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THE MICROSCOPICAL SOCIETY OF SOUTHERN CALIFORNIA
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THE PRIZE MICROSCOPES AWARDED BY THE NEW YORK HOMEOPATHIC MEDICAL COLLEGE: 1874-1916

by
Allan Wissner

In 1875 it was announced by the officials of the New York Homeopathic Medical College "*In order to extend every incentive to the students for diligence and proficiency, it has been deemed proper to offer to that member of the graduating class who stands highest in the examination scale a faculty prize, which, for the session 1874-75, was a valuable microscope*"[1] and so this custom continued for the next 40 years. This article is about this practice and it describes four of these prize microscopes that have surfaced in recent years.

In 1860 a group of concerned citizens led by William Cullen Bryant, the noted poet, abolitionist, and newspaper editor, founded the New York Homeopathic Medical College. Bryant was a follower of homeopathy and the establishment of the college was a reaction to both the needs of the people of New York and to the harsh methods of the common medical practices of the time. The school was located at the corner of 20th Street and Third Avenue in NYC. From its beginning with 59 students and a faculty of 8, the college expanded rapidly. By 1872 the college had moved to larger facilities located at 23rd Street and Third Avenue by acquiring the New York Ophthalmic Hospital and in 1875 the college began an association with the Metropolitan Hospital on Wards Island. The college had decided to build its own hospital and in 1889 the Flower Free Surgical Hospital was constructed at York Avenue and 63rd Street. At that time, the name of the institution was officially changed to "The New York Homeopathic Medical College and Hospital". In 1918 the college absorbed the New York Medical College and Hospital for Women, an institution with an equally distinguished history. Finally, a merger between the college and the Fifth Avenue Hospital occurred in 1938 and the institution became, as it is known today, the New York Medical College.[2] The archives of New York Medical College still retain some documents relating to its early history and it is from these archives that some of the information presented here was extracted.

The earliest example of these prize microscopes that has come to light is shown in Figure 1. It is signed on the base GEO. WALE PAT'D JUNE 6 1876 and is engraved on the outer tube:

N.Y. Homo. Med. College
FACULTY PRIZE
for
HIGHEST STANDING
awarded to
John L. Moffat B.S. M.D.
March 8th 1877

The microscope has a number of original features that are outlined in the patent (US-178391). A copy of this patent is appended to the end of this article. The coarse adjustment is accomplished by twisting the tube and is made possible by means of a spiral groove cut into the tube that rides on a guide attached to the outer tube. A similar method is known to have been used on some of the simpler microscopes of J. Grunow and the Miller Brothers.[3] The fine adjustment is of the Continental type using a new mechanism which is described in the patent. The centering mechanism of the substage and a new form of iris diaphragm are also described in the patent. This iris diaphragm was used on later stands by Wale such as his famous radial "New Working" microscope and later by firms such as Bausch & Lomb (which purchased the Wale patents[4]) and by Queen in the Acme line. Additionally, the microscope has the interesting attribute where the upper portion of the stand can rotate on the base allowing extra stability when inclined. The stage has a brass and glass slide holder. The microscope was cased with a number of accessories that included two G. Wale objectives, two eyepieces, a camera lucida, and a stage forceps mounted on a wood plate.

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Fig. 1 George Wale Microscope of 1877

Records at the New York Medical College indicate that prizes other than microscopes were presented during the years 1879-1884 but by 1885, microscopes were again awarded and now it was decided to offer both a first and second prize. The first prize was to be "*a fine microscope with accessories valued at $100.00*" while the second prize was "*a similar microscope valued at $50.00*".

The first prize microscope for 1889 is shown in Figure 2. The microscope is signed the base: *L. Schrauer, Maker, New York* and is engraved on the tube:

First Prize
Awarded to
Frank Caudkins Bunn, M.D.
by the Faculty of the
New York
Homeopathic Medical College
and Hospital
for the highest grades of scholarship
during the three years graded course
May 18th 1889

The engraving is artfully done with swirls and flourishes. The microscope, with its horseshoe base and decoratively turned and tapered pillar, resembles the continental model that was increasingly becoming more popular at that time. However, the microscope differs from the standard continental microscope in an important way. In the continental model, the fine adjustment

Fig. 2 First prize Schrauer microscope of 1889

mechanism moves the entire limb along with the body-tube. With this Schrauer model however, the fine adjustment is actually a spring-loaded long lever mechanism. One end of the lever engages the screw of the adjustment knob while the other end moves the body tube. The limb remains stationary with the steel pivot embedded within. This adjustment mechanism is similar to that used by J. Zentmayer on some of his post-1876 models and later by other makers. The substage of this microscope consists of a rack and pinion adjusting iris diaphragm with center-

ing screws on a swiveling arm. The upper portion of the diaphragm is threaded to accept an Abbe condenser (now missing). The mirror slides independently on the arm, which can be swung in place above the stage for illumination of opaque objects. The brass stage has a glass and brass slide holder. The microscope came cased with one Leitz and two Hartnack objectives, and two wide diameter eyepieces.

The next two microscopes, coincidentally, were awarded in the same year, 1894. This allows us to compare the first and second prizes. The first prize microscope (see Figure 3) is again signed on the foot *L. Schrauer, Maker, New York*. The tube is engraved:

First Faculty Prize
Awarded to
Louis D Hyde, MD
by the
faculty of the New York
Homeopathic Medical College
and Hospital for the
highest grade of scholarship
during the whole course of
three years study
May 3rd, 1894

Fig. 3 First prize Schrauer microscope of 1894.

The microscope resembles the previous model but has been refined in a number of ways. The base is still a horseshoe but here the inner edge has been deeply beveled. The substage condenser focuses by rack and pinion and now the condenser and iris diaphragm are on independent arms allowing each to be optionally moved out of the optical axis (see Figure 4). The stage of the microscope has been simplified; it is now vulcanite with clips. The microscope was found with its case, three Leitz objectives, and two eyepieces, which now have the standard diameter. In addition to a condenser, the microscope was supplied with an aperture stop holder and three stops.

Fig. 4 Substage of the First Prize Schrauer microscope of 1894. Note the independent movement of the condenser and iris diaphragm.

The second prize microscope for 1894 (Figure 5) is also signed: *L. Schrauer, Maker, New York* and is much like the first prize microscope of

the same year but a bit less massive. The tubes on these 1894 stands are engraved in a somewhat less ornate style compared to the 1889 Schrauer. The dedication reads:

Second Faculty Prize
Awarded to
Fredrick Hills Cole, MD
by the
faculty of the New York
Homeopathic Medical College
and Hospital for the second
highest grade of scholarship
during the whole course of
three years study
May 3rd, 1894

Fig. 3 Second prize Schrauer microscope of 1894.

The rack and pinion focusing mechanism of the substage has been done away with in this less expensive stand, and in its place is an aperture stop holder that is attached to the bottom of the stage. Three stops were originally supplied with the microscope. The other focusing adjustments are the same as in the larger model. The microscope was found with its case, two Hartnack objectives, and one, of originally two, eyepieces. This simplified microscope differs from the standard version of the same microscope in having a wide tube. The extra girth of the tube was evidently needed to accommodate the verbose engraving.

It is clear that each of these Schrauer prize microscopes was a special order that was custom made. The engravings of the dedications are under the lacquer surface and therefore must have been applied before the microscope was finished. It is interesting to speculate on what some of the other prize microscopes were like, particularly those awarded in later years, when factory methods were more common and makers that handcrafted their instruments, such as Wale and Schrauer, were no longer in business. It seems it would have been more difficult to special order such microscopes and one wonders if the later instruments even had an engraved dedication. Or, possibly, these later microscopes had the dedication on a plaque attached to the case, a practice that was used in earlier years. This would avoid having to special order the stands since the plaque could be applied to the case after purchase. But this is only speculation.

The archives of the NY Medical College do not contain any information about the microscopes that were awarded but the recipients for the years 1874-1916 are on record and a list of them is provided below.

Recipients of the Prize Microscopes Awarded by the New York Homeopathic Medical College (and Hospital) 1874-1916

1875
Dr. Arthur Beach
1876
Dr. E. H. Linnell
1877
J. L. Moffatt, MD
1878
G. R. Stearns, MD, Buffalo, NY
1879-84
Various other prizes given
1884-85
1st: Fred S. Fulton, Norwich, NY
2nd: Nathaniel Robinson, Brooklyn, NY
1885-86
1st: J.W. Dowling, Jr., NYC
2nd: John W. MacMillan, Jersey City, NJ
1886-87
1st: Edward D. Fitch, Worcester, MA
2nd: James Crooks, Jr., Paterson. NJ
1887-88
1st: Frederick W. Hamlin, NYC
2nd: Edward Sylvester Smith, New Haven, CT
1888-89
1st: Frank C. Bunn, Orange, NJ
2nd: Charles C. Wilcox, WellsviIle, NY
1889-90
1st: George Forrest Martin, Cambridge, MA
2nd: Charles Brooks Flint, Black River, NY
1891
1st: Magnus T. Hopper, Maysville, KY
2nd: Jeremiah F. Simonson, NYC
1892
1st: John T. White, Salt Lake City, Utah Ter.
2nd: Joseph E. McKenzie, Caledonia, NY
1893
1st: Frederic M. Wall, NYC
2nd: Elmer H. Copeland, Monson, MA
1894
1st: Louis D. Hyde, Owego, NY
2nd: Frederick H. Cole, Bridgeport, CT
1895
1st: Edwin Rodney Fiske, Brooklyn, NY
2nd: Howard L. Coles, New Rochelle, NY
1896
1st: Theodore H. Lemmerz, Jersey City, NJ
2nd: Ralph Irving Lloyd, Poughkeepsie, NY
1897
1st: Arthur F. Warren, Milford, NH
2nd: Thomas A. Buys, Brooklyn, NY
1898
1st: Irving A. Meeker. Glen Ridge, NJ
2nd: Arthur F. Thompson, Newark, NJ
1899
1st: George S. King, Patchogue, NY
2nd: F.E.W. Hopke, Brooklyn, NY
1900
1st: William A. Blauvelt, Newark, NJ
2nd: Robert S. Phillips, New Bedford, MA
1901
1st: Roy Upham, Brooklyn, NY
2nd: Caleb Barker, Jr. East Orange, NJ
1902
1st: Arthur H. Hardy. Mt. Vernon, NY
2nd: Joseph H. Beattic, Warwick, NY
1903
1st: Frank Parker Ekings, Paterson, NJ
2nd: Thomas Dalzell Blair, Plainfliеld, NJ
1904
1st: Louis Rene Kaufman, NYC
2nd: Percy William Shedd, NYC
1905
1st: Harry Clinton Sayre, Warwick, NY
2nd: David Clark Strachan, East Orange, NJ
1906
1st: Dr. Robert Ralston Reed
2nd: Dr. Alfred C. Emmel
1907
1st: J.B. Gregg Custis, Jr.
2nd: Edward Wallace MacAdam
1908
1st: Harlow Grosvernor Farmer
2nd: Frank C. Shipman
1909
1st: Walter E, Halfman
2nd: Willard D. Duckworth
1910
1st: David Blackwell Hill
2nd: Frank Moore Wright
1911
1st: Franklin F. Murdock

2nd: Oscar Baer

1912

1st: William F. Shaw

2nd: Herbert S. DuCret

1913

1st: Robert H. Whitmarsh

2nd: Albert Comstock

1914

1st: Donald T. Rankin

2nd: Harold L. Pender

1915

1st: Henry L. Weil

2nd: Albert A. Getman

1916

1st: William L. Williamson

2nd: John C. Howard

There are no records of any microscopes being awarded after 1916.

