for the rest of 1996, and we already have programs



set for three meetings in 1997. Our Newsletter looks good and is being printed on schedule for four issues a year. And we have an enthusiastic membership that is learning and growing as a result of chapter efforts.

Looking ahead, we have several missions, and they all require increased assistance from the group so the same few members do not carry the full volunteer load. Bobby Mann is working on a printed flyer to explain our chapter and GIA to both the trade in this area as well as introduce us to a wider audience. We are about to enter the season where we need help securing donations for our annual Christmas Party and Auction in December. This event is both a great

(Continued on page 2)

*President's Letter**(Continued from page 1)*

social success as well as a much-needed moneymaker for the chapter. Only by several fund-raising efforts throughout the year are we able to keep annual meeting fees down and to bring in national and international speakers for your enjoyment. In the next month we will begin asking for your help with the December auction. Please be ready to assist.

We have had considerable discussion about the ideal chapter size. We have mastered some aspects of growth and how to achieve it. We like having the extra money more members produce because it means we can have more renowned outside speakers. But we also know there is a limit to growth and that a huge membership would likely change the wonderful character we now enjoy. I welcome your thoughts on this.

I just spoke with the woman in charge of GIA's extension classes. The scheduled extension classes in DC between April 14th and 28th will include Diamond Grading, Gem ID, Colored Stone Grading, and individual seminars in Synthetic Diamonds and Detecting Synthetic and Treated Colored Stones. As usual, we will plan to reserve at least two special classes just for our chapter. If there are any topics you would like to have taught for us, let me know now so we can get GIA started preparing them. Usually it is

preferable to have topics GIA is not offering to the public.

Remember also to tell people you see in the trade that ours is the most exciting GIA alumni chapter in the world and they are welcome to attend our meetings. Most jewelry professionals still believe they have to be either G.G.s or students to join with us. Assure them that all interested parties are welcome at our meetings and tell them our wonderful upcoming speakers' schedule. See you all soon.

**Appraisal Study Group****By Melanie A. Marts**

The study group has been holding it's own this summer with an average of eleven to twelve members per meeting. If you enjoy lively and informative discussion of the business of appraising, we urge you to attend these meetings.

Anna Miller's Master Valuer workshop was discussed. All attendees who completed the workshop agreed it was very informative, non-dogmatic, and extremely helpful to appraisers and non-appraisers alike. Definitely worth it!

Grading laser drilled diamonds was discussed. Opinions were lively, hot, and heavy. As of yet, no agreement has been reached.

The past two meetings have

been devoted to a critique of GIA's new Appraisal Course. So far, the first six chapters have been reviewed. The remaining chapters will be reviewed during the August meeting.

Our next meeting is Wednesday, August 14, at Mangan Jewelers, at 7:00 PM. In addition to reviewing the above, we will also calculate pricing on diamonds based on cut, with all other factors being equal. Last but not least, those members who are going to the Maine "jewelry camp" will report on what they learned and observed.

One ongoing topic of discussion has been the critique of various formats of actual appraisal documents. It has been extremely enlightening to observe all the varieties of appraisal documents that are floating around out there. We are far from finished with this review. If you want to find out more, come to the next meeting!



Lorin Atkinson and Tom Mangan at a recent meeting.

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Past Speaker

Dr. Bill Metropolis - The Harvard Mineralogical and Geological Museum

By Greg Duncan

Dr. Bill Metropolis, the assistant curator of the Harvard University Mineralogical and Geological Museum, recently gave an in-depth presentation on his institution's history and its holdings. It is the oldest Mineralogical Museum in the United States, dating back to the 1600's. The museum currently has about 8,000 minerals on exhibit, with holdings that include approximately 100,000 minerals, 500,000 rocks, 3,000 gemstones, and 2,000 meteorites. It represents the third largest museum of its type in the world. It is also a primary source for gems and minerals that are used in research throughout various technical fields.



Tourmaline Crystals

Bill began by relating some interesting historical facts about the museum. For example, they used to have as part of their collection an 84-carat yellow diamond octahedra and a 50-carat alexandrite, that is, until 1964 when they were stolen, along with many other pieces of their collection. Supposedly, the crook who committed the crime went by a name that went something like "Sam the Smooth Hand". Anyway, something very similar to that which sounds like it came from a 1950's comic strip. This character was later finally caught, while attempting to steal some of the

Smithsonian's unique pieces by posing as some sort of expert who was examining pieces while carrying a false bottomed attache case.

