Journal of
THE MICROSCOPICAL SOCIETY OF SOUTHERN CALIFORNIA
Volume 8 Number 4 July/August 2003

THE SMITHSONIAN MUSEUM MICROSCOPES

by
Stuart L. Warter

In the 19th century, a variety of microscopes designed to show a number of slides were offered. They were variously designated as Museum Microscopes, Exhibition Microscopes, Demonstration Microscopes, Classroom Microscopes, Comparison Microscopes, Instructional Microscopes, and Illustrator's Microscopes. They were used either in teaching or in research where rapid comparison of objects was desired. Off the shelf models were offered by manufacturers such as Leitz, Reichert, Kloenne and Mueller (fig. 1), Bausch and Lomb and T. H. McAllister (fig. 2). Others of a one-of-a-kind nature were especially constructed for particular uses. Very few examples of these specialized instruments have survived - only two, one by Leitz and one by Reichert, have ever been exhibited before the MSSC, and none are owned locally by current members. Most of the stock instruments were otherwise standard models modified to accommodate enlarged circular stages, upon which could be arranged multiple slides in radial fashion. Representative examples of catalog illustrations are shown here.

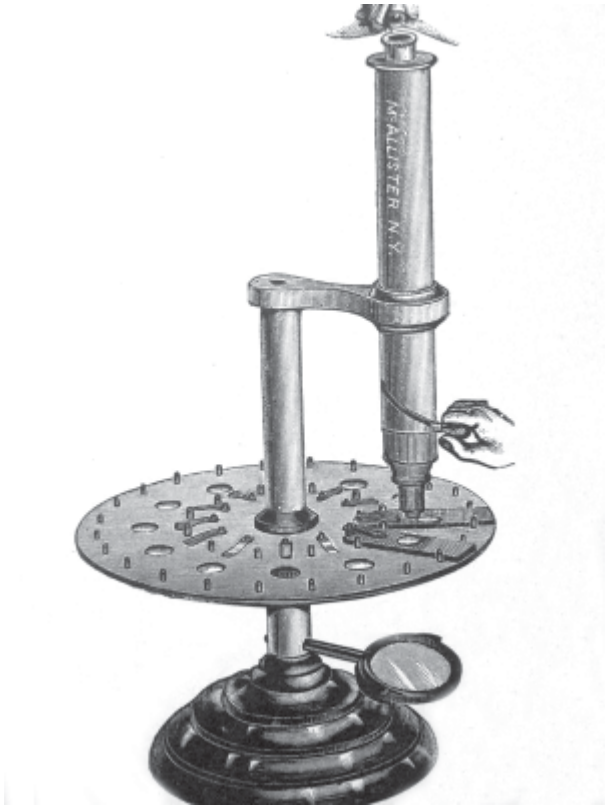

Fig 1. Kloenne and Mueller's Large Demonstration Microscope

On May 8, 1899, the *Scientific American* carried an article with descriptions and illustrations of two specially designed demonstration instruments used for exhibition at the Smithsonian Institution. That article is reproduced below:

THE CLASS MICROSCOPE

The question of the exhibition of microscopic objects to classes and the general public is an interesting one, and the subject appears to have been thoroughly examined by Dr. James W. Flint, U.S.N., one of the Curators of the Smithsonian Institution, who has given the results of his studies in the Annual Report on the National Museum for 1918. He has devised several plans for exhibiting microscopical objects not requiring the

use of very high magnifying powers. The instrument shown in our first engraving [fig. 3] is in use in the National Museum and it was made in the year 1890 and has been modified in a few details since, and has successfully endured manipulation by thousands of inexpert hands — of children as well as adults — without injury, and this without attention or supervision of any kind.

The instrument was devised for the special purpose of exhibiting to the public a series of foraminifera — minute marine shells. These shells are mounted on concave brass disks having short stems which may be inserted in holes in the rotary stage. There are five concentric rows of holes in the stage, which is 15 inches in diameter, allowing the exhibition of two hundred forty-two separate mounts. Illumination is increased by the use of a parabolic reflector adjustable beneath the plate glass cover of the box, just clear of the mounts. The stage is rotated by means of a friction roller placed beneath the stage and controlled by the milled head represented at the left in the illustration. The other milled head operates a slide upon which the stage is pivoted by means of a rack and pinion. The objective in actual use is a 2-inch, that being found sufficient for the purpose and more easily manipulated by the laity than one of high power. Much higher powers might be used, however, the only limit

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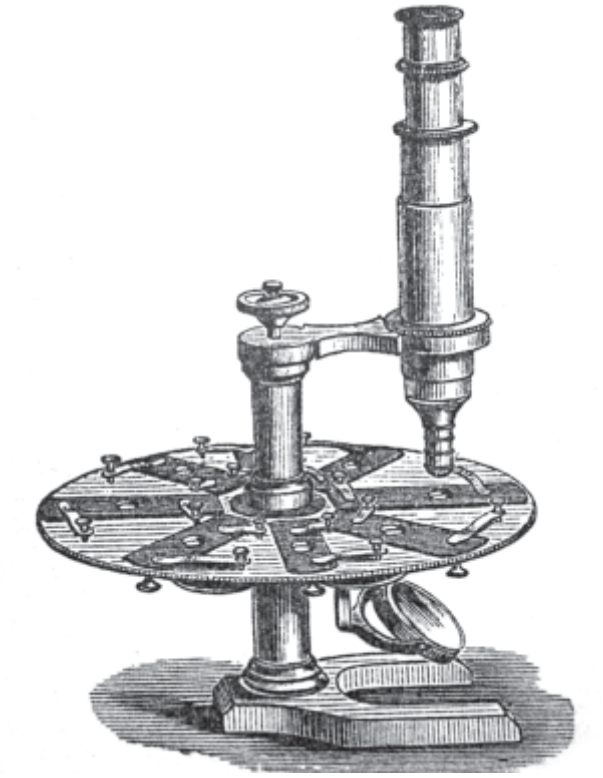

Fig. 2. McAllister's Illustrator's Stand

being a sufficient working distance to allow the mounted objects to pass freely under the objective. For the exhibition of translucent objects the only modifications of the instrument necessary would be the enlargement of the perforations in the rotary stage, the mounting of the objects on small squares or circles of glass,, and the adjustment of a mirror beneath the stage.

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For the purpose of exhibiting a series of preparations mounted in the usual way upon glass slips, an entirely different form of apparatus has been devised [figs. 4 and 5]. An indefinite number of slides from ten to a hundred are attached to an endless band of linen by means of thin brass holders which allow the slides to be changed where desired. This linen band passes over two rollers mounted upon a light brass frame which occupies the place of the stage of an ordinary microscope; the loop of the band carrying the slides hangs free. One of the rollers has a projecting pivot with a milled head by which it may be rotated, and the two rollers are connected by a narrow belt at each end. As the rollers are made to revolve, the band carrying the slides passes horizontally under the microscope; they rest upon the two narrow belts and are kept at a definite distance from the objective of the microscope by means of two guides which press on the slides from above. The brass frame rests upon a grooved bed-plate, which permits of a lateral movement of the frame. This lateral motion is controlled by a screw operating by a second milled head in convenient proximity to the one giving a to-and-fro motion. As in the other instruments, and nearly all the parts of the mechanism, are inclosed in a box secured by a lock, the only exposed parts being the microscope and the two milled heads controlling the motion of the slides. The advantages of this form of the apparatus are that the usual glass slides as used by microscopists, which are three inches long by one inch wide, upon which microscopic objects are usu-

CLASS MICROSCOPE ARRANGED FOR EXAMINING FORAMINIFERA.