References:

1. *16th Annual Announcement of the NY Homoepathic Medical College*, p. 9, session 1875-76.
2. For a more complete history of the College see: P. L. Wershub, *One Hundred Years of Medical Progress; a History of the New York Medical College, Flower and Fifth Avenue Hospitals*, 1967, Thomas, Springfield, Ill.
3. A feature found on microscopes in the author's collection.
4. D. L. Paggitt, *A Short History of the Early American Microscopes*, p. 137, Microscope Publications Ltd. , 1975.

Acknowledgements:

The author would like to thank Dr. Stuart Warter and Dr. Barry Sobel for kindly providing images of the microscopes in their collections. I would also like to thank Ms. Judy Myers, archivist of the NYMC, who was very helpful in retrieving information for this article.

You can also view this article on the web. The web version is in color and there are additional links to items of interest: http://users.bestweb.net/~wissner/prize_microscopes/pz.html □

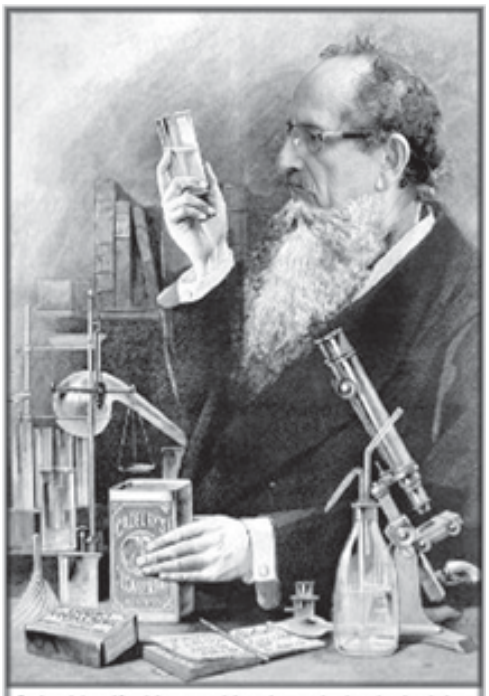
REMEMBER THE APRIL FOOL'S JOKE FROM THE LAST JOURNAL?

Alan deHass suggested the following:

The microscope is of a form so often shown at our meetings that it does not call attention to itself. But, as the researcher sat only twice for a portrait, the picture is very rare indeed. The scientist is Phillip Quatschmeier von Hinglesdorf, also known as Phillip the Strange. He is shown working on the first polymerase chain reaction, but, unlike the modern DNA research, Phillip was trying to produce large quantities of sandwich cookies. He was very successful. The proof of this is the number of such cookies that taste like plastic.

Chris Brunt suggested:

This is the esteemed scientist Sir Reginald Flangegirdle B.Sc.. F.Dc., Ph.B., FDIC. BBC, etc. Well know collector of 18th century explosions. Reginald was a Porridge Miner during his early years and it is in this capacity that he made his first discoveries in the field which was to provide him with a lifetime of study and experi-



Quiz: Identify this man, his mic. and what he is doing.

mentation. That is of course the study of the influence upon the Earth's magnetic field of the "stays" in women's undergarments (corsets). Although his earliest theories were somewhat ridiculed by the mainstream of science at the time (he was, after all, barred from attending further meetings of the Royal Society and ordered "Never again to appear in public without trousers"), eventually, Sir Reginald was able to construct an exacting theory that many believe rivals the brilliance of Einstein's General Theory.

As for the experiment shown in the graphic. This is now known to be one of Sir Reginald's earliest attempts to produce what many in the scientific community refer to as a "wee dram o' da finest". This is the experiment, I am certain, that resulted in the behavior which led to Reginald's eventual arrest and deportment to the Colonies.

The microscope, as any aficionado should well know, is the now infamous Sears and Roebuck (Kenmore) "Whirl-O-Lux" and, although this instrument never gained the recognition it deserved, (It was greatly despised by those who used it and even more so by those who did not) it was in fact one of the earliest known instruments to become widely avoided. One defining aspect of this microscope was its "entirely concrete" construction (with of course the exception of the optics which relied heavily upon the magnification qualities of old wine bottle bottoms).

Jack Warford suggested:
Obviously, that is Aloysius J. Flungdungh at the moment of his discovery which has changed the lives of millions — how to get the toothpaste to come out of the tube in stripes.

Mike Dingley suggested:
I'm sorry, but you are all barking up the wrong tree! The gentleman in question (although it is questionable whether he was a gentleman) was none other than Digger Darcy Bloodgum who said he was an eccentric millionaire and received his fortune from his father's sulphur stick business (matches to most of us). The matches were in fact safety matches so that they couldn't be used to light bush fires in the Australian outback. Digger Darcy spent his time trying to produce the elixir of life and also turning the four elements into gold; neither of which he succeeded in. However, he announced to the world that he had succeeded in making artificial celery juice and he is seen here holding a sample of it. The newspapers picked up on 'this find of the century' but it was soon discovered that Digger was really a charlatan and so, just before the artist arrived, Digger managed to find a false beard (you can see the place where the beard joins his neck behind his ear) that he used to wear at Christmas time to fool the children into believing he was Santa Claus. He didn't want people to recognize him and after his story was published in most Australian papers he 'went bush' and lived with the Aborigines in central Australia until he died after being bitten on the funnel by a finger webbed spider. He never really discovered celery juice but had he taken the trouble to make a few more experiments he would have realized that what he had in fact produced was a liquid which could make people think they could see nanobes in water (without the use of a microscope) by staring into glass containers; this would have really made him rich.

Dave Hirsch suggested:
Wrong! wrong! wrong!! It should be obvious to one and all, the strong resemblance of this gentleman to that bevy of Hungarian beauties, the Gabor sisters. Their desire to achieve parity with men led them to extensive research using a surplus Microset microscope and chemical apparatus and reagents obtained from Pic-N-Save before its conversion to a high-ticket emporium. The objective was the implementation of a self administered albeit unsuccessful testicle transplant. One of the sisters changed her name from Millicent to Milpuk, grew a beard and invested in Malibu real estate. Little more is known of Milpuk other than the suspicion that he (formerly she) is the culprit who put the overalls in Mrs. Murphys' chowder.

Pierrino Mascarino suggested:
This is obviously Louwhen van Offthehoek who discovered the biologically active principle in toe jam was directly related to human verbosity otherwise known as hoof in mouth or Bclintonious nauseaus.

If you haven't worked it out yet, it is of course MSSC member Pierrino Mascarino. □

WORKSHOP OF THE MICROSCOPICAL SOCIETY OF SOUTHERN CALIFORNIA

recorded by Allen Bishop and written by Jim Solliday

Date: Saturday, 3rd May 2003
Location: Izzy Leiberman's Residence

The workshop began at 9:34a.m. with 16 members present. Rain was expected (none ever arrived!), so the meeting was moved inside and called to order by the President, Jim Solliday. As has been the case for almost two years now, Mr. William Hudson kindly donated the coffee and donuts.

Both the exhibition and "give-away" tables were covered with the usual array of microscopes, accessories and other items of interest to the membership.

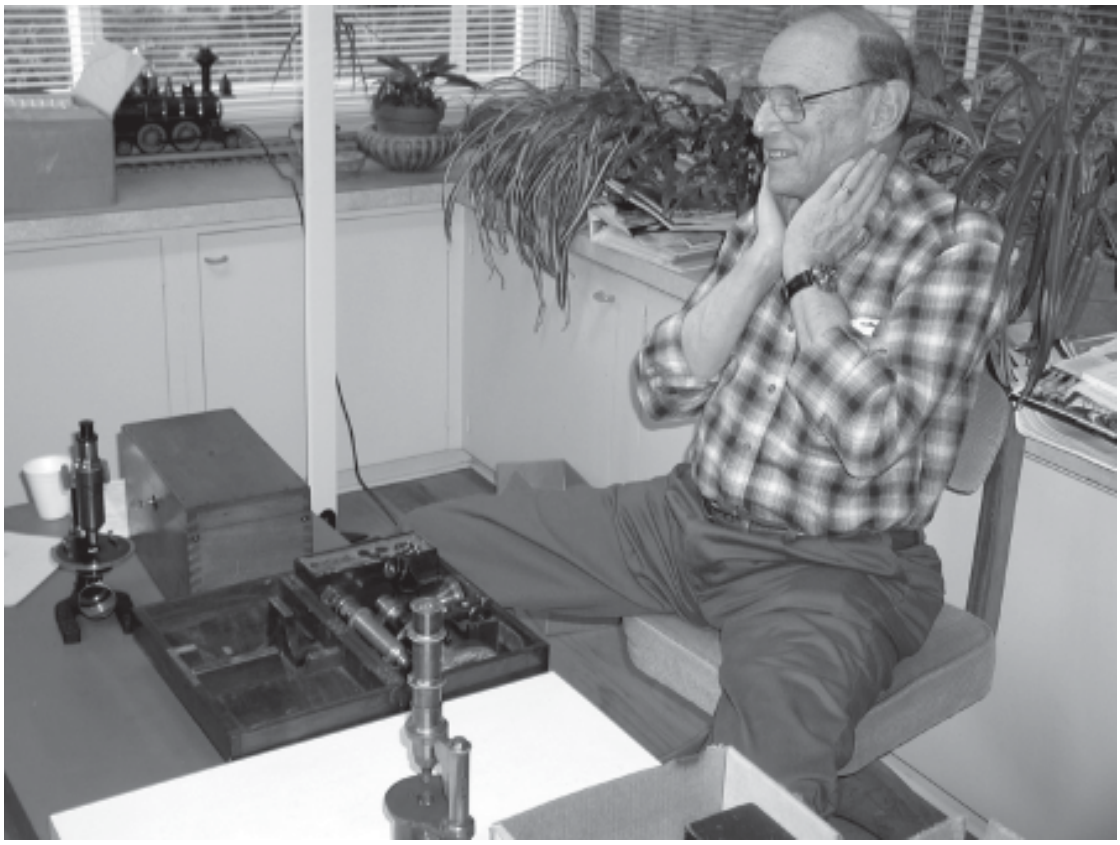
Announcements were made concerning the results of our recent field trip and improved association with the Madrona Marsh. The Marsh's director said the MSSC was welcome anytime and facilities were available to the members by request or invitation. It was interesting to discover that once a month the Madrona Nature Center offers a Saturday family meeting which encourages microscope use. The Nature Center also has a wonderful laboratory which houses over a dozen stereo and compound microscopes. Alan deHaas suggested that the MSSC return in midsummer

to determine the changes in the microscopic population as the water levels begin to lower. A rather lengthy discussion on the subject followed which included methods of study that would be appropriate to the Marsh.

George Vitt was not present but sent in a note and picture of a "Noon Cannon" which was available over the Internet, the information was passed around for the members to look over. Dave Hirsch had some experience with this particular Noon Cannon kit and felt it was not to be recommended. This subject is often spoken of at the North American Sundial Society. Larry McDavid is a member of this Society and spoke up on its behalf with a recommendation for the kit.