We next heard about Dr. Frondel and Dr. Hurlbut who were curators of the museum from 1937 through 1977. They were responsible for accumulating significant portions of Harvard's current mineral and gem holdings. Back during those days when academic institutions had not-so-limited budgets, Dr. Frondel spent \$35,000 to buy a private mineral collection in Brazil. It was for only one piece of the collection, which Dr. Frondel couldn't identify, that the purchase was made. That piece turned out to be a new species.

As it should be expected, and obvious by this point, many extremely rare and one of a kind specimens comprise Harvard's gem and mineral collection. Such as, a Russian Beryl crystal which dates from 1892, this piece being the earliest sample of beryl from Russia. Also, a six inch tourmaline crystal from Madagascar with the top 2-3 inches of gem quality, a 10-inch long piece of dendritic silver, and a specimen of flattened octahedral gold crystals from California. This gold specimen literally doesn't sound that exciting, however, both sides of it are mirror images of the other. It is considered to be one of the rarest and most priceless mineral specimens that exists. Also as part of his presentation, Bill brought

The museum currently has about 8,000 minerals on exhibit, with holdings that include approximately 100,000 minerals, 500,000 rocks, 3,000 gemstones, and 2,000 meteorites.

numerous gem specimens for those in attendance to view and examine. They included a 303.10 carat tourmaline nodule from Mt. Mica, Maine; a 655 carat faceted piece of "intense pink" kunzite from Minas Gerais; a 287.15 carat triphane specimen from Minas Gerais; and a 60.07 carat piece of tourmaline from Newry, Maine. The 303.10 carat tourmaline nodule was almost entirely gem quality and is the largest remaining tourmaline specimen in existence from that locality. It was an



Dr. Bill Metropolis at the May 23rd meeting.

absolutely remarkable specimen for which the ability to examine it yourself brought a much greater appreciation.

If you would like to see some of these items, and one of the finest, largest mineral and gem collections in the world, you can visit Dr. Bill Metropolis in Cambridge, Massachusetts. If you think that Harvard might have too many mineral specimens and is looking to get rid of a few things, don't think it will be to any gem or mineral dealers. They only give out excess material for research and educational purposes. What else would you expect?!



ERUDITUS

Renowned Author and Appraisal Expert
Anna Miller on Research



by Anna M. Miller, GG

Head the news? There is a *big precious opal* find in Ethiopia. Students taking the *Master Valuer* classes held in Denver, Colorado last May were the first in the United States to see and handle this new material. (Thus, proving once again that *The Master Valuer* jewelry appraising program is the nation's finest, most advanced, "cutting-edge" course!)

The material is *beautiful*. The new source for precious opal was recently discovered by native Ethiopian minerals engineer Telahun Yohannes. Because of Yohannes' earlier work in the Australia opal industry, he recognized the potential of the Ethiopian opal when he first saw it and began to investigate its location in 1993. The source turned out to be near the village of Mezezo, Shewa province, where he was able to file claim to 2500 hectares and dug opal from pits strung out for a length of about 15 kilometers. There is no past production from this area although natives in the region were aware of opal nodules. A majority of the precious opal is semi- or crystal base. The opal comes in a variety of colors such as colorless, white, orange, yellow, greenish, lavender and red varying from opaque, semi-translucent, to transparent. Some of the material is transparent enough to be used as fine faceting rough; and some of the opal strongly resembles Mexican red "fire" opal. At this time no black has been found. The long term stability of the opal has not been determined.

Dr. Don B. Hoover, FGA, points out in a paper in *The Australian Gemmologist* that some of the opal is *hydrophane* which sticks to the tongue - gains water when soaked and loses it when left to dry in the air - and may present a problem in

hydrostatic determination of specific gravity. The specific gravity of the *hydrophane* material ranges from 1.85 to 2.02, while the *other* material ranges from 1.99-2.02. The refractive indices on 15 samples of the opal ranged from 1.439 to 1.448 with the *hydrophane* the lowest at 1.439-1.441.

Dr. Hoover says in his article an interesting inclusion seen in the material -- called "moss" -- upon magnification looks exactly like the opaque or transparent "tubes" that Russian writers have observed in agates and call "membrane pipes."

