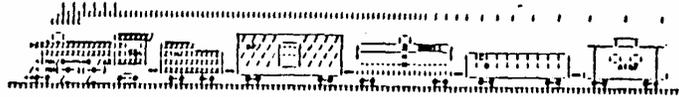




The OPAL EXPRESS

Published monthly by the American Opal Society...



VOLUME 21
NUMBER 7
JULY 1989

JEWETT PATTEE, EDITOR

As the American Opal Society heads into its 22nd year, I thought you would like a look back at the past. The following article was included in the April 1978 newsletter. The author was Vic Mayo, longtime Board member and former editor. The presentation was made at a general membership meeting by Dr. Don Hudson, a former member.

Happy Anniversary, American Opal Society, Inc.!!!!!!!

March Meeting:

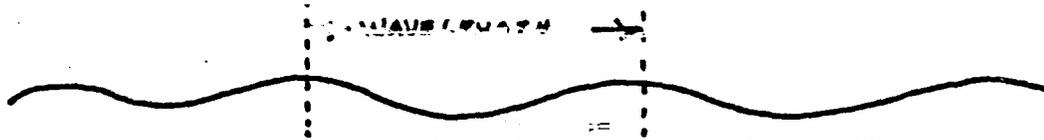
Dr. Don Hudson mesmerized the March meeting with his famous presentation of "Where the Color Comes From". It is always hard for us to remember that opal is really colorless and that it is really the way the tiny silica balls bend and reflect the light, which produces the color we so dearly love in our favorite stone. Don showed us again how this occurs.

He greatly simplified his presentation by limiting the technical description of light waves, and how they react when encountering opal, to the very basics.

*Briefly, the process is described as follows:
Light reaches our eyes in the form of waves.*



The color of the light is determined by the wavelength or the distance between peaks of the waves.



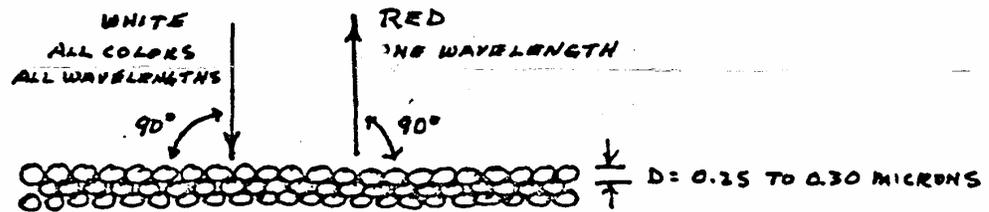
The following table describes the colors to be noted at different wavelengths of light. The wavelengths are expressed in microns (1 micron = one millionth of a meter). White is a combination of all wavelengths, or all colors.

<u>Color</u>	<u>Wavelength</u>
Red.....	.65 to .70 microns
Orange.....	.60 to .65 microns
Yellow.....	.55 to .60 microns
Green.....	.50 to .55 microns
Blue.....	.45 to .50 microns
Violet.....	.40 to .45 microns

Whenever white light containing all wavelengths (from an incandescent bulb, or the sun, for instance) strikes opal, which has silica balls of all diameters and of no regular pattern, the light we see is basically white, or that of typical opal patch.



However, if the white light strikes opal which has uniformly aligned rows of silica balls of 0.25 to 0.30 microns in diameter, the light reflected back to the eye, at 90 degrees from the opal surface, will be red, even though the opal is basically colorless.



The colors to be seen from different diameters of silica balls will be as follows:

When D is very big, 0.30 micron Color will be very deep red

When D is big, 0.25 microns Color will be red

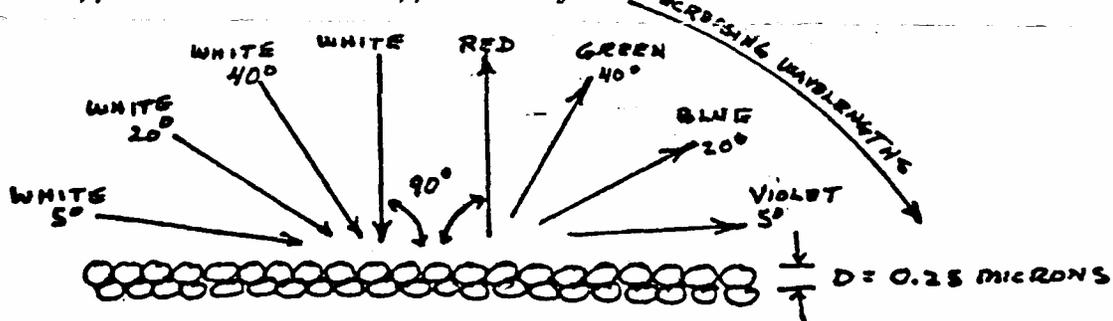
When D is medium, 0.20 microns Color will be green

When D is small, 0.16 microns Color will be violet

Anything smaller than these will be in the ultraviolet range and will be invisible to the eye.

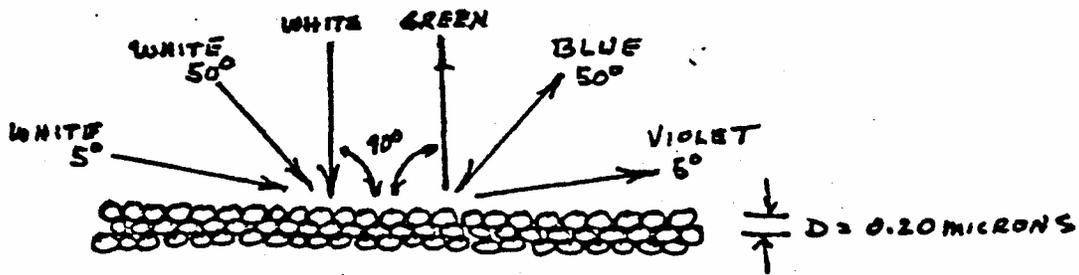
Interestingly, when the light enters the opal and is viewed at different angles, another effect is noticed. The light through the same diameter silica balls will be seen as different colors at different angles.

as different colors at different angles.

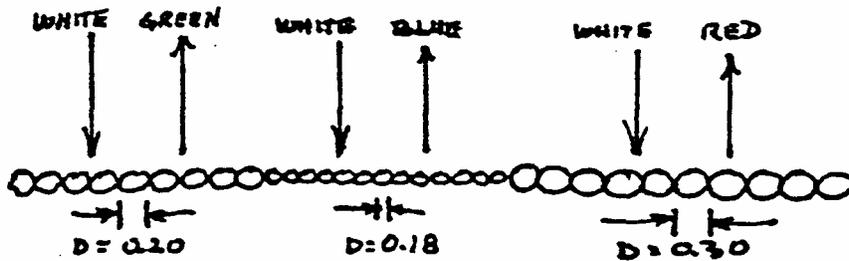


In order to demonstrate the above, Don used an opal triplet which had a fantastic rolling red flash when viewed head-on, with the light source between eye and the opal and pointed toward the opal. He then adjusted the angles incidences as shown above and the colors were seen to change as shown by the illustration. The diameter of silica balls preferred by American tastes is about 0.40 microns, which will provide the full range of colors, including deep reds. The deep reds seem to turn us on.

Other opal, having silica balls of 0.2 microns will not have any reds. Its spectrum of color will be as follows:



Another way for the colors to vary across the surface of a stone will be as follows, assuming all light enters at 90 degrees and exits at 90 degrees. This makes for the most exciting display, as there are many changes of color as the stone is rolled and tilted.



Images In Stone will be opened for business

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LETTER FROM THE PREZ!

Hi Mates, it's good to be back stateside. It is always fun to visit Australia but once a Yank, always a Yank.

Before leaving, I mentioned the rain of 7" in 10 hours that lead to - heavy flooding last April to a few people I know and at the Founding Chapter. After seeing Coober Pedy, high and dry in Nov. of '88, it was strange to see the desert in bloom in Mid-May with vegetation the Locals hadn't seen in years.

Gary Sturdevant, a member of A.O.S., I dropped off in Coober Pedy for his 6 month stay, wrote that it is still raining at this time.