Allen Bishop also brought our attention to the Scientific Instrument Society (SIS), with which a number of our members are associated. Jim Solliday announced that there was currently a Convention of *Modern Microscopy/Scanning* (2003) being held in the San Diego area. Unfortunately the regional representative failed to contact us even though we are on their mailing list. However, Jim was contacted the night before and informed about the event and now had information that could be passed out to our members. Jim read through the list of seminar topics, which included a number of very interesting subjects. The light microscope was well represented along with a number on image processing and digital acquisition. Other topics offered include: Scanning Microscopy in Forensic Science, New Instrumentation for 3-D Microscopy, Practical Digital Imaging, Museum Applications, Modern Light Microscopy and Graphic Arts Aspects of Microscopy. The Convention was being held at the Doubletree Hotel in Mission Valley, San Diego County (May 3-5, 2003).

The members were reminded that the next workshop (June 7th) would be held at Ken Gregory's residence. Members were also reminded that the next Wednesday meeting would be the annual Pond Life event and should plan on

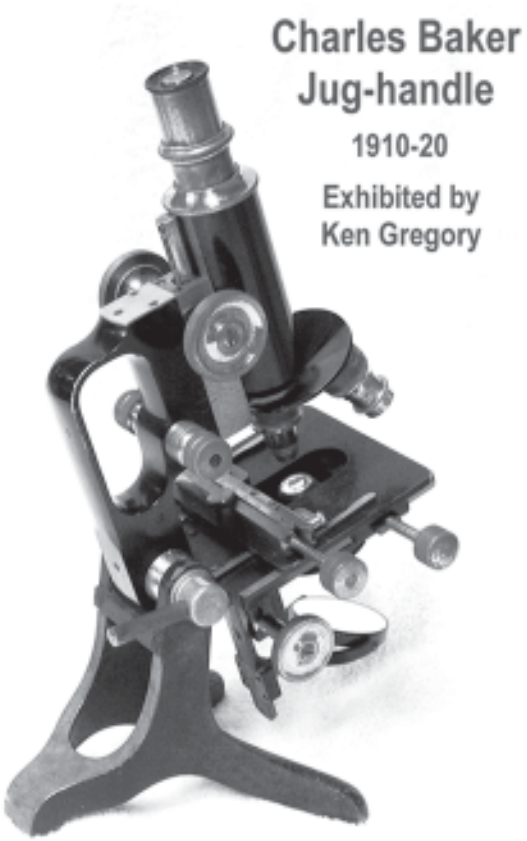


bringing along their microscopes and collected pond samples to explore. Samples would also be available from Madrona Marsh, at least those remains of samples collected during the recent field trip. There would also be a slide show illustrating the activities and specimens collected from the Madrona Marsh, including the beginning of a species list identified by the members that attended the field trip. The Pond Life meeting will be held on May 21st at New Roads School.

Stuart Warter exhibited a large and rather early Nachet Drum microscope. This basic pattern was first suggested by Strauss-Durckheim in the 1830's. To date a Nachet stand it is helpful to know the following information: if it has the name "NACHET" and the address on the stand reads "16, Rue Serpente," it was made before 1854; with the name "NACHET et FILS" between 1854 and 1862; with the address of "17, Rue St. Severin," it probably dates between 1862 and 1880. The instrument on exhibit has the earlier name and location and dates from before 1854. The microscope came packed in a nice lined hardwood case, which featured several layers of trays for accessories.

The accessories present indicate the scope was intended for polarization work and included an eyepiece cap analyzer with Brewster's prism of tourmaline or Iceland spar(calcite), a rotating substage polarizer of tourmaline, a goniometer disc that fits beneath the eyepiece, a 45 degree inclination tube, a camera lucida, an ocular and stage micrometers, a live box, aperture discs, a compressorium, and a bullseye condenser. The overall condition of the microscope was good and it is considered to be very rare, especially with these special accessories. This microscope was the centerpiece of today's exhibit and one which deserves a great deal of additional study. For comparison, Stuart also exhibited a medium-sized Drum made by Nachet but sold in Mexico sometime in the 19th Century. The signature on the microscope was as follows: *Calpini Hermanos, Mexico y Paris*, ca.1850. This stand represents a very unusual providence and illustrates the popularity of Nachet's work. A very similar model was illustrated in the 1855 edition of John Quekett's book, *A Practical Treatise on the Use of the Microscope*.

Ken Gregory exhibited a large Charles Baker jug-handle that was made during the first quarter of the twentieth Century (1910-20). This was one of the last microscopes made utilizing the traditional English tripod foot. Charles Baker himself was born in 1820 and lived until 1893. He operated one of the best known and longest running microscope firms in London. The location of the business was at 243 & 244 High Holborn, London, opposite Day and Martin's. After his death one of his associates, Mr. Lees Curties took over the management of the Company (*JQMC*, 1996, pp.633). The microscope exhibited by Ken was designed and manufactured under the management of Mr. Curties. A little history on the firm reveals that by 1855 Baker was offering a full line of achromatic microscopes. He was also one of the most important importers of objectives into



Nachet Drum
1849-53
Early Pol Scope

Exhibited by
Stuart Warter

Nachet Drum
ca.1850

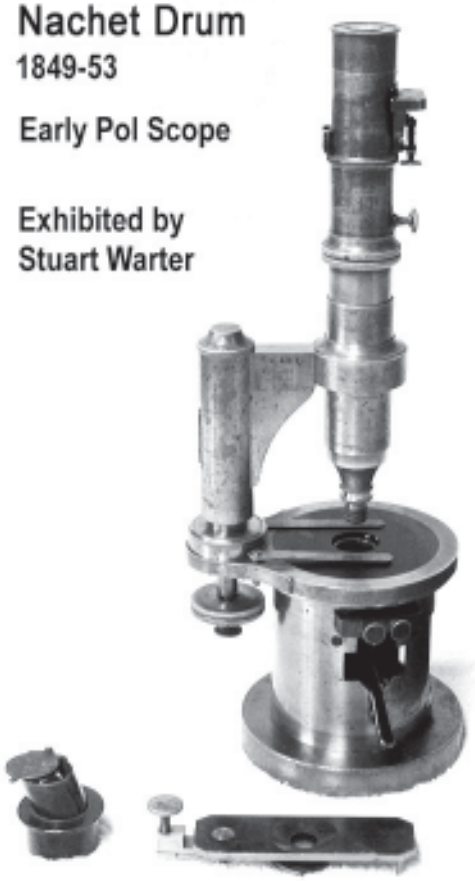
Signed:
Calpini Hermanos,
Mexico y Paris

Exhibited by
Stuart Warter

Nachet Drum
1849-53

Early Pol Scope

Exhibited by
Stuart Warter



England. In 1863, Baker was elected a Fellow of the Royal Microscopical Society. The firm continued until 1959 when it was bought by Vickers Instruments, Ltd.

Jim Solliday exhibited three linen counters, sometimes referred to as thread counters. The first was an instrument by Leitz having a chrome finish. It featured a micrometer screw that was worm-driven which moved the indicator and magnifier along a fixed scale. The scale could be read in English inches, metric and in both Franz and Wiener graduations. The lens was a three-element achromat with a magnification of 10 diameters. The complete instrument was stored in a velvet-lined leather-covered case with measurements of 3 by 5 inches. The signature of *E. Leitz, Wetzlar* was embossed on the hinged cover.

The next item was a Lowinson's Thread Counting Micrometer, which was sold and marketed by Chas. Lowinson of 150 Fifth Ave, N.Y.C. (ca.1910). It included the statement that Lowinson was "sole agent" for this counter. This instrument was actually manufactured by Chronik Bros. Mfrs. of New York. Stored in the bottom of the case was a pamphlet with written instructions for its proper use. The following has been reproduced from the instructions. "Place the instrument on the fabric. Focus the instrument by adjusting the eyepiece. The upright thumb-screw, which revolves in either direction, enables you to bring the beginning of the scale between two threads, so as to count the first thread in full. The needle or index with which you count the threads is attached to one of the reflectors, and points directly to the scale. The horizontal thumb-screw enables you to bring the needle to the beginning of the scale, after which, turn this thumb-screw, and as the needle goes over each thread, you count them. The 5 scales of measurement which are on the triangular revolving scale are: INCH -divided into quarters. (10) - decimal inch - divided into quarters. (L) - linen measure. (MM) - French Millimeter. (F) - French Ligne." The condition of this instrument is very good and it still works smoothly.

The third thread counter was a small pocket model and featured a simple lens with a square aperture representing one-quarter inch. It could be folded open on hinges from a collapsed position. Made of brass, it is no larger than one-half inch square in the folded position. Jim also presented a mystery tool made by Bausch & Lomb that turned out to be a Rheinberg filter punch. The punch itself was springloaded and could be pressed by the thumb. Alan deHaas stated that it was very rare and something that he had not seen before. Finally, Jim offered to the group a selection of unusual lab glass equipment. The idea was who ever could properly describe the item could have it to keep, a "guess and take" arrangement. The glassware included a number of different types of separation apparatus.

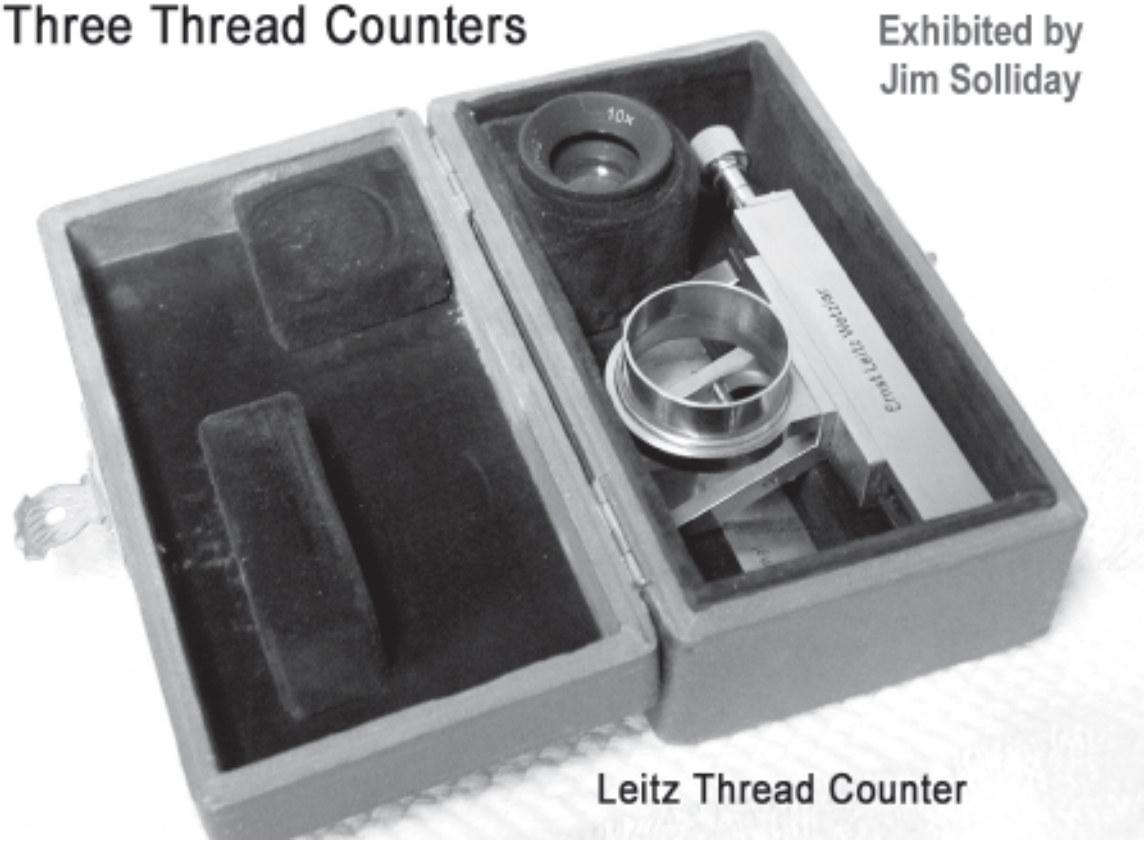
Izzy Lieberman kindly explained some of the more complicated glass lab items, including one he referred to as a Sochlet Extractor.