Fig. 3.

ally mounted, may be used, and specially that the focal distance is not disturbed by differences in thickness of the glass slides.

It will be noticed that there is a glass door at the upper part of the case which allows the light to pass to a mirror which reflects the light to pass to a mirror which reflects the light upward exactly as with the ordinary microscope stand. The usual rotary diaphragm is placed between the rollers which carry the band. It may be worthwhile to mention a device to prevent injury to the instrument from violent twisting of the milled head which controls the lateral movement of the frame after the frame has [been] brought up against the stages in either direction. This is effected by slightly tapering the pivot of the screw governing the movement and attaching the head by friction only, the amount of friction being regulated by a set-screw in the end, so that before a dangerous strain can be put upon the slides, the head turns harmlessly upon the pivot. In this instrument, as in the one first described, the magnifying poser which may be used is only limited by the working distance of the objective. Since the upper surface of each slide is held at definite and unvarying distances from the objective, the only allowance that would have to be made would be for the difference in thickness of the objects, cover glasses, and cement rings; so that objectives of the classified scale of 1/4- or 1/6-inch might be used without difficulty by those accustomed to the manipulation of a microscope.

The only disadvantage which the instrument labors under is that the mechanism is somewhat more delicate and complicated than in the other one where the slides are arranged on a circular disk. Microscopes copied from the originals have been use for several years and no difficulties have been found in the way of their perfectly successful operation. We are indebted to Dr. James M. Flint, of the Smithsonian Institution, for the photographs from which our engravings are made.

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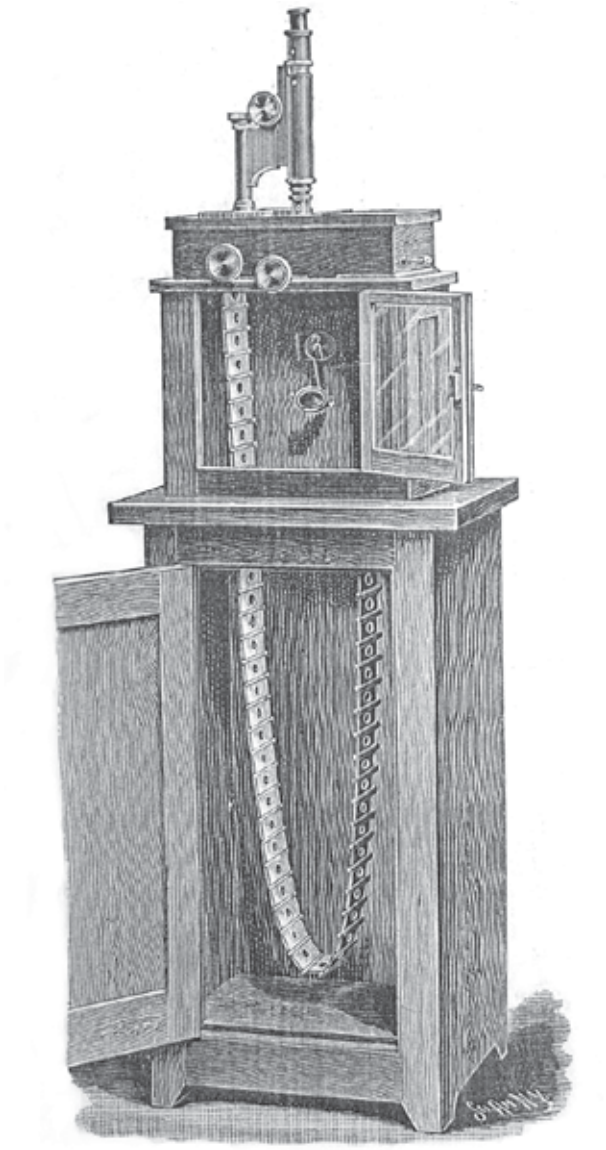


Fig. 4. Microscope for exhibiting ordinary mounted objects

N.B. The microscope bodies utilized on the above two instruments appear to have been taken from stands by Zentmayer (fig. 3) and Bausch and Lomb (fig. 4).