There isn't a lot of Opal coming out of the ground at the moment, although I was shown Opal by a few miners that were on fair to good patches. So there'll always be some Opal in the "Pipeline".

Luky Olah has set me up to sell rough and finished stones for him State-side. Rough can be had for practice polishing at \$3.00 an ounce to great Crystal for \$150.00 - \$3,000.00 an ounce. Finished stones at \$15.00 a carat to what's on hand. You have to order rough 4 - 6 weeks in advance for me to order and get State-side, all from safe fields.

My stint in Lightning Ridge was both rewarding and exciting. I saw my partner who cuts Opal on the Ridge, and we went out to the Sheep Yards to buy some rough.

We saw the Bush Nurse whose husband is a miner, and they are just now closing their bedroom and living room. Swat the mosquitoes and flies at the kitchen table this year, maybe next year they'll getting around to enclosing that too. Saw some expensive rough, didn't buy though.

Went down track to see some more fellows, and saw the biggest surprise of my life. Not black nobbies, but sheet Opal like at Coober Pedy and White Cliffs. Five inch thick, 6" x 12", odd shapes of all sizes, Black-black, Black Potch and some color. He's keeping it all, both for specimens and backing for Doublets. There's a lot of bar color coming out of the Sheep Yards, like some Mintabie, and it makes some interesting Stones. Most is stable, but some cracky can be found. That is new Opal still forming arid lots of water content.

The tracks were wet, the people great, but they asked me not to do another "rain-dance" for 2 years, and bloody well stay home so they can mine, not swim in their claims. More later.

Ta Da,

The Prez

Want to hear more and learn a lot about Opal mining?

Come to "THE OPAL SHOW in November and attend the Seminar conducted by Dick Koch on, "Opal Mining in Australia". He brought back a lot of information as well as pictures his last trip, it should be very informative.

Hope to see you there.

+++++ IN MEMORIAM +++++

We recently received word that Jack Bieniek passed away May 31st. Those of you who have been in the Society and Founding Chapter for awhile remember Jack and his wife Catherine for their outstanding service helping to set up the annual show...Our sympathy to Catherine and the family.

+++++

A call from John Hall, longtime member and former Director of the Society. He and Evelyn are finally making their move and will be settling into the new home in Rubioso, New Mexico about the middle of the month. Good luck to you both!!!!!!

#####

For those of you who do not subscribe to the LAPIDARY JOURNAL, get to your nearest rock shop as soon as possible!!!
The June issue is chuck full of articles about our favorite stone. Too many to mention but you won't want to miss it!!!

Also, in GEMS AND GEMOLOGY, a very informative article about the new imitation opal being manufactured in Japan. This opal is being marketed under the name of opalite and displays a true play of color. When mounted in jewelry it is very difficult to detect without gemological instruments. The article is very informative and gives the various tests that can be used to identify.

As we told you a couple of months ago, GEMS AND GEMOLOGY is published by G.I.A., and copies can be obtained writing, G.I.A., 1660 Stewart St., Santa Monica, CA 90406.

#####

At the Board of Directors' meeting it was announced that Hal Brees had resigned and Joyce Funk was appointed to fill out his term.

#####

SHOW NEWS!!!

The American Opal Society will again offer seminars at its annual show in November.

This year there will be a series of separate seminars, each with its own topic, so that attendees can attend any session or all six of them.

Each seminar will cost \$10.00; if all six are taken the total price will be \$50.00 and will include Sunday's admission.

Saturday's seminars are:

1. 10:30 am. Elements of Jewelry Design--by Noel. Lamkin, Award Winning Jewelry Designer.
2. 1:00 pm. Opal Mining in Australia--by Dick Koch, President of American Opal Society, Inc.
3. 3:00 pm. Purchasing Opal Rough and Cut Stones--by Tim Thomas, Opal Dealer.

Sunday's Seminars are:

4. 10:30 am. Types of opal and Famous Opal--by Jewett Pattee, Former President of A.O.S.
5. 12:00 noon Orienting Opal for Color--by Brian Franks, Opal Dealer.
6. Evaluating and Pricing Cut Opals--by Education Committee of American Opal Society.

There is an application for the seminars on the back cover of this OPAL EXPRESS. Just tear it~ off and send it in.