Most of the break was spent outside with one of our famous "boot sales". The members gathered at the tailgate of Alan deHaas' and Bill Davies' vehicles where we were treated to a large supply of microscopy related accessories. Both Alan and Bill had attended an industrial auction during the week.

Larry Albright suggested a project that would essentially assemble a text and visual database of our members' rare or important microscope equipment. The idea was to have a reference of the antique microscopes that reside in the collections of our members. The idea was received with some enthusiasm and would indeed be a wonderful resource for future research on the history of the microscope. The idea was reminiscent of Turner's, *Great Age of the Microscope* that catalogues the collection of the Royal Microscopical Society. A rather positive discussion followed with hopefully more to come on this important subject.

Three Thread Counters

Exhibited by
Jim Solliday

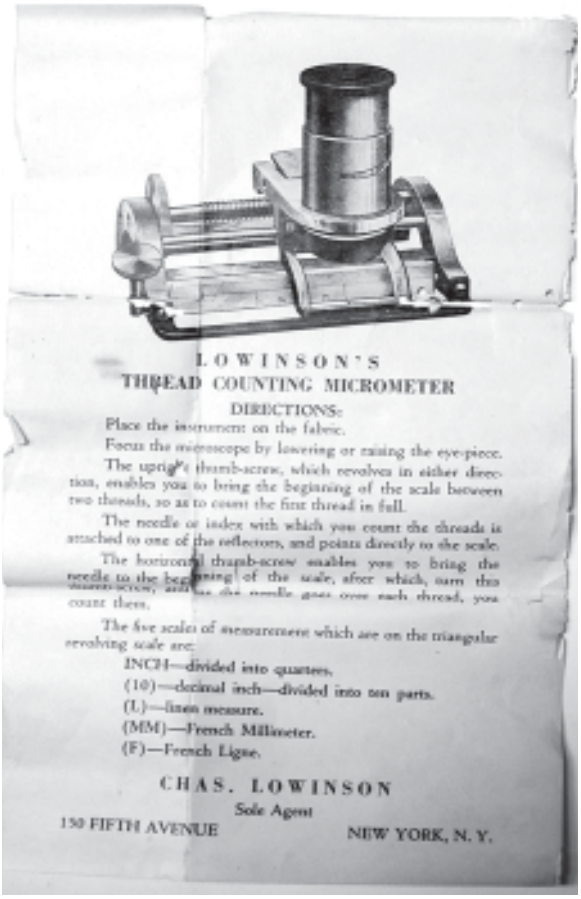


Leitz Thread Counter

Lowinson's Thread Counter
ca.1910

Leitz

Pocket Counter



LOWINSON'S
THREAD COUNTING MICROMETER

DIRECTIONS:

Place the instrument on the fabric.

Focus the microscope by lowering or raising the eye-piece.

The upright thumb-screw, which revolves in either direction, enables you to bring the beginning of the scale between two threads, so as to count the first thread in full.

The needle or index with which you count the threads is attached to one of the reflectors, and points directly to the scale.

The horizontal thumb-screw enables you to bring the needle to the beginning of the scale, after which, turn this thumb-screw, and as the needle goes over each thread, you count them.

The five scales of measurement which are on the triangular revolving scale are:

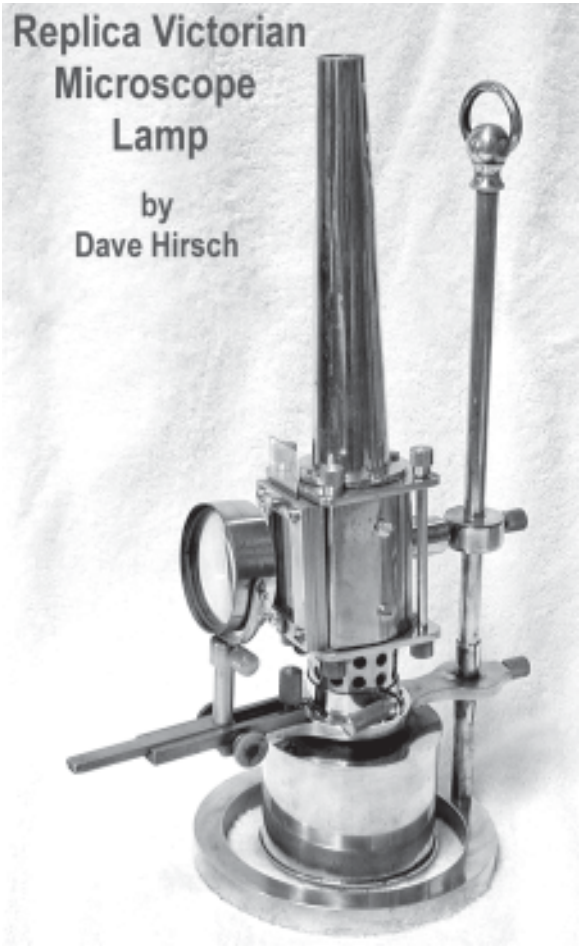
INCH—divided into quarters.
(10)—decimal inch—divided into ten parts.
(L)—linen measure.
(MM)—French Millimeter.
(F)—French Ligne.

CHAS. LOWINSON
Sole Agent
150 FIFTH AVENUE NEW YORK, N. Y.

Allen Bishop exhibited a very nice Zeiss Model VD, which was described as a student Pol scope. It was dated at ca.1912 with a serial number of 71124. It was acquired from eBay.

Alan deHaas talked to the group about the industrial auction that he attended. One of the reasons we benefited was the fact that only 19 people attended the event with only four active bidders. Alan was pleased to transfer the exceptional deals to his friends at the workshop. He described how office furniture sold for just $1 per unit. The auction he attended fortunately, included a microscope table and other lots featured lab equipment and supplies. During the earlier break, Alan sold members a full box of slides for 50 cents, cover glasses were also made available.

Dave Hirsch exhibited an amazing replica of a Victorian microscope lamp. Dave undertook all the modifications as well as put the case together.



Pierrino Mascarino exhibited for the group a very nice stereo made by Leitz, ca.1955. Accompanying the scope was a very rare and difficult to use 20x objective. The overall condition was immaculate and came stored in a very fine case. Rino talked about plans to add a substage darkfield condenser, with the help of our good friend Howard Taylor from Florida (the Rotifer fellow).

Larry McDavid exhibited another example of an atomic clock. A very interesting discussion followed with references to its application. Older style devices were also discussed comparing them to those available today.

The President brought the meeting to a close at 11:55a.m. leaving plenty of time to photograph the exhibits. □

MSSC Monthly Meeting

Wednesday 21st May 2003
at New Roads School
reported by Leonie Fedel

This was the Society's annual Pond Life Meeting and undoubtedly one of the best attended and most exciting meetings of the year.

Jim Solliday also presented a short slide show illustrating the recent field trip to the Madrona Marsh in Torrance, California which had provided some of the pond water samples viewed at the meeting. □

WORKSHOP OF THE MICROSCOPICAL SOCIETY OF SOUTHERN CALIFORNIA

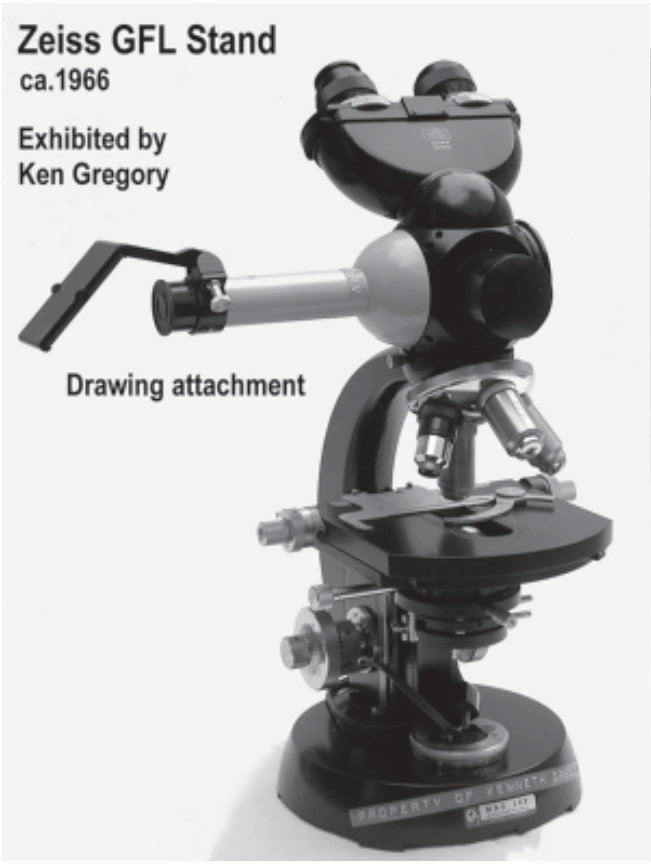
recorded by Herb Gold and written by Jim Solliday

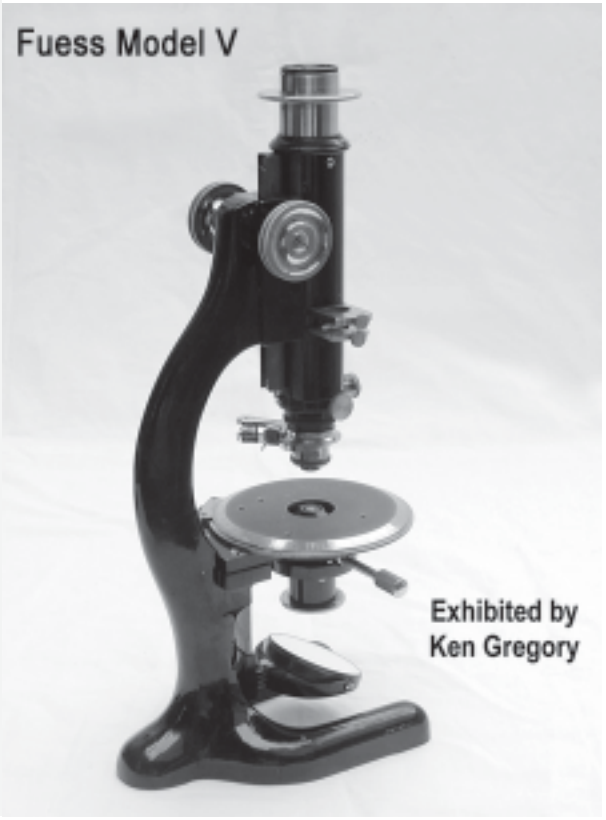
Date: Saturday, 7th June 2003
Location: Ken Gregory's Residence

The workshop began at 9:15a.m. with 15 members present. This month the weather was fine, allowing the group to gather outside. The meeting was called to order by the President, Jim Solliday. As usual, Ken Gregory provided the refreshments along with the addition of a cheesecake which was made by Julian Pulido's wife. The exhibition table was filled with the usual array of microscopes and accessories with the emphasis this month on the accessories. The giveaway and sales tables were also covered with items of interest to the group.