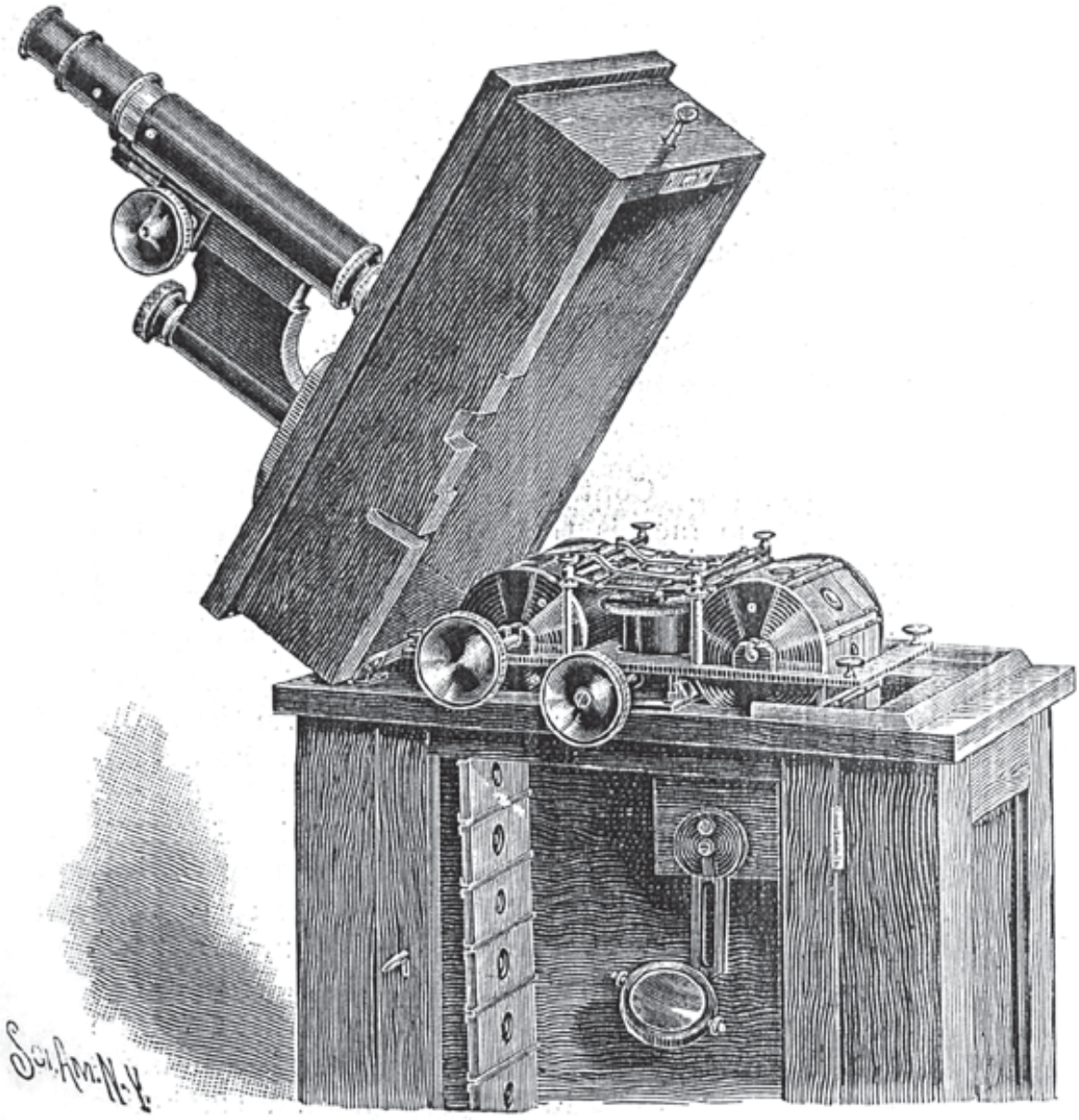
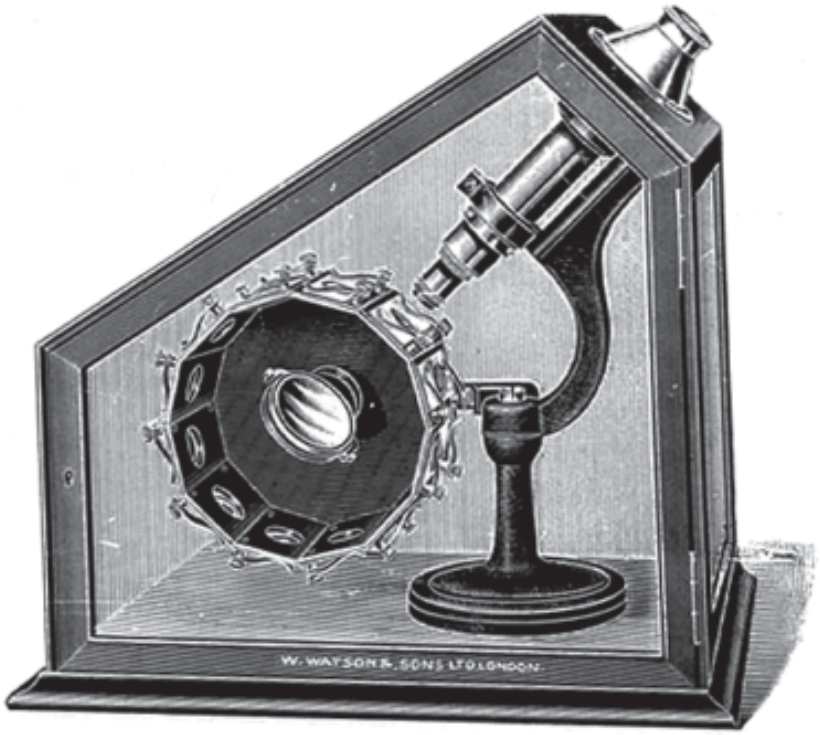


Fig. 5. Details of manipulating device

MUSEUM MICROSCOPE

THE WATERHOUSE PATTERN.

As supplied to the South Kensington and other Museums.



The Museum Microscope gives facilities to display a number of mounted microscopic objects in a museum or exhibition, where it is required to leave the instrument unattended, and at the same time prevent the injury of microscope and specimens. As here illustrated, it will be found thoroughly reliable and adequate in every way.

It consists of a dust-proof mahogany-framed glass case, in which the Microscope is fitted. The 3 × 1 in. objects, 12 in number, are placed upon a brass drum, which can be rotated from outside the case, a spring catch indicating when the object is centred. The Eyepiece of the Microscope projects outside the case, and fine focussing is effected by moving the eyepiece end in a spiral slot.

This new pattern combines advantages which past experience has suggested, and in addition to placing the observer in the most favourable position for examining, every part is securely fixed to prevent interference with any loose or easily-removed parts. The door is fitted with a lever lock.

Code Word.	No		Price.
Musk	B 3380	**PRICE** complete, with one Eyepiece and 1½ in. Parachromatic Objective.	**£37 10 0**

Museum Microscope, No. 2 Pattern.

Museum Microscope, No. 2 pattern, is similar in general construction to the large Waterhause pattern, but is arranged to carry only 5 mounted objects 3 × 1 in.

The focussing adjustment is by rack controlled from the outside right-hand of case. All the projecting milled heads, etc., are effectually protected against improper treatment. Owing to the smaller number of objects exhibited, this model is recommended where large numbers of visitors are to be provided for without undue waiting.

Muster B 3381 **PRICE.** with Eyepiece and 1½ or 2 in. objective . . **£31 10 0**

