Journal of
THE MICROSCOPICAL SOCIETY OF SOUTHERN CALIFORNIA
Volume 8 Number 6 November/December 2003

WORKSHOP OF THE MICROSCOPICAL SOCIETY OF SOUTHERN CALIFORNIA

recorded by Herb Gold and written by Jim Solliday

Date: Saturday, 1st November 2003
Location: Izzy Lieberman's Residence

The workshop began at 9:10 a.m. and was called to order by the Vice President, Stuart Warter. Due to all the fires throughout Southern California, our President; Jim Solliday was unable to attend. For the record, Jim works for the Costa Mesa Fire Department. The meeting was held indoors at Izzy's house with 15 members present. Our long-time member and friend Jim Clark was also not present as the ongoing fires were affecting him as well. We received word that 20 homes in his immediate neighborhood were destroyed. We have been assured that Jim is ok but overwhelmed by the difficulties experienced by his neighbors.

Alan deHaas and Stuart Warter talked to the group about the impact of the bark beetle infestation and the problems it causes in helping to spread the fires. It was revealed that there are over 20 species of bark beetles in the local mountains, two of which are predominant - the Ips beetle and the Western Bark Beetles. Long periods of drought weaken the trees, allowing the beetles access without the usual reaction it would get from a healthy tree. It was pointed out that both beetles and fires are natural, but out of balance because of pollution, drought, and fire prevention. Stuart explained why we need natural burning in the forests.

Announcements were made including a reminder that the up coming Exhibition Meeting would be held on the third Wednesday of this month. Members were encouraged to prepare for the meeting so they could bring in an exhibit that would represent their interests. Both Ken Gregory and Stuart Warter suggested that this year we eliminate the prize for the "Best Exhibit" as it seemed somewhat counter productive. The consensus of the assembly was to indeed eliminate the traditional prizes.

Exhibits and Discussions:

Herb Gold exhibited a beautiful Reichert traveling microscope, which came stored in a cloth lined magazine case. According to the Reichert Catalogue this microscope was known as the Portable Folding Stand TC (ca.1927). This instrument has every feature the normal larger Reichert laboratory stand would have. In fact it is very similar in size and shape to the Reichert Stand "C", which was intended for infirmaries and medical practitioners. Herb's portable includes features such as the ability to be inclined through 90 degrees, coarse adjustment by rack and pinion and fine adjustment by micrometer screw. The fine movement is designed to prevent damage to either objective or preparation and seems to be the same as that found on the larger stand. The square stage is 4½ inches wide and is made of acid proof vulcanite. The substage consists of an Abbe condenser having a spiral screw for raising and lowering. The condenser can be swung to the side after it has been completely lowered. It features the usual iris diaphragm and a double-sided mirror. The optics includes three objectives and two eyepieces. The case measures 10¾ x 7¼ x 3¼ inches and when holding all its accessories has a weight of about 10 pounds. The German catalogue from 1908 referred to this microscope as the *Neues Stativ A*

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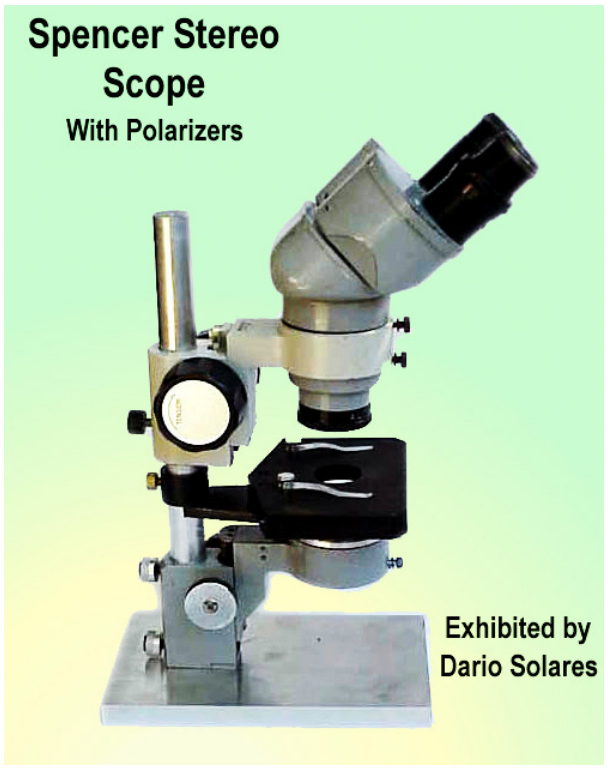
IV, Reisemikroskop. The separate printed price list was missing.