Along with being some of the first people to handle the new opal material, students at the *Master Valuer* jewelry appraising workshop were also fascinated by the basic appraisal question "What's it worth?"

There is a big precious opal find in Ethiopia. The material is beautiful. The new source was recently discovered by native Ethiopian minerals engineer Telahun Yohannes.

The question of value while naturally of paramount importance to Mr. Yohannes, is also the supreme *focus* question of appraisers. Further, immediately following "What's it worth?" ...is "Where can I research the value?" Therefore, this column has been provided with an interesting question of how and where valuation research can be conducted on the new opal material.

Let's play this exercise as a *hypothetical* appraisal using several samples of rough opal material and some samples of the material in cabochon cut stones. The samples are in a range of quality grades.

Logic impels us to find information on opals *from all locations* for comparison of characteristics. Since this is a new opal find, there will be a rash of news articles and stories in jewelry, mineral, and geology related magazines. Two of the first stories about the new material is one entitled *Ethiopian Opals* by Paul B. Downing in the July, 1996, *Lapidary Journal*, and another by Dr. D.B. Hoover, T.Z. Yohannes, and D.S. Collins in *The Australian Gemmologist*, Summer, 1996. *Canadian Jeweller* magazine will have an article authored by Anna Miller, GG, in the September, 1996 issue. GIA's *Gems and Gemology* is also planning an article. Collect all the material you can find on the new material. (In all the information you are gathering as an appraiser -- *you are gathering, aren't you?* -- you should be making and keeping clippings about *new finds of all types* of gems and minerals. You never know when it will be exactly what you need.)

Research for estimating value of the newly discovered opals means first comparing the actual material against opal materials from other sources and "quality ranking" them against the other opals. Then, they must be quality ranked within their own production of materials; i.e., fair, good, excellent.

According to the "opal" people who *really know* how to quality rank opals: The Australian Gemstone Industry Council, the Australian Gem Industry Association, The Gemmological Association of Australia, The Lightning Ridge Miners Association and the Jewellers Association of Australia, "standards" of opal grading are: 1) Type of opal; 2) Body color; 3) Variety or grade; 4) Transparency; 5) Treatment or enhancement; 6) Composite nature if present (doublet or triplet.)

Price guide resources that can be used: Paul B. Downing, *Opal Identification and Value* Richard B. Drucker: *The Guide*, Anna M. Miller, John Sinkankas, *Standard Catalog of Gem Values - 2nd Edition*.

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If the valuation question centers around the *rough* material, value is also dependent upon the size and degree of fracturing present in the rough material during the mining process. Simply put: The larger the non-fractured pieces of material, the higher the value. If the stones have been cut into *cabochons*, the value is dependent upon the standards plus size, shape, weight, finish, and desirability of the material.

Research can be fun or frustrating. You can approach it like Sherlock Holmes digging for answers and adding up the clues, or you can complain to anybody who will listen that you cannot find *anything* about the subject property. One thing is for certain, you must get out into the market and see what is available. You cannot do accurate research merely by sitting at your desk and talking over the telephone. **You can** look at material from opal dealers, attend gem and mineral shows, and observe mineral and gem collections in museums to get an idea of what "*the best*" of a species might look like. You can talk to the people who put out Price Guides to find out where *they* obtained their prices. Good researchers are persistent, tenacious, have a singleness of purpose,

stamina, and what we here in the southwest call "grit." All of the above must be augmented by your personally acquired knowledge of the researched subject. Think about information you need being in files that you may not normally access, and figure out how to get it.

And always remember "due diligence." You cannot defend your appraisal effectively unless you have been duly diligent, non-biased, and objective in your research.

It is clear that research - accurate, solid, verifiable research - is at the core of the valuation estimate. So, when you think you've done enough for your particular assignment and are weary of all the running around and long distance calls,

do this: Ask yourself if you have done what a *reasonable and prudent* appraiser would have done....and if you have been *duly diligent* in your efforts. If you can honestly say you have.....then you can face the next assignment with confidence.



Jeff Allinson "captures" some pictures for the newsletter.