W. WATSON & SONS, LTD. 313, HIGH HOLBORN, W.C.

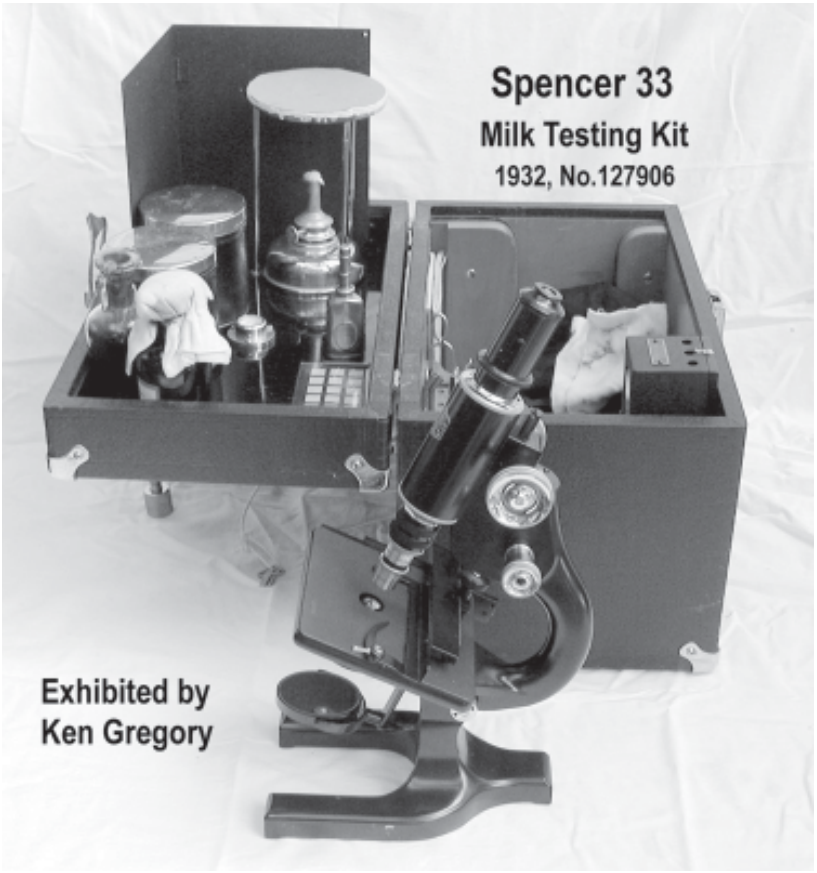
WORKSHOP OF THE MICROSCOPICAL SOCIETY OF SOUTHERN CALIFORNIA

recorded by Allen Bishop and written by Jim Solliday

Date: Saturday, 5th July 2003
Location: Izzy Leiberman's Residence

The workshop began at 9:20 at Izzy Lieberman's home with 16 members present. As usual the members came together under the shade in the back yard with the meeting being called to order by the President, Jim Solliday. The weather was quite pleasant with the sun shining and the temperature being mild. Our good friend William Hudson once again provided the coffee and donuts. The group was not disappointed as we were treated to a very good selection of microscopes and accessories including one extra table of sales and free items. Announcements were made concerning the upcoming lectureship meeting, which was to be held on the third Wednesday (July 16th). We learned that our guest speaker would be Dr. Kevin Hoffman who is currently the Senior Insect Biosystematist for the California Department of Food and Agriculture. His talk will be on the Exotic Fruit Fly Exclusion Programs in California. He will also provide a specific overview of the program that addresses the Mediterranean fruit fly within the Los Angeles basin and surrounding areas. The Wednesday meetings continue to be held at the New Roads School in Santa Monica. The members were reminded that the next Saturday workshop (August 2nd) would again be held at Izzy's home.

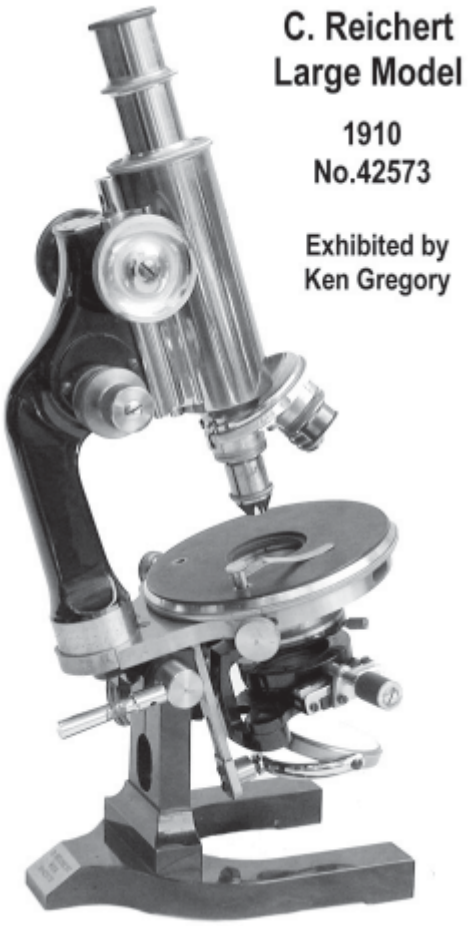
Even though Leonie (Editor) along with her husband, John, were currently in England on vacation, there was an expression of appreciation that the first issue of the Society Journal was recently made available. As an update it was announced that the Jan/Feb issues were already out with the March/April issue ready and the May/June in the works. The 2001 Workshop-records publication will also soon be available.



Before the meeting was called to order there was some excitement over a wonderful freshwater sample available for observation in a culture dish brought in by Reino Mascarino. The idea was to illustrate his new darkfield setup in conjunction with his Leitz stereoscope. Fiber optics were used for the illumination source and Olympus wide-field eyepieces were used on the scope. The culture or sample was so full of water-flies and rotifers that it was hard to see the bottom of the dish. It was indeed one of the best freshwater exhibits we have every seen. Thanks go to Reino for his good work, see the illustration for a picture of the scope. There was also some discussion on the use of dark-field with the stereoscope.

Exhibits and Discussions:

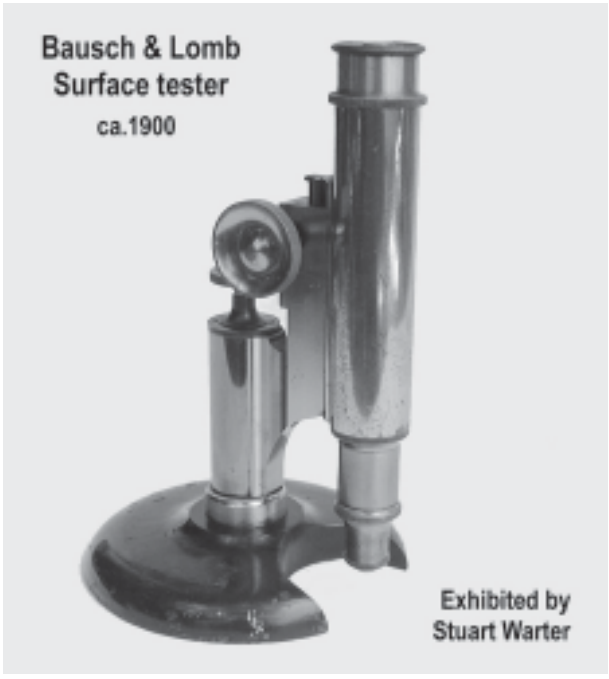
Our discussions began with **Ken Gregory** who showed a unique and very rare Spencer milk testing kit. The microscope was in new condition and was identified as a Spencer No.33. The entire set was designed to be portable with all the components stored in a locked case. Every slot and hole in the case was filled with the appropriate accessory including the original staining bottles. There was even a stainless leg (post) that screwed into the top of the lid allowing for support and adjustment of the lid so it could be used as a tabletop. There was even a bubble level mounted within the lid in order to ensure a level-working surface. Ken described how the outfit was used for testing untreated samples of milk and how to perform the bacterial counts. Included with the kit was the original receipt, which indicated the purchase price in 1932 was $157.50. The original buyer was the Health Department of the City of Rome New York. Ken also exhibited a beautiful large brass Reichert continental stand with a serial number of 42573, having the date of manufacturing at 1910. This microscope is much like the Reichert Large New Stand AII (Neues groBes Mikroskopstativ A II). It features the wide body-tube and side fine adjustment micrometer screw. It also has the distinctive Reichert arm, which can be conveniently used as a handle without danger of disturbing the fine adjustment. It has a rotating circular stage, which can be centered by means of two screws, one on either side. The coarse adjustment is by rack



and pinion, while the fine movement is by means of a then-new micrometer-screw, which operates in the following manner. By turning the milled head, a spindle on which a screw design, is cut actuates a worm wheel, by the rotation of which a roller follower is raised or lowered and with it the tube. In this manner a fine movement of the greatest delicacy and durability is obtained. The movement of the micrometer-screw is an endless one, which is a feature of considerable importance as a backward movement is never required (Catalogue of Reichert stands, 1902). The catalogue also states that all bearing surfaces are of steel and the entire mechanism is protected within the frame of the microscope. The head of the micrometer-screw is so graduated that one division is equivalent to 0.001mm movement of the objective. The price of a similar Reichert stand in 1902 was $124.00. The Reichert 1908 Catalogue also features a similar Large Stand AII. The condition of Ken's continental Reichert is like new. There was a small bit of damage to the lock area of the case, which Ken pointed out was the result of previous abuse. Dave Hirsch then briefly explained how to repair damage to a wood cabinet when the door or lid has been pried open.