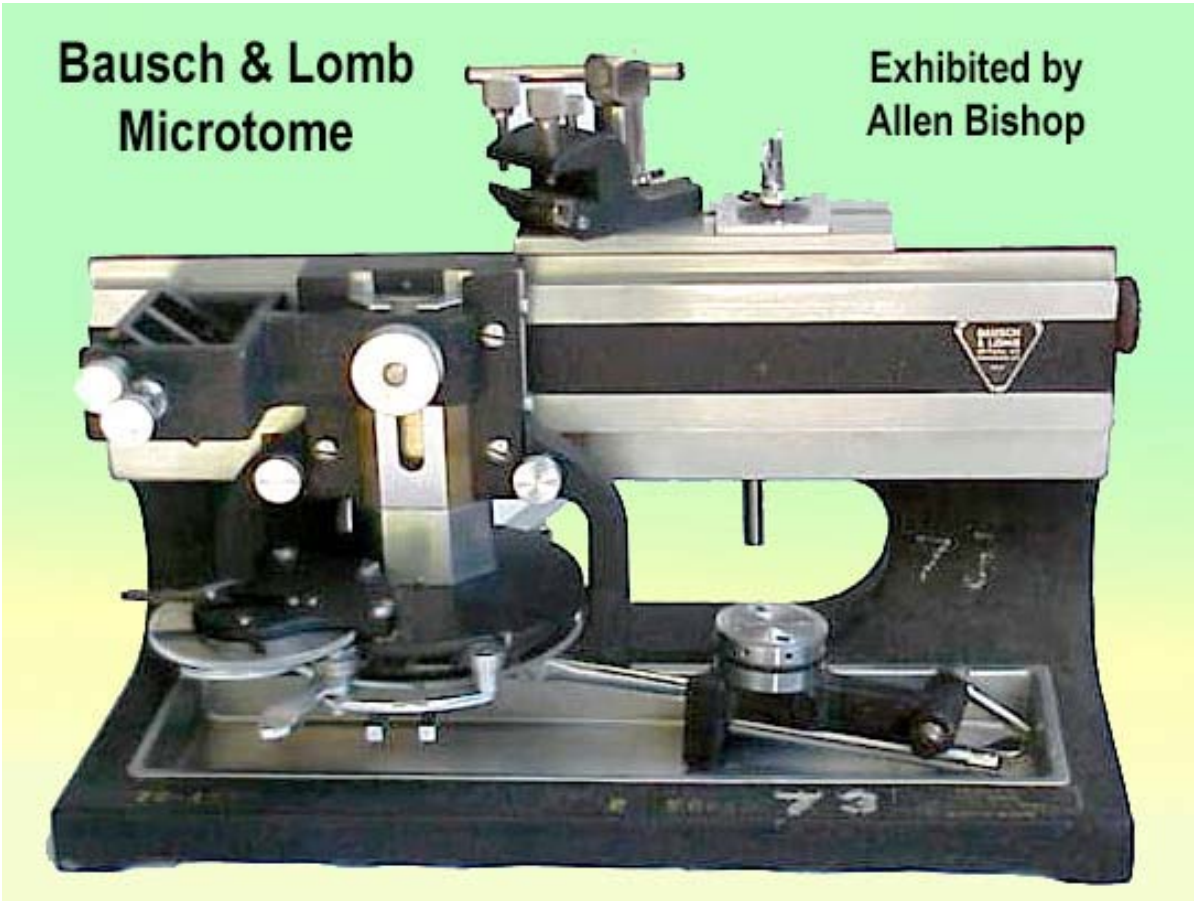
Dario Solares exhibited a very interesting stereomicroscope that he assembled from an assortment of parts. The binocular body was a Nikon and the entire outfit required reassembly for either transmitted or reflected light. The stage featured clips that would conveniently permit the observation of normal prepared slides. Dario also included a substage bracket that would act as a holder for an optical condenser. He also manufactured the base and pillar out of parts of his own choosing. Alan deHaas provided the group with an optical analysis.

Allen Bishop exhibited a 1930's Zeiss polarization kit, which could be used to convert a standard microscope to a polarizing stand. He also exhibited a very rare early Zeiss capillary rotator that was said to be 20th Century. This kit included small glass capillary tubes, which were used in the study of blood and pollen. Allen also showed a very rare Zeiss slide rule that could be used to determine image magnification and bellows "draw" with various combinations of oculars and objectives. It was also used for exposure calculations. He stated that this item was from the Max Erb collection. Finally, he exhibited a rare Zeiss 6x achromatic objective that belonged to Jim Solliday.

Allen also exhibited and offered for sale a large Bausch & Lomb microtome with its proper blade and storage case. This is a sledge type microtome and very useful in cutting difficult specimens. These instruments are now very hard to find and of great value if you intend to practice any form of histology or section cutting. In particular they are essential for cutting wood or bone. See illustration for a better understanding of its overall configuration.




Exhibited by Allen Bishop
ca.1930's
Capillary Rotator
Polarizing Kit
Zeiss photo
micrographic
slide rule


Bausch & Lomb
Microtome
Exhibited by
Allen Bishop

Fred Kahn exhibited a beautiful anatomical atlas, which was an edition of the same publication that John deHaas used in medical school. This was a three-volume set by Sobotta of the *Atlas der deskriptiven Anatomie des menschen* (1920). The plates were fabulous and admired by all in the group.

Sid Schiff, our newest member, exhibited a very nice stage-mounted Leitz darkfield apparatus. It came with two stage clips and was stored in a red velvet lined case. A lever that extended from the side of the stage plate was used to focus the darkfield stop. Sid also exhibited a rotating compensator. This device allows selection of the amount of retardation of light for the examination of minerals. It was said to have been made by Winkel of Germany. Finally, he set out a copy of Lionel Beale's *Microscope in Clinical Medicine* (1854). This book is not as common as Beale's *How to Work with the Microscope*. Beale was a well-known 19th Century physician and microscopist who developed and made popular a number of useful staining techniques.