"Brown" Diamond Recovered

From "*The Bay Ridge Paper*"

A man walked into the Unique Gold Mine in Bay Ridge, CA and asked to see some loose diamonds. While Roger Sheredos, the shop owner, wasn't looking the man switched a cubic zirconia for the diamond and then swallowed the real gem. As the man was about to leave the store Sheredos' son told him about the switch. Sheredos locked the door to his store and called the police. Once in jail the thief refused to eat. X-rays were taken when he complained of chest pains and the 1.42 carat diamond was easily visible. After waiting 5 days the diamond finally passed through the culprits digestive system. A rookie cop was volunteered to recover the diamond. "It looked a little browner than it usually did, but it was fine", joked Sheredos. "We're probably going to have to have a poop sale once we get it back", he said. The man fit the description from another theft, was identified in a line-up, and ultimately charged with two grand larcenies.



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HOW THE NEW CUT CLASSIFICATIONS RELATE TO DIAMOND PRICING TODAY

By **Richard B. Drucker, G.G.**

We evaluate diamonds for color and clarity and then jump immediately to price. When asked about cut, our standard reply is that it is very "nice" or perhaps "average." Is there anything wrong with these statements? Well, generally, no. Diamond dealers, jewelers and appraisers are familiar with cut but do not evaluate cut to the extent that is necessary to accurately value diamonds. Cut is playing an increasing role in the price of diamonds on today's market.

With the high price of rough (even higher now with the 7% increase DeBeers recently announced) diamond cutters are faced with decreasing profit margins. They have no control on the color and minimal control on clarity (the cutter may have to decide if an inclusion can be removed with minimal weight loss). However, cut is entirely at their

The Guide is based strictly on a class 2A Cut diamond.

control and the final profit margin is in the hands of the cutter. With today's retail environment of discount chain stores, home shopping, Internet sales, and consumers shopping with a "wholesale list" in hand, how can the independent jeweler compete? The answer lies in the cut.

A few years ago, GIA developed basic guidelines for round brilliant cut diamonds. They divided the cut "classes" into Class 1 - the ideal cut, Class 2 - the international well-cut diamond, Class 3 - slightly below

average cut, and Class 4 - poorly cut. David Atlas further developed these into sub categories 1A, 1B, 2A, 2B, and so on. He also added more grading parameters such as crown angle and pavilion depth percent. He developed these same charts for fancy shapes as well. One interesting addition he made was in the descriptions of the cut classes. Although class 2 was considered the international standard for well cut, he noticed that more diamonds were becoming available in the class 3 category than ever before. Therefore, he named this the "U.S. domestic average cut." Most jewelers have not adjusted the way they do business to reflect this.

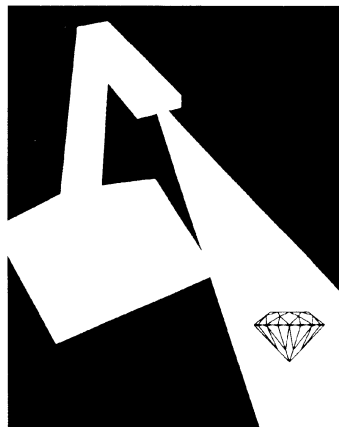
For example, when a jeweler buys diamonds, he or she may look to my publication, *The Guide* or to the Rapaport list

to compare price. Of course, if using the Rapaport list we expect a discount since that list is always above actual wholesale. If they are using *The Guide*, the prices are meant to be used without a discount. However, *The Guide* is based strictly on a class 2A cut diamond. Here are the parameters for this cut grade: Table 62-63%, Depth 59.0-61.0%, Crown angle 32.1-33.9, Girdle slightly thin to slightly thick, Pavilion 42.5-43.5%, Polish and symmetry good to excellent. A few minor variations from these will classify a diamond as a 2B and may require a deduction of 0-10% (5% on average).

As stated, the reality of today's diamond market is the preponderance of class 3

cut diamonds. If 3A is the cut being evaluated then the deduction should be 10-20% (15% on average). In a competitive market, 15% is a big factor that will clearly affect the ability for one to make a profit and compete for consumer sales. And if the diamond is one half grade lower, a 3B requires a deduction of 20-30% (25% on average).

Retail customers today comparison shop more than ever. Improper grading often misleads them and that may be difficult for jewelers to overcome. However, more consumers today are seeking independent laboratory grading reports. Jewelers then use these reports to assist in sales. The reports are good because color and clarity are more reliable and all major labs list cut parameters, though not specifically graded. This is where the jeweler must be sharp.