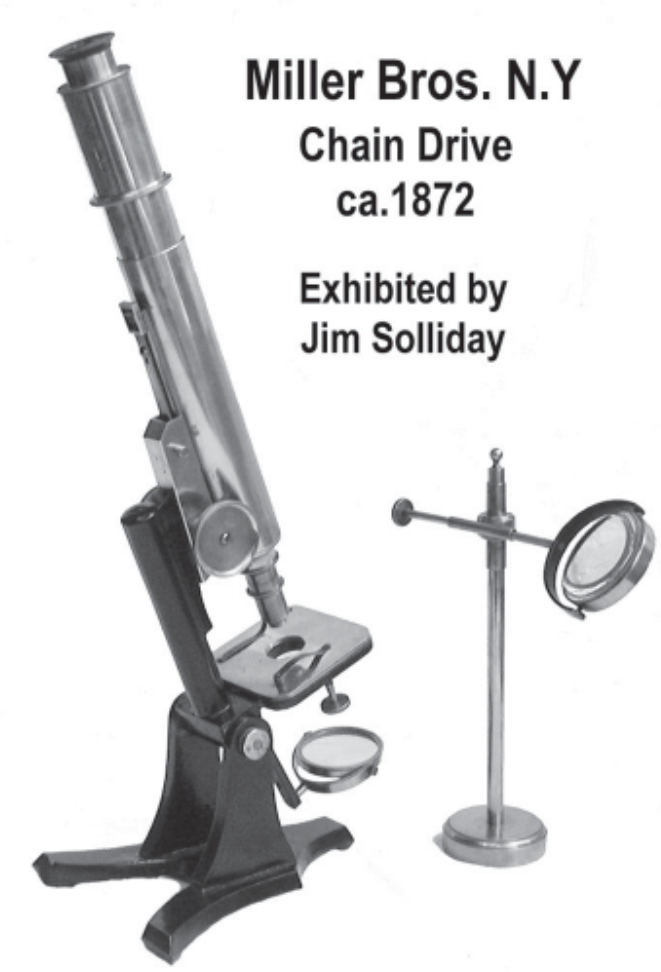
Stuart Warter exhibited an unusual Bausch & Lomb "surface inspection" scope. The exact purpose of this scope was not actually known and Stuart was open for suggestions. The scope was apparently made for some specific purpose and utilized the arm and body of a B&L "B" Stand, ca.1900. It has a rather heavy round base finished in a dark red color. The scope was damaged in shipping, but Stuart managed to provide expert repair. This generated a discussion on the problems with shipping microscopes. A number of "horror stories" associated with eBay sales were revealed, illustrating how careless some sellers are with their shipping techniques.

Jim Solliday exhibited an exceptionally rare American microscope made by Miller Brothers, N.Y. City. The signature was on the objective and the date of manufacturing was ca.1872. The Miller Brothers worked between 1868 and 1880



and were active during the heyday of the early New York City microscope makers. The overall style of this microscope is a mixture of American and English patterns, dominated by the English influence. The most important feature is the chain-drive coarse focusing arrangement. Until now it was not known that Miller Brothers manufactured chain-drive instruments. This brings together a number of New York makers who employed this English focusing system. It is now known that Pike, McAllister, C.B. Kleine and now Miller Bros., all used the fusee chain drive. With the objective in focus the microscope stands 15-1/4 inches high; this is with the drawtube seated in the body. It can be lengthened about 6 inches with full drawtube extension.

The reversed claw-foot has a spread of 5-1/4 inches with a depth of 6-1/2 inches. The main supporting parts are made of black japanned cast iron; this includes the foot, uprights, and limb. The tube-shaped limb and stage are made of a single cast piece with a heavy block at the center, bringing the two together with the stage support at a right angle to the limb. The block houses the trunnion pin that extends through to both of the uprights. The clawfoot is positioned in the reverse direction when compared to the usual arrangement. The uprights stand 4 inches from the surface of the table. The brass body-tube, which includes the nosepiece, is 6-7/8th inches in length with the addition of 2-1/8th inches of drawtube resulting in a total of 9 inches. The brass stage plate (surface) is attached to the base of the stage by a right-angled hinge, which is connected to the left side of the iron base support. The fine adjustment is provided by an under-stage micrometer screw acting on the above tilting stage arrangement. The stage measures 3 inches wide by 2-3/4th inches deep. Under the stage and mounted to a swinging stem is a single-sided 1-3/4th inch concave mirror.



Much like the stands made by McAllister, the coarse adjustment is by a chain-drive arrangement. This system provides a very smooth working action similar to those employed a few years earlier by well known English makers like Ladd and J.B. Dancer. The Americans, Benjamin Pike, Kleine and McAllister were also using this same focusing system bringing to mind the possibility that Miller Brothers may have had an arrangement with Pike or some other association within the New York manufacturing industry establishing the chain as a common feature.

The optics consists of two objectives, both of brass. The first is a divisible lens with the signature of Miller Bros. N.Y. The second is a brass low-power objective with the usual RMS thread. Also there are 2 brass top-hat type eyepieces, one low and the other of high power (no magnification indicated on either). Accessories include: one forceps with the tip missing, one large bulls-eye condenser with a lead-filled

circular base. The microscope came in its original fitted mahogany storage case having a drawer and hinged door. In the drawer there is a glass vial of balsam, two small glass slides and a folded piece of paper with a large supply of butterfly wings.

Originally, while he was in Boston, Miller worked under the direction of Robert B. Tolles. He then established his own business in 1868 in New York City. He became well known for his excellent lenses, some of which were used by Dr. J.J. Woodward at the Armed Forces Institute of Pathology, Washington. A short time after establishing his own business *Miller* soon became known as *Miller Brothers* and later as *F. Miller and Brother; New York*. The first ad that we know of associated with the firm appeared in a Chicago publication called *The Lens,* July 1872 (on the back cover). The ad states that Miller Bros. was a manufacturer and importer of First-Class microscopes. They also offered "several thousand" slide specimens, including examples from the best makers of Europe. The address was listed as: *69 Nassau Street / 1223 Broadway, under Wood's Museum, New York* (two locations). The same ad continued through Jan 1873. In 1879, the firm published a 43-page catalogue, which included three microscopes manufactured in house. Also offered for sale were stands from Zentmayer and imports from France.