Dave Hirsch exhibited an unusual apparatus that he assembled himself. It began with a used AO Colmascope, which was normally used by opticians to detect strain in lenses. Dave combined the AO Colmascope with a Spencer shop microscope. This ended up being a "stone age" polarizing microscope with a magnification of 40x with a one-inch working distance. Leave it to Dave to make lemonade out of two old lemons. Please see the illustration for a better understanding of the configuration of this instrument.

Exhibited by. Sid Schiff

Izzy Lieberman exhibited a copy of "American Photo Magazine" and then continued on a topic that he had introduced last month. We

learned that Epson now has a printer with individual color cartridges. This tends to be a more economic system, as only the colors that run out need replacing.

Pete Teti exhibited a very substantial microscope that was made by Otto Himmler in Berlin. This particular example was described as Himmler's Model 26 and was made in the first quarter of the 20th Century (ca.1925). The four objectives were replacements and were said to be from the 1930's. The over all condition was quite good with the lacquer and paint remaining in nice shape. Himmler was a well-established maker of the Continental pattern, beginning his business in the late 1870's. Before starting his own firm he worked for the Seibert Brothers and was even one of the early workers for Gundlach when the latter was in control of the business. Himmler won awards for excellence beginning in Berlin in 1880, then in Bruxelles in 1888 and again in Berlin (1890) and finally in Paris in 1900. In 1883 he was located at Berlin, S.W. Simeonstrasse No.27.

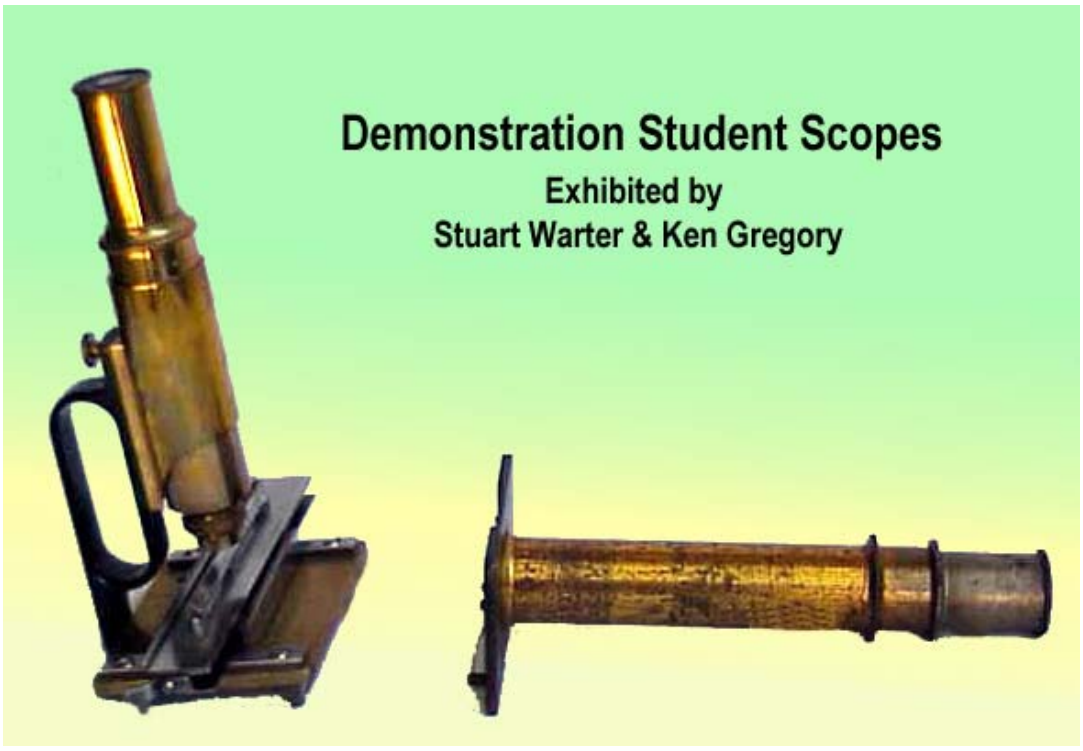
Reino Mascarino brought to our attention that he was having a problem with a Zeiss 32x objective. After examination, Alan deHaas cleaned it with a small piece of wood. This method is often useful when attempting to remove dried oil or balsam from the surface. Alan then discussed with the group general methods of cleaning lenses. Reino informed the fellowship that the Madrona Marsh has completely dried up. He is now dropping his collecting net into the Lincoln Park Reservoir located in Boyle Heights. We look forward to hearing more about the results of his efforts.

Alan deHaas exhibited a copy of the Royal Microscopical Societies (RMS) 100th Anniversary Catalogue. He also set on the table a large tray of microscope objectives that were available for sale. The objectives are contemporary modern (1960-1990s) and sold at a very good price. Members are invited to contact Alan if they have an interest in upgrading their optics.

Ken Miller revealed to the group that he is now 51 years old; congratulations were offered. He felt that the Society could use an influx of "new blood" and suggested that we could request the L. A. Times to publish an article describing the history and activities of our Society. This would provide our group with a lot of positive publicity. A discussion followed, in which it was decided to request a Board meeting to consider the feasibility of the idea.

Ken Gregory exhibited a series of demonstration microscopes that were normally used for teaching. Among the makers on the table were examples by Spencer, Bausch & Lomb and Leitz. These microscopes are very convenient when there is only one instrument available for a group of students. The scope can simply be passed around and held up to the light coming through the window. The slide need never be touched and the focus can be preset.