Most sales lost to competitors are due to cut. Cut is the last remaining "C" that can make a jeweler sparkle. Explain how the average cut today will generally be discounted by 10-30% and even more on lower cutting grades. Explain that the average consumer will still look at a class 3 diamond and not notice some of the microscopic deficiencies. Explain that purchasing these cuts is okay but that they should be aware that it is not fair to comparison shop diamonds without knowing all the facts about cut. If your cut is truly superior, market that fact to its fullest. Take advantage of every detail of cut to show why the lower priced diamond at the other store is lower for a reason.

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Although many readers may feel that they are already very familiar with cut, I urge everyone to take a closer look at the new cut parameters. They are more complete than previous versions and they are crucial to accurate pricing as this article points out. I will be glad to discuss the new cut grades with any interested reader. They are also in *The Guide* in their entirety.

Richard Drucker is the publisher of *The Guide*, a diamond and colored stone pricing publication that is updated monthly. His company is Gemworld International, Inc., in Northbrook, Illinois.



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Christie Romero

Two Centuries of Jewelry

By Martin Fuller

Christie Romero, author and jewelry historian, was our guest speaker in July. Christie is an excellent speaker, well renown in our field as an expert in period jewelry, including silver from Taxco, Mexico and the arts and crafts periods in Europe and America. Those of us who have had the pleasure of "jewelry camp" at the University of Maine in Orono know that Christie Romero is an annually anticipated lecturer amongst the aficionados and glitterati of the jewelry industry, and on the 23rd, our group had her all to ourselves!

Christie spoke with animation and obvious scholarship as she described in words and with slides, how we could learn to determine the historical period of an item of jewelry, by the materials used, the fashion of the period, and methods of construction.

The periods covered included the Georgian, the three eras of the Victorian, the Edwardian, Arts & Crafts, Art Nouveau,

Art Deco, Retro and Art Moderne. Materials discussed included gemstones such as jet, garnet, coral, "lava" (actually a limestone of the Vesuvian region), pearls and diamonds, as well as metals of various periods such as gold alloys, platinum and silver, and the mixed metals of the arts & crafts period.



Every aspect of an item that might give a clue to its place in the jewelry time-line was the subject of this most interesting lecture and discussion. This evening was another excellent reason why you don't want to miss our meetings.

Autographed copies of Christie's authoritative new book on period jewelry were available for sale. The book is thoughtfully

arranged and contains a plethora of information as well as photographs, and is a must for every jeweler's library. Check with the GIA bookstore for a copy today!



IF HE DIDN'T HAVE BAD LUCK...

By Bill Wise, Editor

As I was sitting at my newly repaired computer the other day, bemoaning my bad luck and whining because the newsletter was so late, my wife came into the room and said "Oh, we got a letter from Sherri. Uh-oh, Danny's had some more bad luck..."

Last August my next door neighbor came home and told his family they were moving to Florida. "No, I don't want to move" said his eleven year old son, Danny. He was more easily persuaded when he found out that they were moving to Orlando. "Disneyworld, Shaq, ALL RIGHT!!" Shaquille O'Neal, his favorite basketball player, plays for the Orlando Magic. One morning in January, Sherri made Danny a piping hot bowl of oatmeal. He took one large bite, grimaced, and fell face forward into the bowl. His mother, 5 months pregnant, ran over and pulled him out of the oatmeal. Danny wasn't breathing and he didn't have a pulse. She immediately called 911. The paramedics arrived almost at once and after a few gut-wrenching moments were able to revive Danny. After an overnight stay at the hospital he came home the next day, good as new, except for a somewhat burned face. The oatmeal he ate was so hot that it stopped his heart.



On the last day of school in June, as Danny got off his school bus and walked around the front of it, he didn't see the car full of teen-agers who didn't stop for the flashing red lights of the school bus. Their front tire ran over Danny's foot breaking his leg and catapulting his head into the passenger side window, smashing

Warning: *The Following Story Contains NO Gemological Content*

it. His mother always said he had a hard head, and it's a good thing, too. A couple more day's in the hospital and a couple of months on crutches. "The first thing I want to do when I can walk again is go to Disneyworld," he said. His mother assured him that when his aunt came down in August they would go to Disneyworld and Universal Studios for the first time.