NOTICE!!!!!!

A notice to the readers of this newsletter. I will be resigning as editor the last day of this year. If there is anyone who feels the urge to run a mighty tabloid, influence the future of the opal and gem world, speak up!!!!!!

Don't bother to send in your resume, just send me a note saying, Yes, I want to be a big shot in the Opal newspaper business and I will use all my mighty influence to get you appointed to this position of awesome Influence.

MORE PLESIOSAUR

By Mary Addyman

South Australia

Our Plesiosaur had created a lot of interest, locally and overseas; and we began to wonder if it were possible that we had missed any bones in our underground tunnels. After some thought, we realized that there was one small area that we hadn't excavated properly. Could there be part of the skeleton, and maybe the skull, still hidden in that particular spot?

My husband admitted that there could be some bones still awaiting excavation, but he didn't think it would be worthwhile spending another winter looking for them. Two periods, of five months each, at the opal fields (and no opal sold) had sadly diminished our savings; and we didn't want to see these savings disappear completely.

The thought of the skull of the Plesiosaur being still in the ground and, worse still, the thought of someone else finding it, haunted me. So John agreed to return to Andamooka on his own and dig for a week. If there was anything there, he would surely find it in that time.

John went back to Andamooka, taking 25 gallons of water for a week's drinking and washing, and he lived in a shed belonging to friends. He dug solidly for 6½ days and found nothing. With the utility fueled and packed, ready for an early departure the next day, he began the final afternoon's work, rather sadly because he realized that this would probably be the last bit of opal digging he would do for a year or two.

But luck was with us. John gouged out a large piece of "level" and saw the unmistakable outline of another vertebra. A light blow with the hammer and there was opal, beautiful crystal opal, the best in the skeleton.

He hurried back to Port Lincoln, and we soon made arrangements with our bank to help us over the next few financially difficult months. Then, towing the caravan, we headed back to the opal fields with our seven-weeks-old daughter blissfully ignorant of the rough trip ahead.

The shortage of water in Andamooka was our first ~problem, but we bought a 400-gallon tank and the Andamooka Progress Association tanker filled it with rainwater. This water had fallen on the roof of the A.P.A. Hall, and it cost us \$8.00. Then two inches of rain fell, the creeks ran, and all the water holes were filled. Lucky again.

Our extensive tunneling had made further underground work hazardous so we hired a bulldozer to remove 14 feet of overburden from our bone yard. The contractor charged \$77.00, but we soon found a small collection of bones, half a bucketful!, including a large flipper hone weighing 4½ pounds. These bones held very little precious opal, but the large bone made an impressive addition to our collection. It was twice as big as any other we had found.

We carefully worked the open cut but found no more bones or opal. We needed to find some saleable opal now to enable us to buy some essentials and also to keep the bank manager happy. We could cut up the beautiful vertebra and probably sell the opal for \$1,000, but we knew that, as a specimen, it would be worth more than that.

While working in the open cut, we had noticed some promising color running across the claim. So now we went back to the spot and followed the color into the side wall of the open cut. We were breaking the safety rules, but we couldn't afford another open cut. We dug for a few days and then, like all opal "runs," the color stopped. John dug for a few more feet, found no more signs, gave up in disgust, and went off to dig in another place. But the old spot was an easy place to work in, involving no ladder climbing, so I persevered, using any odd tools that I could lay my hands on.

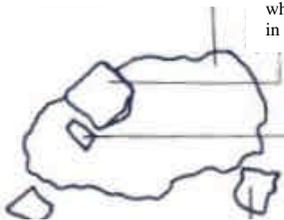
One day the pick went "clink," and the flash of opal could be seen amongst the dirt. Not much of it (a shell actually), but it was the sign we were looking for. John immediately moved his gear back again, and we were soon digging out shells and matrix of good quality. You can dig up hundreds of matrix of all shapes, sizes, and qualities, and then one day you may find one that contains precious opal. The good one we found looked unpromising from the exterior, but a tap with the hammer revealed its true worth. Again, the size wasn't much, but the opal was sold within 24 hours at \$500 an ounce.