Announcements were made concerning the upcoming meeting on June 18th at the New Roads School. The Society was pleased to have Dr. Vern Eveland present, who incidentally was to be our guest speaker at the lectureship meeting. Dr. Eveland introduced himself and provided a brief description of his professional career as well as the topic he intended to discuss at the next Wednesday meeting. He is a Professor of Biological Sciences at California State University, Long Beach and specializes in Parasitology and Mycology. His topic for the Wednesday meeting will be *Emerging Infectious Diseases*. A discussion followed on the subject of infectious diseases and the impact on the United States of immigration from tropical countries. Dr. Eveland also highlighted the impact of new diseases as well as reemerging old ones. We look forward to his presentation and thank him in advance for his contribution. The members were reminded that the next workshop (July 5th) would be held at Izzy's home.

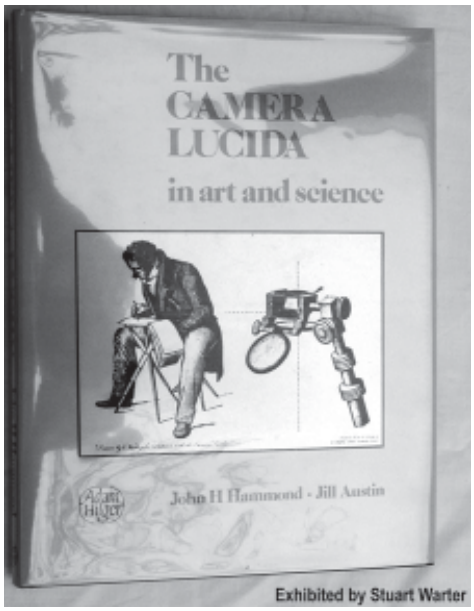
Ken Gregory exhibited two similar student-type polarizing microscopes with the intention of providing a visual comparison of the two makers (both of the same style). The first was a Fuess Model No.V with no inclination joint. It did have coarse and fine adjustment with substage mirror. Other features included a Bertrand lens, analyzer and polarizer. It was finished in black and made ca.1930. The second stand was a Leitz No.2. It was very similar to the Fuess in most of its features including the absence of an inclination joint. The finish however, was of black and brass. Ken also briefly described how he had completely restored the





Leitz. The Fuess represents one of three Fuess microscopes in Ken's collection.

Finally, as a result of a discussion on projection microscopes, Ken brought out a Ken-a-Vision macroprojector. He also set out a nice example of a Zeiss GFL binocular stand with a rare photo-changer adapted for use as a *camera lucida* or drawing apparatus. This accessory was very expensive when Ken originally purchased it. There followed a short discussion on how the device worked and the fact that the newer models had additional features.



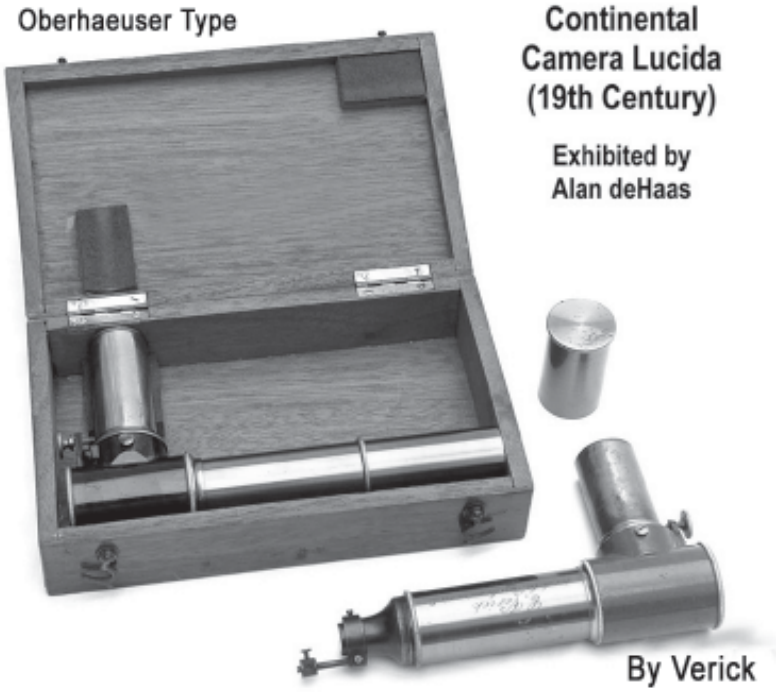
Exhibited by Stuart Warter

Stuart Warter exhibited a large selection of early *camerae lucidae* or drawing instruments. As pointed out by Stuart, William Hyde Wollaston (1766 - 1828) was the inventor of the *camera lucida*, patented as an artist's drawing aid in 1806, and for which he is best known. His *camera lucida* utilized a four-sided prism of his own design, set in a brass frame on a telescoping rod. When in use the pupil was placed half over the horizontal face of the prism, allowing a view of both the image and the paper. Later a prism was mounted on a cap that could slip over the eyepiece. Lionel Beale's version of the microscope *camera lucida* used a semi-transparent glass slip. Amici's version produced an image of the point of the pencil projected onto the field of view. The original device was intended as a landscape drawing apparatus and usually featured a clamp and an extension tube.

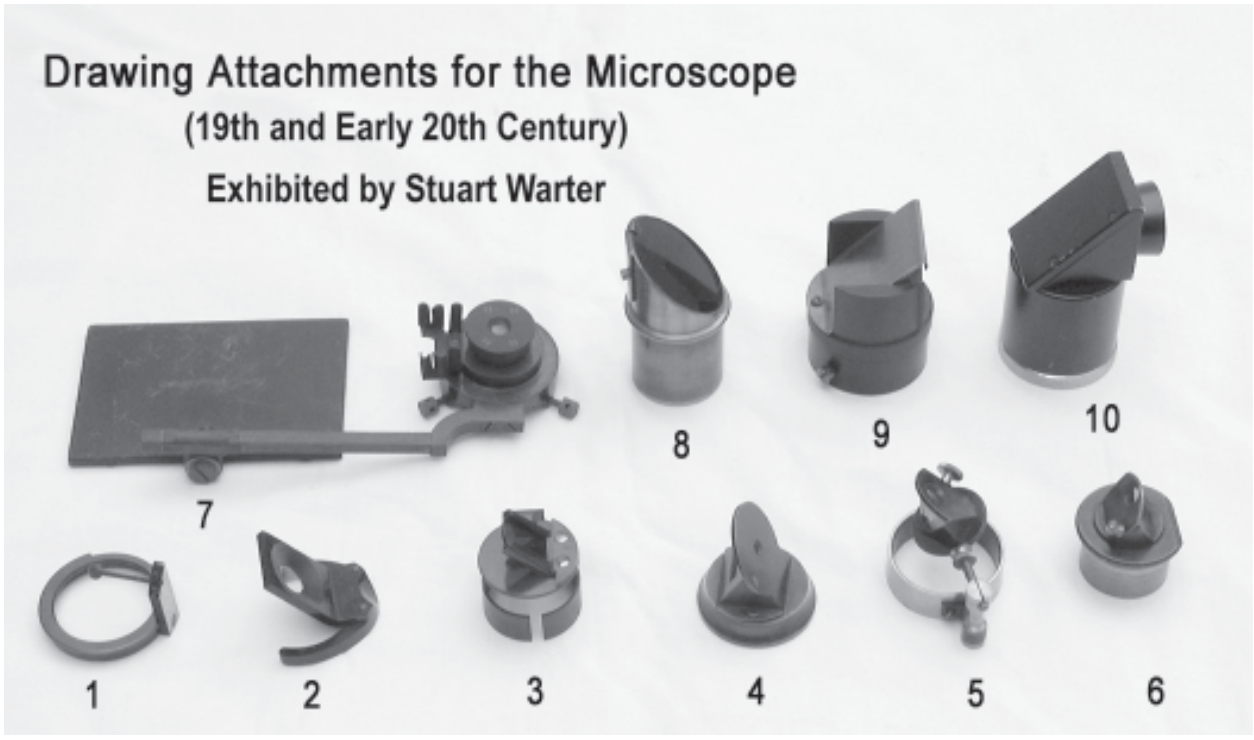
Stuart then showed a basic Wollaston type artist's prismatic *camera lucida* that came stored in a sharkskin case. This instrument was unsigned and estimated to be from the first half of the 19th Century but the features of the instrument made it difficult to narrow down further.

The second instrument on exhibit was of a later design described as Alexander's Graphic Mirror (ca.1834). The instrument was signed, *Alexr Alexander/Optician to the Queen/Exeter*; it was also engraved with a royal crest. This was of the reflective type and designed to be used as a landscape drawing aid. This particular instrument did not have a storage case.

In addition to the two artist's aids, Stuart presented a large selection of small *camerae lucidae* that were intended to be used with the microscope. The display included examples that were used with the microscope either inclined or vertical: 1. Sommering's, whole-pupil-type with polished steel speculum (horizontal, English, Victorian); 2. Glass plate, clear (horizontal, American); 3. Glass plate, neutral tint (horizontal, English, Victorian); 4. Split-pupil type (vertical, German, *Merz,* 1860's); 5. Split-pupil (vertical or adjustable for use on a 45 degree tube on a drum microscope, French, Nachet, 1840's); 6. Split-pupil (horizontal, American, *Zentmayer*, 1870's); 7. Mirror & prism, Abbe-type (vertical, German, *Zeiss*, 20th Century); 8. Ocular w/glass plate, neutral tint (horizontal, English); 9. Projection-type (horizontal, English, Victorian); 10. Projection-type (vertical, English or American, 20th Century).