Stuart Warter informed the group that Dr. Oliver Wendell Holmes introduced the demonstration microscope design in America. Stuart also brought in a number of demonstration scopes of his own. He provided two versions of Bausch & Lomb's Model O demonstration microscope, including an example of a "D" handled scope that was modified for the inspection of microtome blades. A discussion then followed on the origin and evolution of this type of microscope. □



MSSC Monthly Meeting

Wednesday 19st November 2003
at New Roads School
reported by Leonie Fedel

This meeting was the annual Exhibition Meeting of the Society. Many members bought along exhibits to share.

Jim Clark presented an original Scientific American article he found entitled, "Writing for the Microscope," along with a McEwan slide and accompanying documentation. In future he hoped to make a model of the pantograph described in the article.

Izzy Lieberman exhibited an inkjet print head, taken apart so the piezoelectric system of the head could be seen in detail.

Sid Schiff gave a very useful introduction to identifying silver marks on antiques. He had several specimens on display to explain the various identification system(s).

Alan deHaas showed some toilet tissue magnified under a 10x objective. He explained that the resultion appears greater than would normally be expected from a 10x objective due to the high clarity of light from his illumination source - made from 25 white LEDs, running at less than one watt. LEDs also have a longer lifetime than most microscope bulbs, 10,000 hours compared with 75 hours respectively. Alan has built the illumination source for only $6.

John deHaas and John Fedel together showed off an image of a $20 note taken using a Sony Video Camera, and a high resolution adapter borrowed from Jim Solliday.

Jim Solliday displayed two microscopes, one an American Optics microscope using Zernike phase contrast, the other with Anoptral phase contrast. Jim explained that the main difference between the two phase types, was the size and the color of the phase rings.

Dave Hirsch exhibited a toolmaker's microscope combined with a polariscope and used these to display a slide of crystals.

Roy Welsbie displayed a Barnett methodological objective.

Stuart Warter exhibited a display of fraudulent items he found on eBay. Stuart explained how eBay can be a minefield for the uninitiated with people representing items they don't own, stolen goods, microscopes made from bad combinations; "marriages" of mismatched parts or which have been fraudently rebranded.

Ken Gregory exhibited various types of inks under the microscope. First he showed how carbonless paper works by the pressure of the pen breaking capsules which contain acid clay ink. He showed how toner from a printer cartridge contains microencapsulated carbon particles that react to heat. His last item was of cold-press glass which is coated with adhesive - the pressure breaks the glass and releases the ink.

Reino Mascarino showed an identification slide of rotifer mastics he acquired during a recent trip to Florida where he visited Chico Taylor, an 86-year old expert in microscopy and rotifers.

John Field exhibited several items: 1) a camera lucida set up using a simple microscope, 2) a Tiyoda microscope with a Santa Claus Christmas slide, and 3) hummingbird feathers showing the interference colors. □

WORKSHOP OF THE MICROSCOPICAL SOCIETY OF SOUTHERN CALIFORNIA

recorded by Herb Gold and written by Jim Solliday

Date: Saturday, 6th December 2003
Location: Ken Gregory's Residence

The workshop began at 9:15am at Ken Gregory's home with 15 members present. This month with the weather a bit threatening, the group gathered indoors where we had plenty of room and great ambiance. By the courtesy of our host there was on hand plenty of refreshments including doughnuts and coffee. The desk in the living room was covered with exhibits including a few items that were available for sale. The President was very pleased with the number and quality of microscopes and accessories available for discussion. Announcements were made including a reminder that our annual Christmas Banquet was to be held on the 14th of the month. Members were instructed to send in their reservations to Pete Teti by the 7th allowing us time to inform the restaurant of the number of people that would be attending. The banquet was to be held at the Hollywood Hills Restaurant in the City of Los Angeles. Pete described to the group the arrangements that were made to accommodate parking for our members. Jim Solliday described the program that was ready to be presented at the Banquet. This would be the third in a series of shows featuring the magnificent photomicrography of our past member, John Chesluk. The images are composed mostly of chemical crystals, which are saturated with intense colors, something that seems just right for a Christmas show. Jim has matched the images to music and utilizes two

slide projectors and a dissolve unit. Members were encouraged to not only bring the family but to invite a friend.

Other announcements included the news that our good friend Dan Kile has finally published his book on the polarizing microscope. Those in the group who had already seen the publication were very pleased and had great praise for the work that was now available. Jim stated that he would send out by email the information needed to place an order. The following should be helpful if the reader has an interest in the above. Dan's book is entitled *The Petrographic Microscope: Evolution of a Mineralogical Research Instrument*, by Daniel E. Kile (2003). This is Special Publication No.1 and a Supplement to The Mineralogical Record, Tucson, AZ. The price is $20.00 and can be obtained from two convenient sources: The Mineralogical Record Inc. P.O. Box 35565, Tucson, Arizona 85740, (520) 297-6709, minrec@aol.com . It can also be obtained locally for the same price from Rick Blankenhorn, The Gemmary, P.O. Box 2560, Fallbrook, CA 92088, (760) 728-3321, rcb@gemmary.com . The group was reminded that Dan Kile was also the editor and treasurer of the *Microscope Historical Society*. For anyone interested in becoming a member of that organization there were membership applications on the table. The tri-annual Journal, which he produces on behalf of this Society, is of great value to individuals interested in the history and use of the Microscope.