We had been lucky again. Now we could go south for the summer, work and save up for another winter's dig at Andamooka. Next time we might find the skull of our old friend, the Plesiosaur.

LAPIDARY JOURNAL, January 1972, page 1368

A big lump of "concrete" makes a good base for the specimen.

A vertebra the size of a tennis bat which shows signs of being good opal in two places



A small piece of rib bone of good crystal opal and we hoped the vertebra near by would be of similar quality. This whole piece shows that the bones were scattered and not found in any order.

This small vertebra is the best shaped bone we have but does not contain very much good opal.

The large flipper bone mentioned in the story. It is whiter than the other bones because the South Australian museum took a cast of it. Fortunately it does not contain as much precious opal as the other piece.



Another small vertebra flatter than the others, it is mentioned in the accompanying story and contains beautiful opal.



This is the opalized bone that was found in 1968.



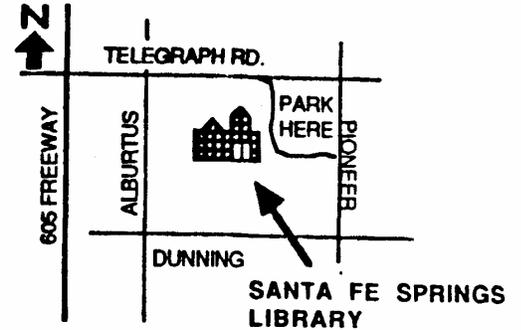
The digging in 1969 produced these pieces of opalized

!!!! NEWS FROM THE FOUNDING CHAPTER !!!!

June 1989

American Opal Society
Founding Chapter
P.O. Box 3895
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General Meetings held on the 2nd Thursday at 7:30 PM in the
Santa Fe Springs Library, 11700 Telegraph Rd., Santa Fe Springs. SANTA FE SPRINGS
See Map. LIBRARY

From the Prez!

To whom it may concern! Be it known that your Founding Chapter has a new Board Member; John Sweeden a fairly new member was voted onto the Board by a Run-A Way Train, and that is what is known as being Rail Roaded. We, the Board members and all of the Chapter owe our good and very talented friend Cliff Cohen a huge THANK-YOU!! Cliff took our new saw, donated an expensive motor, then took his time to cut a board and mounted the whole thing, putting it. into operation for the work shop.

You don't get friends like this very often! THANKS A MILLION, CLIFF! We are in full swing in the work shop now, so remember, START CUTTING your stone of the month.

Our General Meeting for July is on the 13th, at 7:30.

We hope everyone makes a point to come out and bring a couple friends each. Because July is bL4GO MONTH!!! We're planning on having a lot of fun!

Don't forget everybody, to bring a gift or-donation for the Bingo Prizes. They don't have to be fancy, just any ol' thing you have laying around the house that can be used a prize.

Last month our World Traveler Dick Koch, filled us in on his most resent trip to Australia. Thank-You Dick! It was most interesting!

Mr. Todd Schawalter was also present, from the Orange County Fair. He informed us all that the fair starts July 12 thru the 23, and if anyone was interested in being a Host or Hostess for a few hours to help patrol the Gems and Minerals exhibits. This participation allows you into the fair, and with parking; FREE. Hours to choose from are 10-1, 1-4, and 4-7.

Mail your choices to Todd Schawalter, 88 Fair Drive, Costa Mesa; CA 92626.
Hope to see you all on the 13th, or at the Fair!

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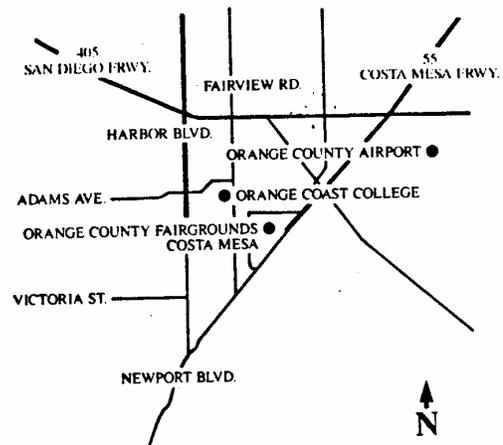


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