Other microscope makers of the 1870's having similar features to the Miller include **T.H. McAllister (***Billings*, pp.81, fig.152), who also sold stands with the reversed foot. Also, **C.B. Kleine**, New York, N.Y. (*Billings*, pp.70, fig.132). Of particular interest is the fact that Kleine made stands having the chain-drive focus mechanism, other similarities include the tube-shaped limb and the characteristic iron foot with uprights. Finally, **Benjamin Pike & Son** was a well established maker in New York City with his own factory, a number of chain-drive microscopes are known with the signature of Pike. Also, Pike manufactured instruments with the substage focus having a fusee chain. Stuart Warter provided additional information on the production and origins of these early American microscope makers. Jim Solliday then exhibited a small example of a T.H. McAllister having the fusee chain coarse focusing system. This example was known as McAllister's "The Popular Microscope" and sold in 1880 for $25.00. In the late 1870s and 1880s, T.H. McAllister was located at 49 Nassau Street, New York, N.Y. At the time he was in partnership with C.W. McAllister. **References:** *Billings*, pp.76, fig.143, F. Miller & Bros., New York, N.Y. Padgitt, (1975), *A Short History of the Early American Microscope.*

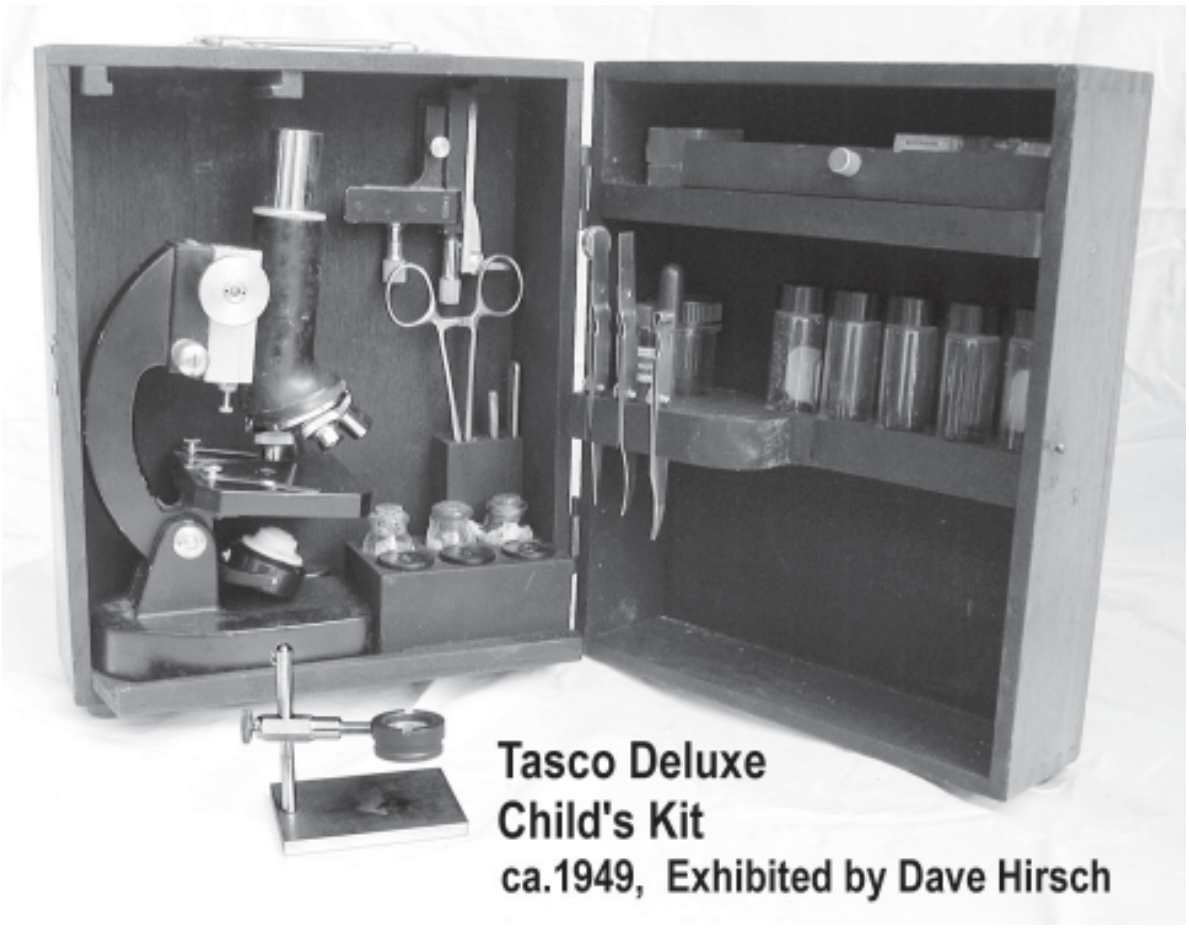
Dave Hirsch exhibited a Tasco Child's microscope kit made in the late 1940s or early 1950s. It appeared to be a rather high quality outfit, which could be bought at the time for about $8.00. Dave nicely refinished the cabinet

and added a number of convenient accessories. Examples of items added were a set of forceps and dissecting apparatus. He also made a very nice portable magnifier shown in the accompanying figure.

Pete Teti was acknowledged and thanked for his work in printing and distributing the Journal. Pete also will be continuing the organization of the hands on workshops to be held at the New Roads School. More on that in the near future.

Izzy Lieberman talked about his experience with his Epson printer and its idiosyncrasies. He showed the group replacement ink cartridges available on eBay. They were manufactured in China and filled with the ink by a local company. Izzy advised the members to stick with printers that feature the injection head on the cartridge itself rather than a printer that continues to use the same ink head. Refilling the ink cartridge seems to be problematic for the average home printer.

John deHaas exhibited three Leitz petrographic stands; the first was an early Leitz (1893) nickel finished polarizing microscope, which he "liberated" in 1945 while in the Amy during the occupation of Germany. The other two stands were made in the 1920's and are identified as the

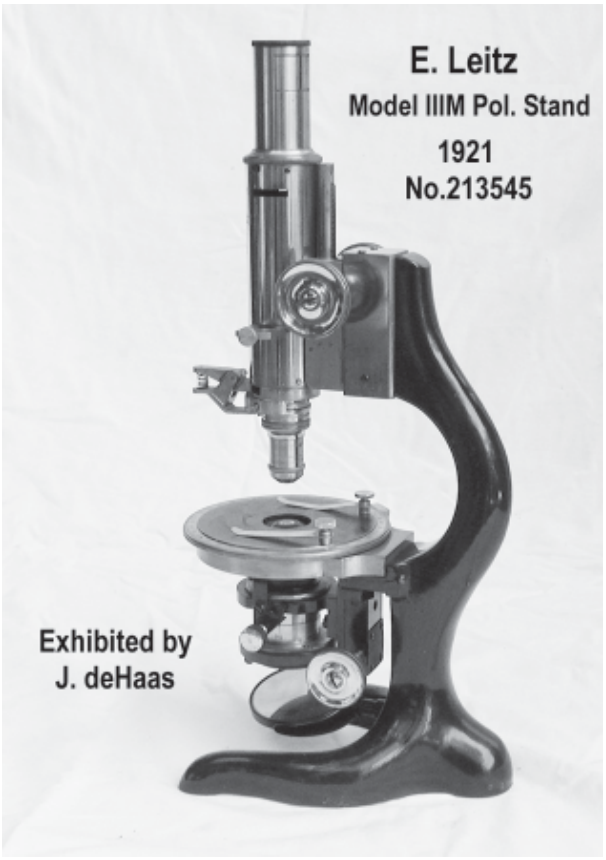


Leitz Model KM and the Model IIIM Petrographic Stands. The Leitz Model KM was a favorite for the more advanced classroom studies and at the same time quite popular among assay offices of mining companies. It used the wider eyepiece having the 30mm diameter. It also featured the Leitz objective clutch changer for securing and centering to the optical axis. The illuminating apparatus consists of three lenses and carries in a rotatable mount a nicol-prism as the polarizer. The upper condenser lens can be swung aside by a lever.