For those in the group who are interested in the history of the simple microscope, Jim passed around a flyer sent out by Giordano of Massachusetts who has published a large collection of prints illustrating his very rare collection. If you are interested the following will provide information needed to investigate. Offered are, *Instruments from the Antiquarian Scientist Collection of Historical Simple Microscopes (1680-1880).* Color Photographs – semi gloss in two specially printed portfolios with descriptive text. Portfolio I, 1680-1750 (14 photographs) and Portfolio II, 1750-1880 (14 photographs). You can order from: The Antiquarian Scientist, P.O. Box 448, Southampton, MA 01073, (413) 529-2731, antiqsci@comcast.net.

Finally Pete Teti talked to the group about the progress associated with our own Journal. He passed out fresh copies of our March and April 2003 editions. The members were reminded that there would be no meeting this month on the third Wednesday, as we would instead be gathering at the Christmas Banquet.

Exhibits and Discussions:

Sid Schiff exhibited an R. Winkel Stand "U" Student Polarizing Microscope, ca 1925. The microscope was stamped with the serial number 24066 and came with several original objectives.

Allen Bishop described to the group Sid's Stand U. This instrument was built on the Winkel Universal Laboratory Microscope and was manufactured in ca.1925. The overall appearance is of a

black and chrome finish and appeared to be in unusually good condition. The Winkel Catalogue describes the microscope as being for *"general scientific investigation of microscopic structure and for the study of phenomena in natural and polarized light. The microscope is accordingly available for the requirements of botanical, zoological, micro-chemical, mineralogical, petrographical and pharmaceutical investigations."* Both Allen and John deHaas contributed towards the cleaning and refurbishment of Sid's scope.

While covering a wide range of uses, it is comparatively simple in construction, whereby the price was kept within the lowest practicable limits. It is inclinable and has a foot with a long steadying heel, an illumination apparatus, a mirror with lateral movements, revolving stage divided into 360 degrees and reading to 0.1 degree by a vernier. The instrument is provided with a rack and pinion coarse adjustment, and the fine adjustment is furnished by a simple but unfailing micrometer screw. The tube is provided with a draw-tube and carries a clutch device for the rapid attachment and interchange of the objectives. For use with this clutch the objectives require the use of a fitted conical collar.

The polarizer takes the form of a Nicol prism having a cross section of 10mm. square. The polarizer sleeve is capable of rotation within its mount and is automatically arrested in eight positions by a spring catch and notches. The condenser is of the two-lens type and has a numerical aperture of 1.2. Together with the polarizer it can be displaced in height by a helix and swung out. The polarizer sleeve may be withdrawn downwards from its sliding sleeve when it is not required for use. The polarizer nicol is enclosed between glass discs fitted to either end of its mount, whereby the delicate end surfaces of the calcite prism are protected from dust and damage. After the removal of the polarizer the same condenser is available for illumination by ordinary light. The iris-diaphragm with its regulating pin will then retain its working position. The upper principal focus of the condenser is sufficiently far above it to admit of the use of ordinary commercial object slides. Its comparatively high numerical aperture renders it well adapted for use with water and oil-immersion lenses well-nigh up to the practical limit of their capacity.

The non-rotating analyzer is provided with a correction lens and is mounted in a slide-box, by means of which it may be inserted immediately above the objective in the path of the rays. If desired, a Bertrand lens may be supplied with the analyzer for viewing magnified interference images in convergent light; it is mounted in a slide, for insertion above the analyzer in the usual way. A slit with shutter located below the analyzer serves for the reception of quartz wedges as well as selenite and mica plates.

The eyepiece draw-tube is graduated in millimeters. Being free to rotate, it is rendered available for determining extinction directions by having a mark engraved at the back of the sliding sleeve and a vertical index line on the tube itself. When the latter is set to the mark the cross-lines in the eyepiece diaphragm, are parallel to the polarizing planes of the nicols.

Included with this microscope were a number of accessories and small boxes. One of the most interesting was a very nice Leitz-Berek tilting and rotating compensator and separate darkfield condenser in its one small case. There was a nicely finished hardwood box fitted with a full compliment of objectives and a Silverman illuminator. The objectives included Winkel; Nr.1 (4.7x), Nr.3 (13x), Nr.5 (30x), Nr.7 (54x), H.I. 1.8mm/1.30 (90x) and finally a Bausch & Lomb 16mm corrected for a 190mm T.L., all fitted with Winkel quick-change mounts. The eyepieces include four Winkel and two Bausch & Lomb, four of them having reticules.

The provenance of the instrument was revealed by the discovery of an ink-stamp on the inside of cabinet door. There we found the identity of a previous owner whose name was R. Notvest, address of, 513 National Bldg. Cleveland, Ohio. He was an Electrical Engineer and member of

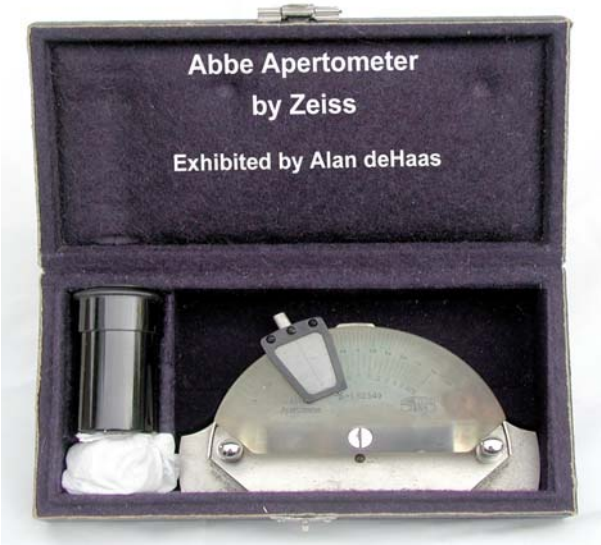
the American Institute of Electrical Engineers, American Association for the Advancement of Science, Fellow of the Royal Society of Arts (London) and member of the American Society for the Testing of Materials.