In July, Shaquille O'Neal signed a \$120 million dollar contract to play basketball in Los Angeles for the Lakers. Danny was crushed. Now he wouldn't get to see his favorite player hardly ever. He moped around the house for days and the only thing that seemed to console him was when his mother would remind him about going to Disneyworld in August.

Their front tire ran over Danny's foot breaking his leg and catapulting his head into the passenger side window, smashing it.

Finally the eve of the big week. Danny's aunt would arrive tomorrow. "Mom, I don't feel so good" he said. Sherri felt his head. It was hot. She gave him some Tylenol and put him to bed. He would be better tomorrow. After all what else could go wrong for this kid? The next morning he had some spots on his face and a 103° temperature. CHICKEN POX!! No Disneyworld, no Universal Studios. Sicker than a dog. The good news is, the chicken pox will clear up just in time for school to begin! Where did the summer go?

So the newsletter may have been a little late, and it seems like I'm behind in every aspect of my life but like my wife says "Don't tell Danny. He doesn't want to hear it."



NUGGETS FROM THE PAST



A peek at what was happening ten years ago.

By Lorin E. Atkinson

In May 1986 we were asked by the American Gemological Association to be their guests at a lecture give by Robert Crowningshield, then director of GIA New York. As it turned out this was the first introduction by Mr. Crowningshield of his Brazil twinning method of distinguishing synthetic from natural amethyst. It was an exciting meeting and we all came away with helpful information. Of course now the synthetic growers have learned how to duplicate Brazil twinning! This business changes very rapidly. In July the Chapter held its second (aren't we fortunate to have so many interesting meetings) meeting for the year with Richard Reuter, than President of the Cultured Pearl Association, and head of Leys Christie Co. of New York, as speaker. He showed a film on pearl growing, passed around many samples and fielded many questions. At this same meeting a report by the treasurer advised us that we currently had 34 paid members and a balance of \$1063.74 in the treasury. This compares to approximately 120 members and a treasury at least double that amount. Progress has been made.





Chapter Members At Recent (and not so recent) Meetings, Dinners, and Functions



DAG JOHNSON

No Bulldust!

The Amazing Stories Of One Of The World's Leading Authorities On Opal

By Martin Fuller

It was 1955 when Dag Johnson first had a banana stuck in his differential. It wasn't the last. It might have been appropriate to title this story, "A Funny Thing Happened On The Way To The Olympics", but he never did get there. Dag Johnson and Dag's dad, Dad Johnson, had no idea of the adventure they were embarking on when they hopped in the El Camino and headed into the great Australian mackerel sky sunset, passing through spots on the map known as Canberra, Wagga Wagga, Adelaide and Wallaroo, originally in search of Olympic gold, but ultimately captured by that siren called, "Opal".



Dag Johnson, opal expert, at the August Meeting.

It could happen to anybody, but it didn't. It happened to Dag (pronounced "dog" - Norsk for "day"). This is his story, and we were privy to it the night of August 6th, 1996. It was just another one of a dozen or so GIA Alumni meetings like we've come to expect, you know, the treasurer's report - "We're solvent!"; the newsletter status, "It's late again, but what's new - Martin's involved!". Michele introduces Mr. Dag Johnson, and the saga begins.

Dag doesn't look old enough to have experienced everything that follows, so even though his motto is "No Bulldust" (Use your imagination), don't lose your objectivity as you try to follow this desperate attempt to capture of his stream-of-consciousness presentation.

In 1955, while traversing the subcontinent on the way to the games, Dag caught a glimpse of glitter in the dirt and hasn't been the same since. Not genetically distant enough from the likes of Erickson and Amunsen, it's easy to see how it all happened. It was adventure. It ran in the family. His aunt was the first woman pilot in Northern Europe. Dag was a pilot himself. In an era of bootstraps and bailing wire he and his dad traveled the out-back, counting the ease or travail of their journey in the number of tires it took to get from one place to the next. When the two-tire rut roads threw rocks through the gas tank, he plugged the holes with bars of soap. Soap was hardly just for washing. And when the differential gearbox ran out of

oil, he'd stuff in a banana and they were on their way. 1955 was the era of the super highway here in the states, but not quite yet in Australia.

Abo's and Emu's and Red-Backs, Oh My!