This model is further provided with an analyzer and a Bertrand lens mounted in the body-tube. It should also be noted that the fine adjustment knob is only on one side of the instrument and works on an inclined plane; this is true for both the KM and the IIIM. This adjustment was not considered as sensitive as the Leitz "heart" shaped cam design of that same general era. The Leitz Model IIIM is very much like the KM except that it is provided with a standard diameter bodytube, therefore eyepieces of regular size are used. The limb has no inclination joint but has the same general curved shape as the KM.

This stand was of a medium price and combined with its efficiency, acquired favor with the students (Leitz Catalogue "L", 1924).

Now back to John's first microscope, the Leitz Mineralogical Stand "I" (1893), having a nickel finish. In the early 1890's Leitz offered three forms of microscopes for mineralogical investigation. They were advertised as Mineralogical Stand I, Stand II and Stand III, the third being without an inclination joint. John set before the group an example of the Leitz Stand I, their number one polarizing instrument. This stand corresponds in dimensions to the large laboratory standard Nr.I, which was quite popular at that time. The coarse adjustment is by the usual rack & pinion, the fine focus is by a micrometer screw, the milled head of which has 50 divisions, each of which represents an elevation of one hundredth of a millimeter. It is provided with an Abbe condenser, iris diaphragm



and polarizer, which could be raised by rack and pinion. The iris diaphragm can be turned to one side when not required. Centering of the objective is accomplished by means of a small movable collar interposed between objective and tube. This collar is provided with thumbscrews, which serve to bring the optical axis into the center of the revolving stage. The revolving stage is graduated at its edge into 360 degrees, which permits the measurement of angles by means of an index. A nicol prism serves as the polarizer and fits under the iris diaphragm. The analyzer is mounted in metal and fits over the eyepiece. The upper portion of the analyzer rotates on a graduated disc, whose circumference is graduated into 360 degrees. A slit just below this disc accepts retardation plates of Quartz and Gypsum at the angle of 45 degrees to the axis of the analyzer. The body-tube holds the Bertrand lens.

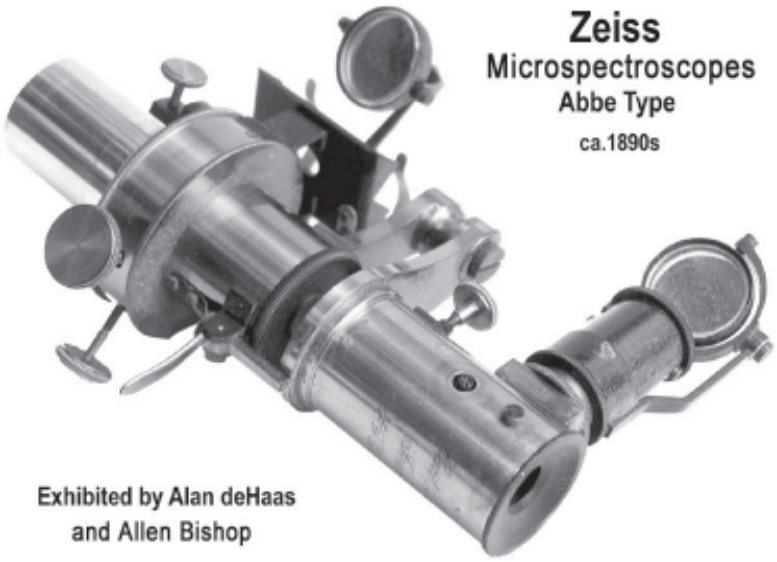
This microscope came in a fitted mahogany case with all its original accessories. The price of this stand in the N.Y. 1894 Leitz Catalogue was $184. This was an enormous price for a microscope at that particular time. The Leitz New York branch was located at 411 West 59th ST., New York, City (near the College of Physicians and Surgeons).

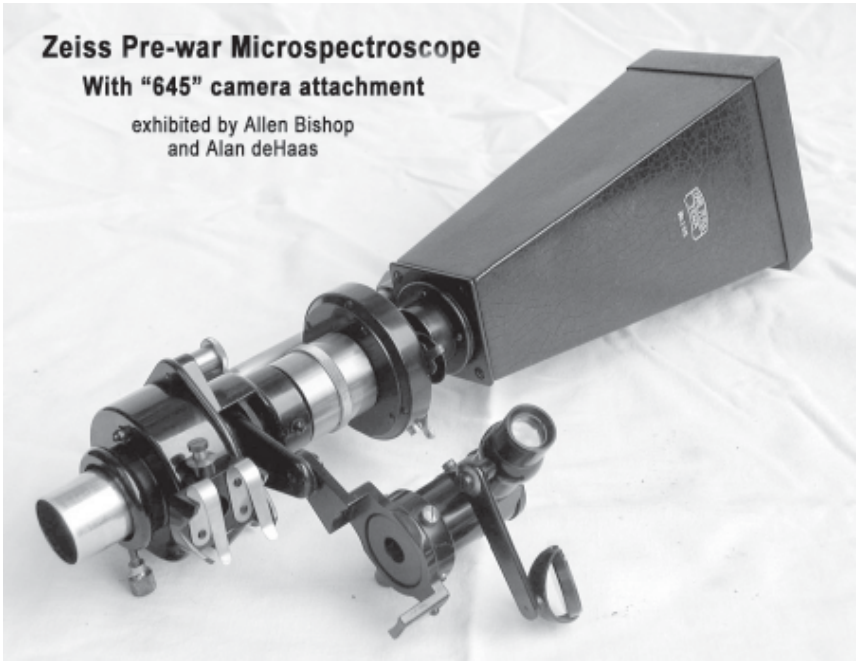
Reino Mascarino brought up a discussion on rotifers, a subject he has been studying for some time. He described a home-made darkfield system sent to him by Chico Taylor, a correspondent friend who lives in Florida. The D/F apparatus came with a very well designed condensing system that is placed on the table about 5 inches from the mirror of the scope. This system provided both parallel light rays and a built in diffuser. This additional condensing apparatus optimized the entire system for best results. There was a problem with the location of the mirror on the microscope as it was mounted too high in the axis resulting in difficulties with parallel illumination. Reino also offered for sale a nice Nikon plastic carrying case along with a microscope illuminator.

Alan deHaas offered for sale a number of items including a new pair of Nikon 2.5x photo eyepieces. These are quite hard to find and were

offered at a very good price. Alan also exhibited a post-war Zeiss microspectroscope, ca.1953-58. He obtained this example from the UCLA Pharmacology department. Allen Bishop brought in three early pre-war versions of the Zeiss microspectroscopes as examples for comparison. One has a built in "645" camera system. A discussion on spectroscopes followed.

Gaylord Moss related an eBay experience he recently had purchasing a palm PDA, which, when it arrived only communicated in Japanese.