Stuart Warter exhibited two rare Grunow microscopes, both having a unique cast iron pillar and base. The serial number on one was No.1046 and the first had no number. The style of these two instruments appeared very similar and the serial number indicates a late date of manufacture. Both microscopes featured rather unusual swing out condensers but the example on the right in the illustration also had the built-in stage-mounted stops.

In 1849, Julius Grunow immigrated to America from Berlin, and settled in New Haven, Connecticut. He made his first microscope in 1852 for Dr. Van Arsdale. In the early 1850's his brother, William Grunow emigrated from Germany to New Haven (RMS, June, 1964/124). For some time they made microscopes under the name of J.&W. Grunow and J. & W. Grunow & Company. In 1853 they made Prof. J. L. Riddell's binocular microscope. (This was the first serviceable binocular microscope.) In 1852, Prof. Riddell paid a visit to their shop and by the following year the binocular stand was made. In 1856, three more of the binocular microscopes were made and in 1857 a 128 page catalogue with a description of how to use it was published (RMS, June, 1964/124). In 1855, they also made Prof. J. Lawrence Smith's "Inverted, Chemical Microscope." Many of the Grunow stands featured the lever stage movement by White. Grunow also produced the first stage-level diaphragm (diaphragm mounted

within the stage plate), which can be seen in the example exhibited by Stuart. J & W Grunow are listed in the New Haven City directories from 1854-1863 but only W. Grunow in 1862-63. In 1863-64 they moved to New York City. In 1874, J. Grunow continued on his own working at 70 West 39th St., New York, until the early 1890s. In fact, January 1893 was the last known ad from Grunow and was in the Journal of *The New York Microscopical Society*. The advertisement gives the name "J. Grunow, No.621 Sixth Avenue, New York." The firm operated for about 40 years making a little over 1000 stands. An interesting note is that there are almost no two Grunow stands that are identical.

Alan deHaas described a few rare photographic lenses, which he set out for the group to see. He also exhibited a beautiful Zeiss/Abbe apertometer, which he described in some detail. The apertometer was used for testing and determining the numerical aperture of objectives and was first introduced in 1877.



Jim Solliday exhibited a rather unusual and rare portable AO-Spencer (American Optical) microscope. It was referred to as the "Modern Portable Microscope" and was likely made in the 1960s and 70s. The case indicated that the stand was military contract, and was likely the main reason for its production. The serial number was

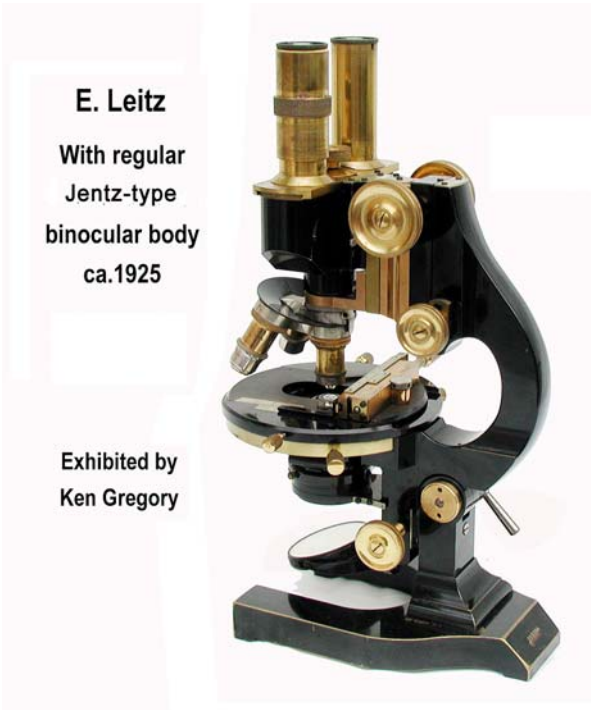
No.3050588 and the objectives were of the infinity corrected type. It featured a focusing nosepiece and also a lock was provided to prevent damage to the nosepiece during travel. The most important feature was the folding legs, which when extended were locked in place by a knurled knob. As you would expect, it was a monocular with a slot on the body for an eyepiece. Inside the body is an arrangement of front surface mirrors that invert the image. In order to provide an interesting contrast, Jim also exhibited the original Spencer Portable Microscope No.60, the one that is represented on the Logo of our good Society.