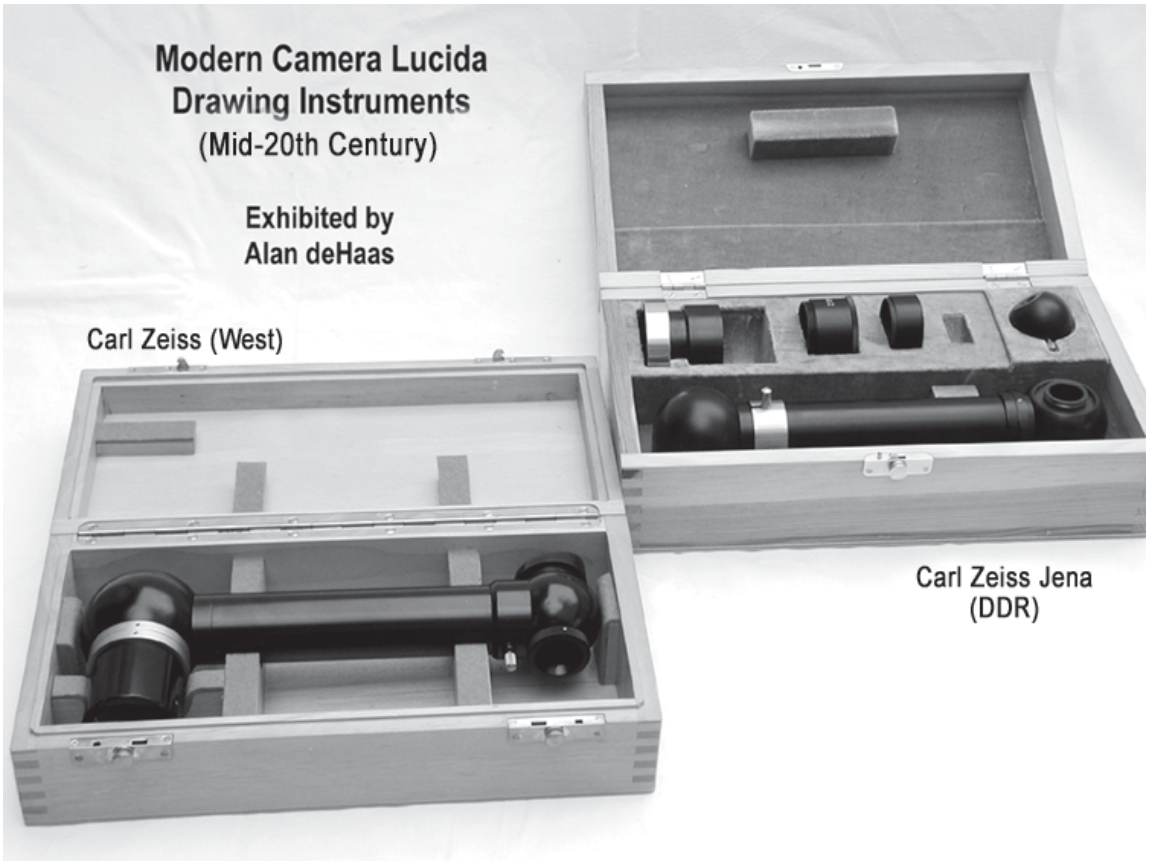


Alan deHaas exhibited four European *camera lucidae*, two being of the early style and two modern examples. The first was described as an Oberhaeuser *camera lucida* having a right-angle prism and intended for use in the horizontal position. The second was of the same type but of a later vintage, C. Verick was the manufacturer. The Oberhaeuser-type was likely from the third-quarter of the 19th Century) and the second from the fourth-quarter.



Both of the modern examples were made by Zeiss and came stored in hardwood boxes. One was described as a Carl Zeiss drawing tube for the stereo stand, featuring polarizers to balance the image and illumination. The other was signed Carl Zeiss Jena (East Germany). It also featured dual polarizers. A lengthy discussion followed after Alan described the use and features of the modern *camera lucida*.

John deHaas exhibited a restored Bausch & Lomb "F" Stand, which featured a vertical illuminator. The vertical illuminator included the bulb and bulb-housing, which is normally missing from such attachments of the 1920s and 1930s. This instrument represented another good example of John's lacquering and restoration skills.



Jim Solliday began his discussion by telling the group about a children's microscope kit and videotape that was loaned to him by Ed Jones. The video was one of an educational series known as *Beakman's World* and featured the mysteries of the microscope. Throughout the video there was a rivalry between the characters of Zacharias Janssen and Leeuwenhoek concerning who deserved priority for the invention of the microscope. The character of Janssen continually pronounced Leeuwenhoek's name in a rather disparaging manner, which was intended to create some humor for the audience. Photomicrographs and video segments were used to illustrate microscopic life and size comparisons. The microscope that came in the kit was quite reminiscent of the early Janssen-type but having a convenient sliding focus button.

Jim also talked about two types of digital camera adapters with which he had recently been experimenting. The first was designed by Jim and was machined for him by Jim Clark. It was intended for use on the wider 37mm photo tubes associated with the Olympus microscopes (BHS and the Vanox). The digital camera was a C-3000 by Olympus having a 3.2 Meg CCD pick-up chip. The difference between the C-3000 and the Nikon Coolpix's is the fact that the Olympus has a set of lens elements that extend out from the camera after it is turned on. The Coolpix cameras feature an internal lens zoom system, which make it easier to attach to an external adapter.

The problem with both cameras is that these built-in optics interfere with the projection of the microscope image causing vignetting and the loss of file size. This is in addition to the degradation caused by the multiplicity of camera zoom elements.The combination of the above difficulties essentially removes about half the potential resolution of the digital camera. The adapter made by Jim works well if you can find a very high eye-point, wide-field eyepiece that can be placed about one millimeter from the front element of the camera lens. The best eyepiece Jim has found to date is made by Swift and is the 10x WF, 24mm eyepiece. A Bausch & Lomb WF Stereo eyepiece also does a good job, but both still result in a small amount of vignetting.

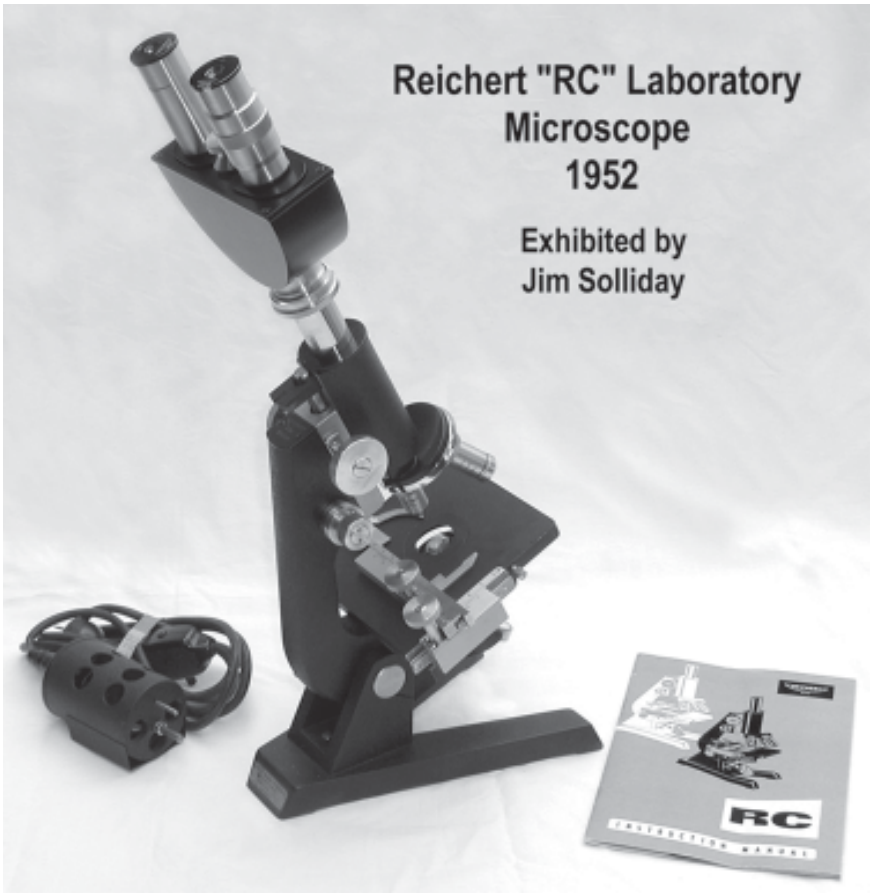
The second adapter exhibited by Jim was one that was made by Mr. Mark K. Simmons, the owner

of *Perspective Image LLC*. In this new adapter a large achromatic field lens is mounted inside the unit. This is designed specifically for the Olympus digital camera, taking into consideration the zoom lens system. Once mounted on the microscope and turned on for use, there is no vignetting at all. The image collected by the camera fills the entire CCD and produces a file of much greater size.

Mark's adapter for the Nikon Coolpix also contains a proprietary field lens that is appropriate for that system. No additional eyepiece is needed for this adapter. There remains a tiny amount of aberration at the edge of the image as a result of the field lens, but the overall acquisition of useful information is considerably greater than with all other adapters Jim has tested thus far. If any of our members have any questions or has an interest in learning more about these adapters they can contact Mark directly at the following address: Mark K. Simmons, Perspective Image LLC, 14130 SW Spaniel St., Beaverton, OR 97008. (503)590-945, Mark.k.simmons@exgate.tek.com His Web site is www.perspectiveimage.com.

Also exhibited by Jim was a Reichert Model "RC" Laboratory microscope in like new condition. The serial number was 229643 indicating it was made in 1952. This was a monocular stand with mechanical stage, Abbe condenser and the standard 2 inch substage mirror. It was originally sold in this country by the firm of Wm. J. Hacker & Co. Inc, located at 82 Beaver St., New York, N.Y. It can be described as a classic black and chrome microscope with a very fine crackle finish. It came with three achromatic objectives and three eyepieces. The main reason for setting up this instrument for the group was to demonstrate the rare Reichert binocular

attachment. This accessory fits into the monocular tube converting the instrument into a binocular microscope. It includes a field or correction lens which replaces the normal eyepiece. The signature on the binocular body says "Reichert Tubusvergröß 1.5x" indicating it provides 1½ times magnification factor.



Allen Bishop exhibited a Zeiss "W" Stand, which was originally designed at Goettingen West Germany after WWII. The manufacturing date was estimated to be some time ca. 1955. These magnificent instruments were superceeded in the late 1950s by the Obetkochen-designed "K", "W", and "Universal" stands. The "W" Stand has many superb features which make it unique and unmistakable. Allen stated that the microscope with all its accessories was obtained from Ron Erb. Included are phase optics, a rotating square glass stage, which includes a Zernike-style holder for a petri dish. The condensers attach to the stand by a bayonet system. The illuminator is attached to the base. Included is an early example of the "Optivar" magnification changer with a built in Bertrand lens. It comes with a monocular and binocular body tube, camera adapter and light meter. The hardwood case was something of a masterpiece having a brilliant finish and a remarkable number of accessory holders. All in all a beautiful collection of rare Zeiss components. Allen also exhibited a rare ICA of Dresden "safe lamp" used in the process of developing spectroscopic film. ICA later was absorbed by Zeiss-Ikon.

Larry McDavid showed the group an advanced wrist-watch having an amazing number of features at a total cost of $9.95. The group was quite amazed and could not believe what technology could be purchased today compared to only a few years ago.

Jim Clark talked about a Model 42 Spencer Polarizing stand, which was provided from the collection of Ken Gregory. It featured the large 5-inch circular rotating stage and a clip-on nosepiece system. Jim has the identical stand and was also familiar with all the characteristics of the instrument. A discussion followed concerning the Pol scopes and their important features. This was in conjunction with the earlier discussion brought up by Ken when he introduced his Fuess Model V.

Pierrino Mascarino brought up a discussion on how to use the projection microscopes. It was recommended that he try and obtain a Bioscope, which comes up occasionally on eBay. The various types of projection scopes were discussed along with the prices that these normally get these days. Pierrino (Rino) also gave the group an update on the activities at the Madrona Marsh.

The President brought the meeting to a close at 11:45a.m. leaving time for photographing the exhibits. Jim thanked all the members for their participation and reminded the group that there would be a gathering at the local Coco's Restaurant for lunch. □

MSSC Monthly Meeting

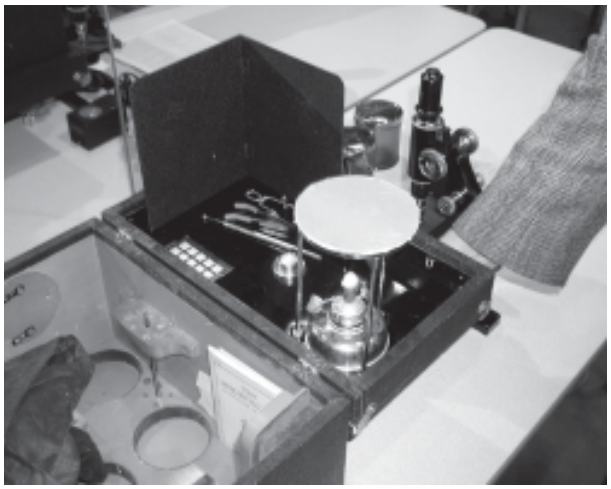
Wednesday 20th June 2003
at New Roads School
reported by Leonie Fedel

The meeting was called to order by the President, Jim Solliday who welcomed members. It was announced that Dan Kile is compiling a "History of the Polarizing Microscope" which will be published later this year by *The Minerological Record*. Also Ed Jones' article on The Forensic Microscopy was published in McGraw-Hill's *2003 Yearbook of Science and Technology*.