Cooper Pedy became the goal, and the thought of seeing the 1956 Olympics faded. It was an eight-tire trip from Port Augusta to Coober Pedy, a town of about thirty people. Ma & Pa Brewster offered Dag a dug-out behind their shack, as a place to spend the night, and all he had to do was clear the Red-Back spiders (we call them black-widows) out of his bed. This can be done by burning tumble weed in your dug-out. No sweat.

When the differential gearbox ran out of oil, he'd stuff in a banana and they were on their way.

The next trick to a fortune in opal is to learn how to dig a hole. Twelve feet down and no hard hat. You learn how to throw dirt pretty far, pretty fast. Then you learn how to make hand winches to pull up five-gallon drum buckets of dirt, all in the heat of a veritable desert. Soon enough, you're out of money and making the week-and-a-half trip to Sydney

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to sell the bits of opal you did find, then back to work.

Dag soon figured that it was more economical to buy opal from the other miners so he would be able to make his trips to Sydney more cost effective. Finally, Dag saved enough money to buy an airplane, and he could now make the trip to Sydney in two days. It saved him lots of tires and bananas. Then Dag went to the U.S., and sold opal to George Manning. Together they came up with the idea of cutting opal in caliber sizes for jewelry manufacturers, and in three years, Coober Pedy went from thirty miners to nearly three thousand miners. Cutters were trained in Hong Kong to meet the new-found demand for opal. His business ventures expanded to the point where Dag was soon bringing opal into the States, and piloting airplanes back to his mates in Australia, flying from Adak, Alaska to Midway, to Fiji and home.

While all of this was occurring, Dag Johnson still found time to round up aborigines from the A-bomb testing



Dag give members the specifics on their opals

sites, and he never got "the bone" pointed at him (aboriginals believe that having the bone pointed at one was a death sentence). He gained favor with these natives by giving them gifts, including large bars of soap, which they in turn fed to their dogs. And we think someone shooting at us on 95 is strange.

opal by heating it and peeing on it, or by dynamiting for opal, whichever you choose.

The evening was topped with a table of samples for all to see, touch, and learn about from a master of forty years in the field, Dag "Juncas" Johnson. Mr. Johnson - Thank you!



Dag Johnson showing some of his opals

Before we saw the 1969 film by the Australian government on the story of opal, starring none other than our hero, Dag debunked another myth, that opal was treated to improve color by urinating on it. You can however, craze your



Dag regales the author with more fascinating tales.

The Critical Angle

By Martin Fuller

Sweaty Emeralds. I don't recall reading about them in the literature, and I've only noticed three amongst the hundreds I've observed, so I'm asking - Have you seen sweaty emeralds? Like you and me, they sweat when the heat is on. Those of you with new fangled, cool fiber optic darkfield microscopes may not have the privilege of seeing a sweaty emerald, as it does seem to require a few minutes in the well of an older, bayonet bulb type darkfield scope. Keep your eye on a hairline fissure breaking the surface, with the stone canted to reflect just enough to highlight the fissure. Turn on the bulb and wait, two, maybe four minutes. It doesn't take long if it's going to happen at all. The beads of "sweat" appear, very tiny, then growing second by second. I

wouldn't suggest doing it for a very long time, or over and over to impress your friends. I have only observed it in emeralds which do not exhibit traditional oil fluorescence in long wave, but they do exhibit a very faint orangish sheen in the fissure within the stone (not at the surface). I have a suspicion this is an opticon-like material, but I am curious to know what others have seen. Please send a note to the editor if you have seen this phenomena, or anything similar for that matter. Keep it gemological please. UFO's and out-of-the body experiences will be the subject of another column.

- Martin

Mark Your Calendar!

August 18-21, 1996 - NAJA Annual East Coast Educational Seminar at Orlando, Florida. Call (301)261-8270 for more information.

September 7 & 8, 1996 - Maryland, Delaware, & Washington DC Jewelers Association, Ellicott City, Maryland Call (410)269-1440 for more information. Fax: (410)269-0325.

September 12, 1996 - Skinner Fine Jewelry Auction, Boston, Mass. Call (508)779-6241 for details.

September 17, 1996 - Shirley Beck on Montana Sapphires. 7:00 PM at the Holiday Inn, Rosslyn, VA.

January 25, 28, 1997 - JA International Jewelry Show. Jacob Javits Convention Center, New York, NY. Call (800)829-3976. Fax: (201)346-1571.

The District of Gemology

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TO:

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