This microscope was introduced in 1915 as the *Spencer New Portable Microscope No.60*. The unique feature is that its legs also fold back on themselves allowing the instrument to be stored in a very compact aluminum case (see first international published illustration in the *RMS*, 1915, pp.68). The instrument possesses all the features of the typical higher-class stand including an Abbe condenser and a three-place nosepiece. The fine adjustment was the same as on the larger Spencer stands of the time. The dimensions of

the case are, 8¾" by 6½" by 3¾", the whole package having the weight of only 9 ½ lbs. There are built in tubes and fittings which hold a number of special accessories including a mechanical stage, a haemaglobinometer and the choice of a haemacytometer or Spencer camera-lucida, all fitting inside the lid. In 1917, the W.M.V. Willis & Co. catalogue of Philadelphia described the use of the microscope as follows. "This microscope is offered for Bedside Diagnosis, and for the use of the physician who has occasion and desires to carry his microscope with him at times, as well as having a very efficient instrument for his office and laboratory use. It is a full size, completely equipped, compound microscope, so uniquely designed and put up in such compact form that it may be carried without inconvenience to the bedside of the patient." The Spencer catalogue of 1924 describes it as a, "thoroughly satisfactory instrument for use in the laboratory." The finish of the instrument is of lacquered brass and black enamel. The instrument has a very nice shape and represents innovative American design and workmanship. It was advertised in the Spencer catalogues into the early 1930s.

Jim also exhibited a rare example of a J.D. Mõller Diatomaceen-Probe-Platte (test-slide) with 22 diatoms arranged in a row. This beautiful slide was given to Jim by Ken Gregory and you can be sure that Jim was very pleased!

Ken Gregory exhibited two microscopes, one of them obtained from eBay. Because the seller lived only a few minutes from his sister's house, Ken drove up to Northern California to pick up the instruments; oh, by the way; he stopped in to see his sister as well! He actually obtained two stands from the seller and picked them both up at the same time, the second stand to be described at the next workshop. Both



microscopes were previously owned by an engineer/chemist who collected a great many accessories that were stored in a separate box. The newer of the two and the one on exhibit was a very nice 1916 Leitz microscope that was fitted with a Zeiss-Siedentopf ("Bitumi") binocular attachment. This instrument was inclinable at the joint and was assisted by a locking clutch. It also had a circular stage with an attachable mechanical slide holder. It also appeared to have an expensive well-corrected high N.A. substage condenser. The objectives were mounted on a three-place nosepiece. For comparison and exhibited next to the Siedentopf microscope was a very similar Leitz having the Jentz-type binocular, which was normal for the Leitz stands. This scope was a bit newer and also in very good condition. This type of binocular was introduced in 1913 and was developed by Felix Jentz of the Leitz firm. It used a well designed semi-silvered beam-splitting Swan cube and became the most

popular system employed. Sliding prisms were used allowing for inter-ocular adjustment. Because the brightness was much the same for both eyes, it became a universally accepted system.

Larry McDavid gave away a number of interesting magazines including the following. "Insulation Technology" magazine, a very high-tech IEEE publication concerning high voltage insulation and corona discharge diagnosis. One issue had a very detailed discussion of state-of-the-art rechargeable battery technology and the insulation used in battery construction. "GPS World" magazine represents the commercial and industrial uses of GPS technology. It normally has interesting articles on GPS applications and GPS science. Finally, Larry gave up a copy of "Industrial Physicist" magazine, which represents the science and application of physics in industrial and commercial activity. The magazine has a good balance of physics principles and understandable discussions concerning application.

Larry also showed a sample of a heat pipe that has proven to be a very efficient conductor of heat from one location to another through only a semi-rigid hollow copper tube. Applications have been in dense military electronic packaging but are now found in the latest desktop and laptop computers.

A final note, Allen Bishop was offering for sale to the group a very nice Bausch & Lomb refractometer.

The President announced that the members were invited to have lunch at a local restaurant. The meeting was brought to a close at 11:35am leaving plenty of time for photographing the exhibits. Appreciation was expressed to the members for their participation and continued support. □

MSSC Holiday Banquet

14st December 2003 4:00pm to 8:00pm

No December meeting: instead members met for the MSSC Holiday Banquet at the Hollywood Hills Restaurant. After the dinner a slide show with music was presented on the topic *"Exploring crystals through the microscope."* This show was the third in the series recognizing the contribution of MSSC member John Chesluk. A couple of image from the show are given here, the full show is available for viewing on the MSSC website at http://www.msscweb.org/public/meetingdetails03.htm#dec03meeting. □

Image by John Chesluck, edited by George G. Vitt Jr.

MSSC Monthly Saturday Workshop Announcements

The MSSC holds a workshop from:

9:00am to 12:00pm on the first Saturday of every month

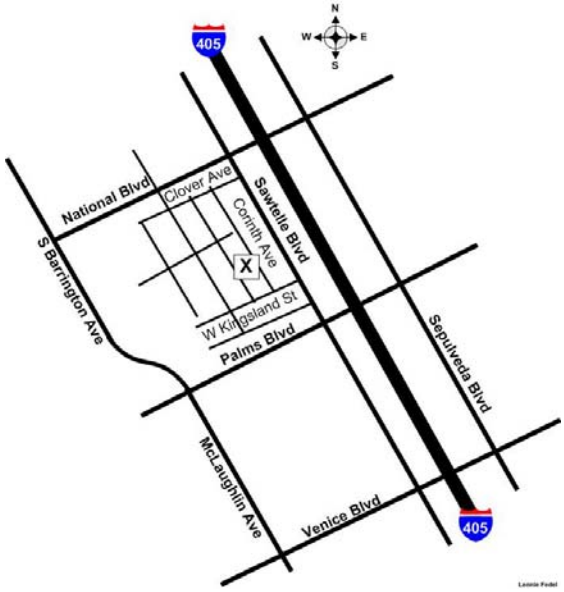
Locations alternate between two members' houses, Izzy Leiberman's and Ken Gregory's.