This presentation this meeting was given by Dr. Vern Evelyn and titled "Emerging Infectious Diseases." Dr. Evelyn explained how there are three types of infectious diseases: New; reemerging diseases; and diseases that are emerging due to drug resistance. These new diseases are caused by viruses, protozoa, bacteria, fungi and helminths.

He explained how a number of factors are contributing to the growth and spread of infectious diseases. The ease and relative cheapness of travel in modern times, and growth in worldwide commerce and transportation of goods (food in particular), are providing new avenues through which diseases can spread. Better identification methods in modern medicine are identifying diseases that may have been present but undiagnosed for many years. Social disorders and wars lead to hygiene breakdown and provide the perfect conditions in which diseases flourish. The overuse or improper use of antibiotics has created new drug resistant diseases.

In particular, Dr. Evelyn described the emergence of some of these new diseases. The monkeypox orthovirus is closely related to smallpox. It was first discovered in the United States on May 15, 2003 in Wisconsin. The next day it was found in



1930s Spencer milk-testing microscope outfit including accessories and instruction booklet

Illinois. Today, there are 90 known cases in the US across 15 states. The disease is thought to have moved from a Gambian rat to a prairie dog, then to a human. So far there have been no deaths from the disease, but 14 people have required hospitalization.

The coronavirus, SARS, which stands for Severe Acute Respiratory Syndrome, is so named because around the virus particle is a "crown". As of June 13, 2003, there were 8,454 cases and 792 deaths from SARS across 32 countries, which equates to a 9% death rate. 71 probable cases were identified in the US, only probable, as this is a very difficult virus to diagnose. It is believed that SARS emerged from the mutation of a droplet-borne coronavirus and probably originated in Guangdong in China. It is thought that the SARS epidemic has now peaked, but it is still spreading. Symptoms include fever and respiratory illness with hypoxia.

Two new rabies-like viruses have also emerged. Others discussed included immunosuppressant viruses such as HIV and the seasonal West Nile.

As well as viruses, there have been new and reemerging bacterial diseases including Anthrax (Bacillus anthracis), a new strain of E.Coli (O157:H7), and the deadly cholera which can have a 100% death rate in 48 hours if victims are not treated promptly with fluids to avoid dehydration.

Protozoan diseases include the extremely widespread malaria, which was nearly eliminated in the 1960s before the control program was stopped. The African sleeping sickness disease (Trypanosomiasis) is also caused by a protozoa which is transmitted by a bite from an infected tsetse fly and is 100% fatal if left untreated.

Fungi also cause disease. Aspergillus is the major cause of "Sick Building Syndrome". Finally, Dr. Evelyn described how the disease caused by Cryptococcus neoformans has spread massively since it first discovery in 1984. It is found in soil contaminated with pigeon droppings and on eucalyptus leaves. The growth has been due mainly to the emergence of immunosuppressant diseases which leave people vulnerable to the effects of Cryptococcus neoformans.

After he break Alan deHaas gave a presentation on critical versus Koehler illumination. His paper is reproduced below. □

ILLUMINATION - CRITICAL VERSUS KOEHLER

by Alan deHaas

The manner in which an optic or optical system treats a wavefront is determined by a group of mathematical constraints and manufacturing tolerances. These include refractive indices, dispersions, surface curvatures, centration, figuring of the surfaces - that is the attention given to maintaining the calculated curve and its polishing, et cetera. Once designed and manufactured, the ability of an optical system to form an acceptable image is fixed.

A microscope, no matter how configured, is still just a collection of light transmitting elements. From objective to eyepiece all the characteristics are mathematically definable. That definition, or, how the optics act on the data passing through the system is called the optical transfer function and it operates on any incoming wavefront in exactly the same manner, as a resistor in an electrical circuit passes a calculable current for any applied known voltage. I will consider the image-forming part of the microscope to be just a black box that provides a known output from a known input.

Given such a black box, what then can be done to improve the fidelity of the final image reaching the eye or film?

Play with the illuminant. The actual source, glowing gas or filament, will make very little difference but for color temperature, spectural output and the ease of obtaining a uniformly illuminated field. The manner in which the light is brought to the specimen, however, makes a very big difference. No matter which method one chooses, it pays to secure the best illuminant one can. It makes no sense to acquire at great expense an apochromatic objective and achromatic condenser and then feed it from a chromatically aberrated source. All that has been done is to assure that the chromatic aberration of the source has been relayed correctly to the specimen and to the costly black box.

The first lens or lens group in front of the lamp is designed for efficiency - delivering as much of the light as possible to the microscope's condenser. It is not configured to provide a chromatically correct bundle. Although the total available light to the specimen will be reduced, it will very often pay to use a naked source, thereby allowing the achromatic condenser to be the first optic the light passes through. (This is an easy way to secure Critical Illumination.)

In the Koehler method of illumination, the source is brought to a focus at the aperture stop at the rear of the condenser and is, from there, passed through the specimen and relayed to a zone near the back focal plane of the objective. The accuracy of this depends on the position and quality of the condenser. This makes it fairly easy to match the numerical aperture of the condenser with that of the objective, or, to make any adjustments necessary for securing a slightly higher contrast by reducing the aperture of the condenser or, equivalently, changing its position. The black box must now operate on the light which has been diffracted and refracted by the specimen, the medium in which it resides, the slide (and perhaps oil) below and the coverglass and air, water, glycerin or oil above. You should all be acquainted with the ray-tracing presented in the microscopy literature which shows that the illuminant bundle in passing through the instrument is imaged in different planes than the wavefront coming from the specimen. (For illustration, refer to the drawings of Koehler illumination in the Zeiss pamphlets.)

Please note that the light is operated upon by the specimen - it too is a form of optical element in that it perturbs the wavefront issuing from the condenser. The specimen is usually not of the same index as the mounting medium in which it is placed; image formation is, after all, dependent on some refraction at the specimen. Furthermore, one hopes that the specimen has some zones which may be defined as edges: diffracted bundles must also be generated. An edge occurs not just at the conjunction of a transmissive zone with an opaque zone: an edge can also be generated at the border of two transmissive materials having different refractive indices. The degree of difference in the refractive index and abruptness of the transition regulate the balance between diffracted and refracted rays.

In the case of Nelsonian or, Critical Illumination, as it is usually called, the illuminant is imaged in the plane of the specimen. Due to this simple difference from the Koehler method, the illuminant bundle and image data are imaged in the same planes or our black box.

The action of the specimen on the illuminating rays is the same as it was before, but with the source in the plane of the specimen one receives a different product both mathematically and visually. It would seem from the results of applying critical illumination, that the percentage of diffracted versus refracted rays making up the image, has been altered. The resolution is greater than in Koehler, and so is the contrast. The math behind this is, quite frankly, frightening (at least to me). But it should be realized that light rays converging (Koehler method) at a boundary of two different refractive indices in the plane of the specimen and forming an image of the entrant aperture in the back of the focal plane of the objective, will give rise to an image different from that yielded by that same zone when the effective illuminant is actually in the specimen plane (critical).

It would appear in comparison with the Koehler method of illumination, that in Critical Illumination, resolution determining input apertures do not have as great an effect on final image formation. A less than 0.3n.a. cone from the condenser is perfectly adequate for resolving the details of a test diatom that usually requires a 0.45n.a. cone. (Please refer to the description of my variant on critical illumination as demonstrated at the November 2002 meeting.)

The classic sources used in obtaining the finest critical illumination are the ribbon filament lamp, limelight and the broad side of a wick from an oil or kerosene-burning lamp. If one has sufficiently sensitive eyes, a broad-wicked candle will suffice. The main consideration in source selection is this - after the minification provided by the condenser, the image of the source in the specimen plane should still be large enough to fill uniformly, from edge to edge, the field observed by the objective. For photomicrography this means holding the uniformity of the center-to-edge illumination to within 1/4 or even 1/8 of a stop. For some photomicrographic films of high contrast the uniformity of field illumination has an even tighter constraint.

There is no question that limelight provides the best source; second only to the sun. But, limelight, would in this day, be considered overly cumbersome and difficult to apply. The 6 volt 18 amp ribbon filament lamp is by far the easiest to use. It is still obtainable, as is the transformer to drive it.

Please remember that no bare light source shows chromatic aberration. Only, when the light emanating from it has been passed through a lens, will such problems arise. It is essential that the optics immediately associated with the lamp are of a sufficient quality. Preceded by the appropriate heat absorbing filter, an old 50mm f1.4 lens from a 35mm camera makes a good source optic for most lamps.

Finally please note that any source requiring a ground glass for uniform field illumination will require a slight defocusing of the condenser (usually not objectionable), so that the "hills and valleys" of the ground glass are not viewed along the specimen. □

INTERNET RESOURCES

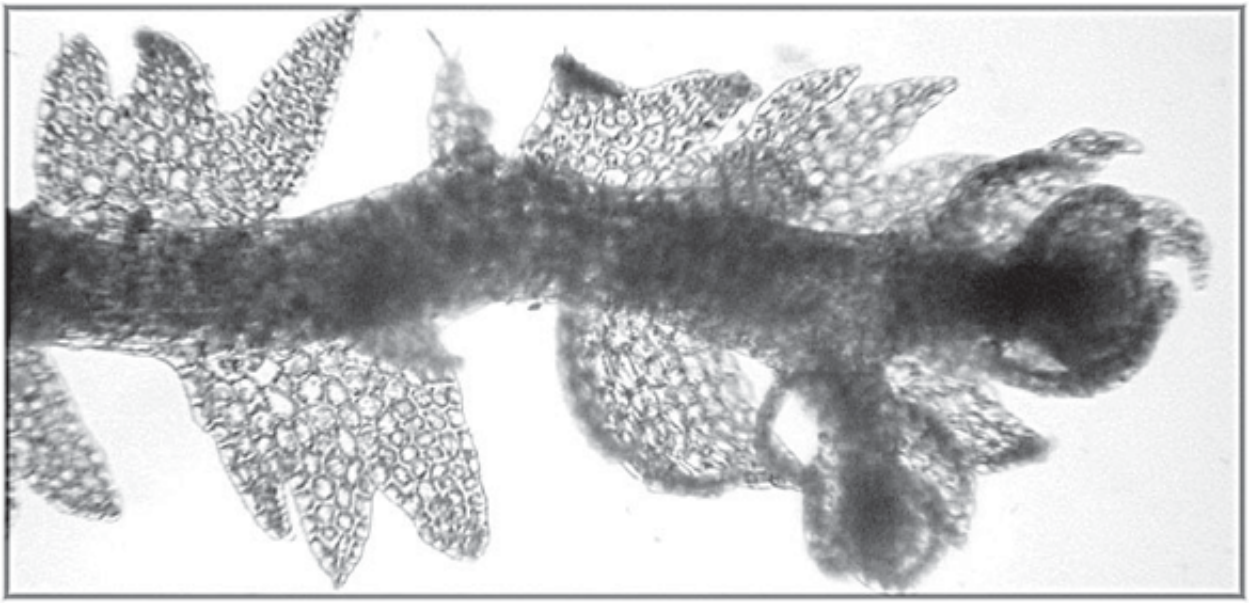
by Leonie Fedel

Steven Durr's Web site
See: http://www.btinternet.com/~stephen.durr/
This site was sent in by John Fedel. It is an introduction to photomicrography of protozoa, algae and bacteria.