The workshops provide a chance for fellow microscopists to talk about our favorite subject. You are invited to bring any manner of items related to microscopy to share it with the fellowship. If you have something you would like to sell, please feel free to bring it and set it up at the sales table. All are encouraged to participate and join in the fun.

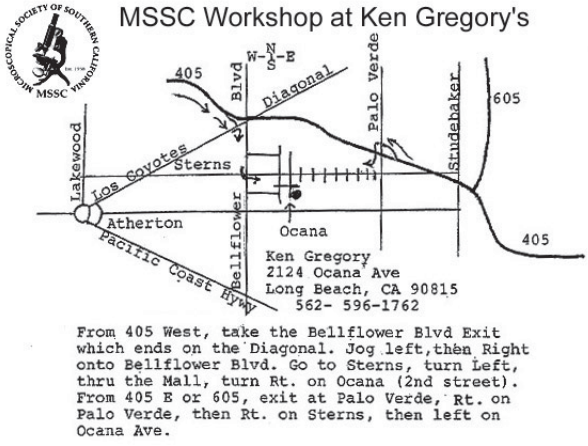
An optional lunch after each workshop will be held at the local Coco's.

The schedule for 2004 is as follows:
January 3, 2004, Izzy Lieberman's
February 7, 2004, Izzy Lieberman's
March 6, 2004, Izzy Lieberman's
April 3, 2004, Ken Gregory's
May 1, 2004, Ken Gregory's
June 5, 2004, Ken Gregory's
July 3, 2004, Izzy Lieberman's
August 7, 2004, Izzy Lieberman's
September 4, 2004, Ken Gregory's
October 2, 2004, Izzy Lieberman's
November 6, 2004, Izzy Lieberman's
December 4, 2004, Ken Gregory's

Izzy Leiberman's Residence:
3300 Corinth Avenue
Los Angeles CA 90066
310-391-6076



Ken Gregory's Residence:
2124 Ocana Avenue
Long Beach, CA 90815
562-596-1762



MSSC Monthly Meeting Announcements

7:00pm, January 21st, 2004

This month MSSC member, Larry McDavid, will present a program entitled *"Sundials: Prehistory to the Digital Age."* In addition to being an MSSC member, Larry is also a member of the North American Sundial Society, which - along with the British Sundial Society - actively promotes the study, development and construction of these light-operated calendar and time instruments. Larry will discuss the history and science of dialing and show pictures of many kinds of sundials throughout the world. If you have an interest in sundials, we invite you to bring along your dials or other solar instruments for display and discussion. There will be a table set up for the purpose of exhibiting the instruments. Larry's talk will be supported with a PowerPoint presentation of 120 slides illustrating the subject. Most of the images will be presented in a section called *"Beauty in Dialing"* and will run as a continuous slide show during the break.

7:00pm, February 18th , 2004

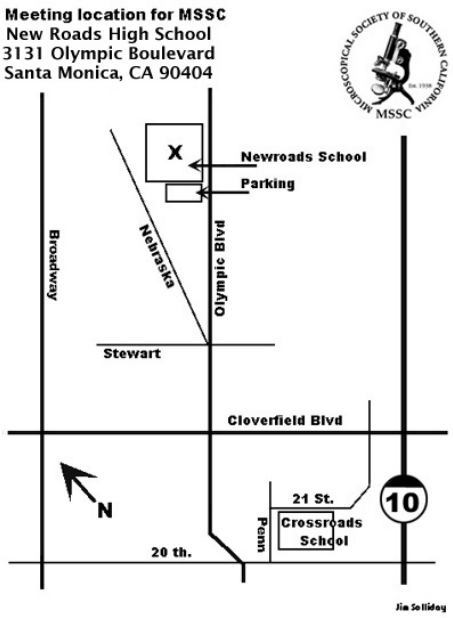
This month's meeting will be a swap-meet/buy and sell meeting. Please bring any items you would like to offer for sale. There will also be a brief presentation on chemical crystal mounting and preparation techniques.

7:00pm, March 17th , 2004

At this meeting, Larry Albright will give a presentation on his latest African photo Safari. He will present images of animals taken during the trip and will describe how one can acquire such images of animals using digital equipment. After this, Alan deHaas will give another talk in his lecture series on the technology of the microscope, this one focusing on binocular optical systems.

7:00pm, April 21st , 2004

At this meeting, Dr. Shijie Wu will present a program entitled *"Scanning Probe Microscopy under Controlled Environments"*. His presentation will focus on Scanning Tunneling Microscope (STM) and AFM imaging under controlled conditions in the life science, material science, and nanotechnology fields, including some of Molecular Imaging's more recent developments, PicoPlus™, PicoTREC and MacMode. Dr. Wu will discuss how many experiments, particularly biological ones, benefit from imaging under controlled conditions. AFM is the only technique available today that can image, probe, and manipulate biological structures in environments simulating in-vivo conditions. Living cells can be imaged without fixation in buffers at 37°C. By placing an AFM on an inverted light microscopy, one can combine the information from light techniques with AFM measurements.



All meetings are held at New Roads School (see map above). Optional dinner beforehand at Coco's restaurant at 5:30pm (near Ocean Park and Bundy, Santa Monica). □