Wild Heerbrugg M20 Microscope site
See: http://members.cox.net/wildm20/
This site aims to help Wild M20 users in locating microscopes and essential parts, and with the identification of those parts for these superb, but now long out of production instruments.

Following on from last month's Journal article on the history of the MSSC, George G. Vitt Jr. kindly sent in the following photograph from the society's Christmas party of 1988

MSSC member Diane Lucas sent in the following photomicrograph - she is having trouble identifying this specimen. Please email the editor (editor@msscweb.org) with your suggestions.



MSSC Monthly Saturday Workshop Announcements

The MSSC hold a workshop from:

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

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

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.

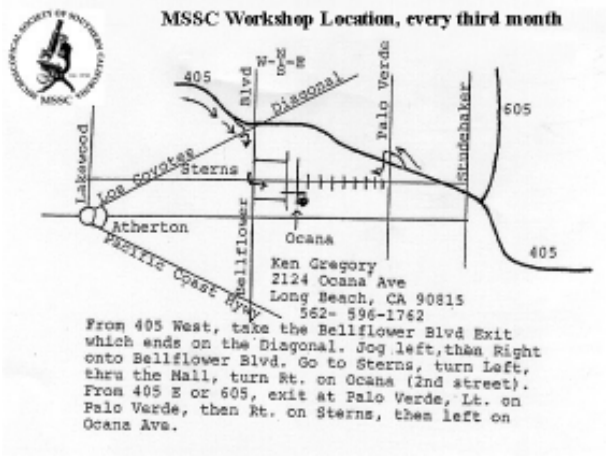
The schedule for 2003 is as follows:

Jan. 4, 2003 at Izzy Lieberman's
Feb. 1, 2003 at Izzy Lieberman's
Mar. 1, 2003 at Ken Gregory's
Apr. 5, 2003 at Izzy Lieberman's
May 3, 2003 at Izzy Lieberman's
Jun. 7, 2003 at Ken Gregory's
Jul. 5, 2003 at Izzy Lieberman's
Aug. 2, 2003 at Izzy Lieberman's
Sept. 6, 2003 at Ken Gregory's
Oct. 4, 2003 at Izzy Lieberman's
Nov. 1, 2003 at Izzy Lieberman's
Dec. 6, 2003 at Ken Gregory's

There will also be a field trip to collect specimens from Madrona Marsh, Torrance California on Sat April 26, 2003. □

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 21st May, 2003

The pond life program is undoubtedly one of our best attended and most exciting meetings! Members are strongly encouraged to bring pond water, ditch water, fountain water or anything that lives in water. Also microscopes, illuminators and pipettes and tools to play in the water.(Extra microscopes are always a good thing to bring for guests to use.) We will also be presenting a short slide show illustrating our field trip to the Madrona Marsh. For those who managed to attend the field trip you already know what a great success it was and how valuable a resource this preserve has become. We will show an introduction to the microscopic life of the marsh using digital imaging.

7:00pm 18th June, 2003

This month our main speaker is Dr. Kevin Hoffman, Senior Insect Biosystematist for the California Department of Food and Agriculture. The title of his talk is "Exotic Fruit Fly Exclusion Programs in California". He will present a general overview of the programs used in California to prevent colonies of exotic fruit flies from becoming established, followed by a more specific overview of the Mediterranean Fruit Fly and its exclusion programs. After Dr. Hoffman's presentation, Alan deHaas will continue with his lecture series on the microscope. This month, he will provide an explanation and demonstration of flat-field optics.

7:00pm 16th July, 2003

This month our main speaker is Dr. Kevin Hoffman, who is the Senior Insect Biosystematist for the California Department of Food and Agriculture. The title of his talk is "Exotic Fruit Fly Exclusion Programs in California". He will present a general overview of the programs used in California to prevent colonies of exotic fruit flies from becoming established, followed by a more specific overview of the Mediterranean Fruit Fly and its exclusion programs. After Dr. Hoffman's presentation, Alan deHaas will continue with his lecture series on the microscope. This month, he will provide an explanation and demonstration of flat-field optics.

7:00pm 20th August, 2003

Ken Gregory, MSSC Program Chair, will facilitate a workshop on drawing through the microscope. The Camera Lucida was originally designed in 1807 by Dr. William Wollaston, and adapted for use with the microscope by Abbe in the mid 1880s before photography through a microscope became easy. After this, John and Leonie Fedel will demonstrate this new MSSC website to members.

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). □

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MONDAY, MAY 3, 2004 AT 5:00 P.M.

Microscopes to sell after 7:00 p.m.

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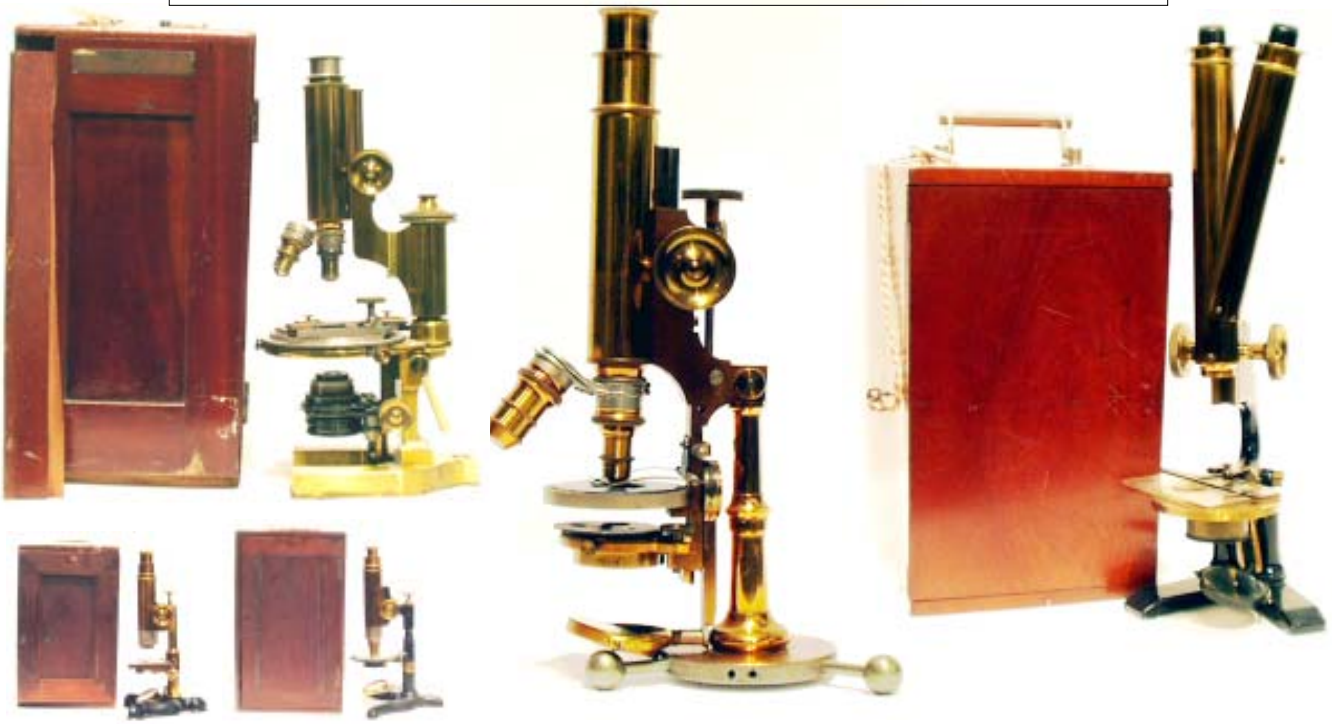
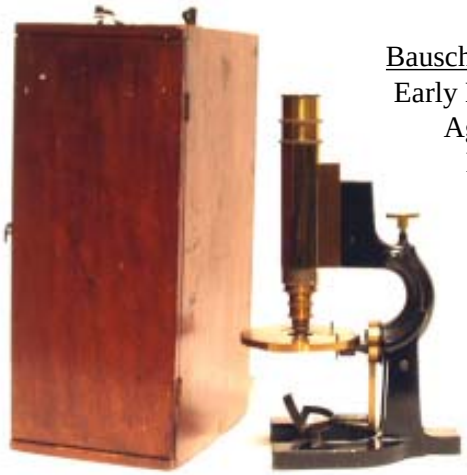
Preview: Monday, May 3rd 12:00 noon through auction





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Editor's Note

Please send any articles, photos, member profiles, notifications of forthcoming events and website summaries for inclusion in forthcoming journals to me at:

Leonie Fedel
3273 Provon Lane
Los Angeles CA 90034-2714
(310) 839-9881,
email: editor@msscweb.org

The preferred route is via email, with text and graphics as attachments. Text in the following formats: plain/rich text format/word documents, graphics in the form of jpgs. If you need any help in converting information to these formats, please contact the Editor, who would be happy to help.

The MSSC Editorial Committee makes decisions concerning Journal content and style and consists of:

Jim Solliday (President)
Pete Teti (Printing & Distribution)
Alan deHass (Education Chair)
Leonie Fedel (Layout Editor)
Allen Bishop (Copy Editor)

MSSC Website

The MSSC now has a new website located at www.msscweb.org. Currently the website offers a history of the Society, meeting and workshop schedules, journal archives, membership details, links to other microscopic resources on the internet and a news and events notification page. There are plans to add a seller's page and a catalog of the MSSC Slide collection. Keep your eyes on the 'What's New' page for details of new site additions. Some areas of the website (such as the Journal archives and membership lists) are only accessible to paid up members. Members should send an email to Leonie Fedel editor@msscweb.org to request their username and password if they have not yet received one.

New Treasurer

Due to health issues our longstanding Treasurer, Dave Hirsch, decided to resign from his post in January 2004. *[Note: This Journal V8No3, May/June 2003 was not published until March 2004.]* Dave has been serving as our Treasurer for over 27 years and has flawlessly maintained the fiscal order of the MSSC, we all offer him our deepest gratitude for his long service.

Herb Gold has been elected his replacement.

Please remember that members dues are collected at the beginning of each calendar year for the period Jan to Dec. The dues structure remains as before:

$50.^{00}$ for Regular Members for the year. Regular Members are geographically advantaged and can attend meetings and workshops.

$40.^{00}$ for Corresponding Members for the year. Corresponding members reside in geographically remote areas and are not able to attend meetings. Corresponding members may also include disabled persons who reside geographically close but are unable to attend meetings and workshops.

Payment accepted in the form of cash or checks in US funds made out to "Herb Gold - MSSC".

Please remit dues to:

Herbert A. Gold, (Treasurer)
2065 Balmer Drive
Los Angeles, CA 90039-3047
323-665-8391
email: herbgold@sbcglobal.net