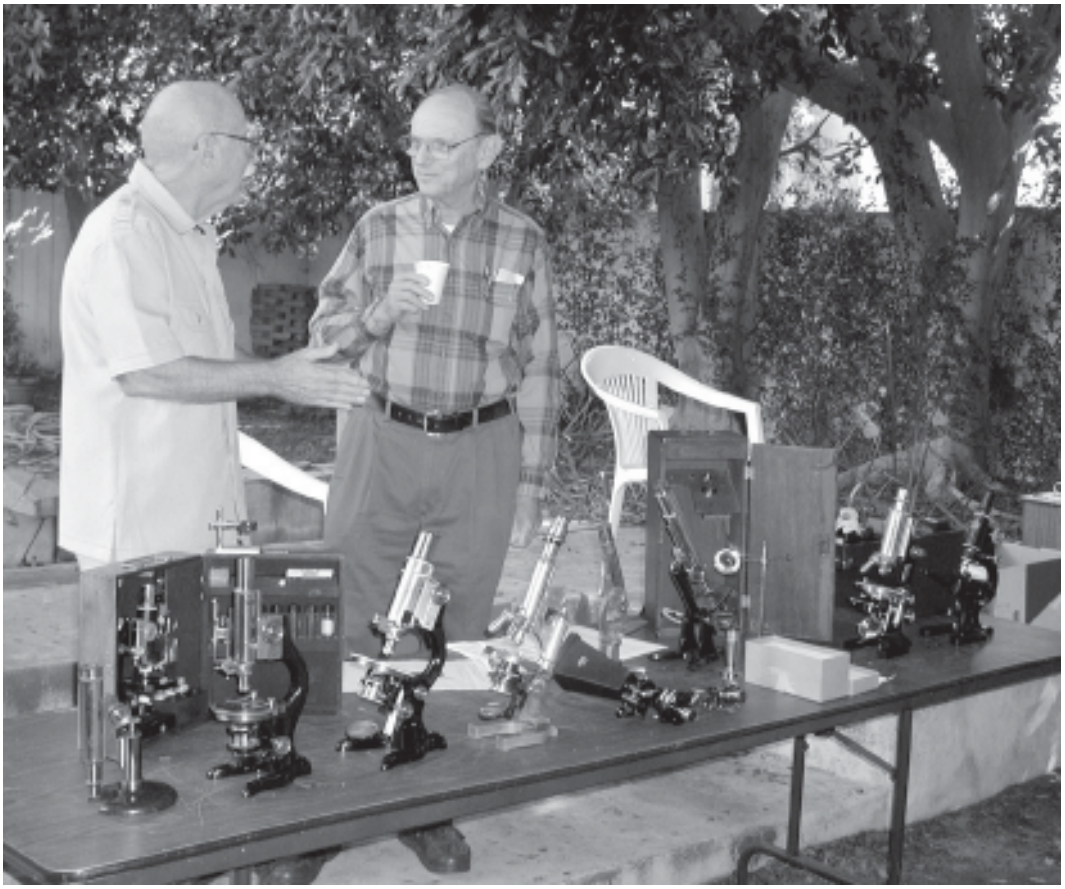

Zeiss Pre-war Microspectroscope
With "645" camera attachment
exhibited by Allen Bishop
and Alan deHaas


Zeiss Microspectroscope
Exhibited by Alan deHaas
ZEISS
WINKEL
IBH - GOETTINGEN


Zeiss Microspectroscope ca. 1920
Exhibited by Alan deHaas
and Allen Bishop

It was quite unusable and the seller would not respond to his attempts to contact him. The seller finally responded to his complaints after Gaylord posted negative feedback. Subsequently, several members told sad stories associated with eBay. Ideas on safer ways of dealing on eBay were discussed with some encouragement provided.

The meeting was adjourned by 11:45am leaving plenty of time for photographing the exhibits. The contribution of each member is much appreciated and continues to be very much enjoyed by all who attend. I do thank all our good members for their participation and continued support. Members adjourned to Coco's restaurant for a lunch. □



MSSC Monthly Meeting

Wednesday 16st July 2003
at New Roads School
reported by John Fedel

This month's speaker was Dr. Kevin Hoffman, who is the Senior Insect Biosystematist for the California Department of Food and Agriculture. He gave a presentation on "Exotic Fruit Fly Exclusion Programs in California," where he presented a general overview of the programs used in California to prevent colonies of exotic fruit flies from becoming established. He also discussed in greater depth the life cycle of the Mediterranean Fruit Fly and its exclusion programs.

After Dr. Hoffman's presentation, Alan deHaas continued his lecture series on the microscope - this month providing an explanation and demonstration of flat-field optics. Alan passed around one pair of lens per person and asked members to try different combinations of lens against distances. He then challenged members to make their own early-style microscope using a sliding brass tube to hold the lens (available from Allied Model Train Store or other hobby stores), a tube cutter (to cut the brass tube), and the lenses themselves. □

WORKSHOP of the Microscopical Society of Southern California

writen and recorded by Herb Gold

Date: Saturday, 2nd August 2003
Location: Izzy Lieberman's Residence

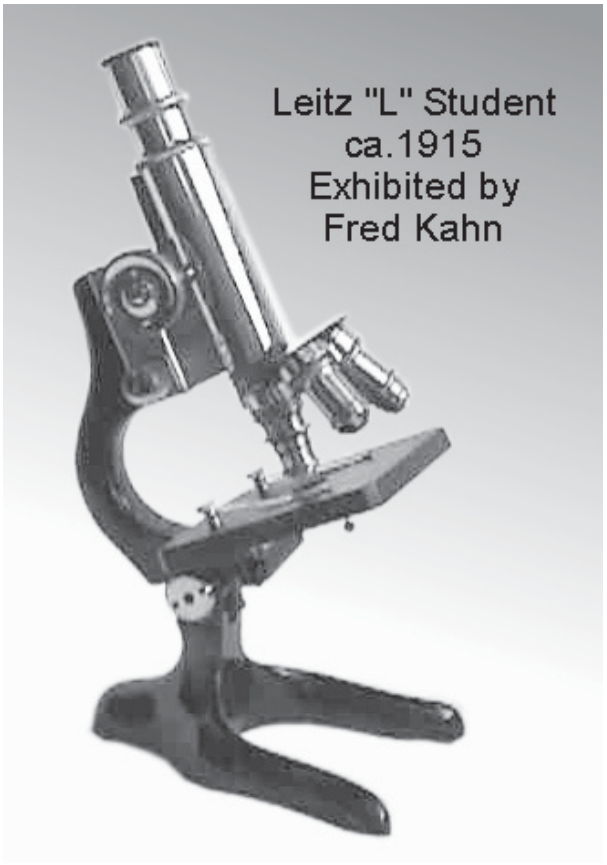
It was announced that our fearless leader, President Jim Solliday, would be absent on this occasion, so the duty of scribe devolved into my humble hands. Jim was held over for overtime duty and was not able to get away from the fire station at his usual time. A goodly gathering of 18 members was kept in some reasonable semblance of order by the Vice President, Stuart Warter, who presided.

We generally agreed that our next meeting, Wednesday, August 20, at the New Roads School, should be devoted to hands-on work with camera lucidae (or is it lucidas?) and other projection devices in all their various configurations. Everyone was encouraged to bring their microscopes and relevant accessories. Many of our resident experts volunteered to demonstrate the proper use of this equipment.

The next Workshop Meeting will be held on Saturday, September 6 at Ken Gregory's Long Beach home. It's easy to remember:

Jan-Feb-Mar → Izzy-Izzy-Ken
Apr-May-Jun → Izzy-Izzy-Ken
Jul-Aug-Sep → Izzy-Izzy-Ken
Oct-Nov-Dec → Izzy-Izzy-Ken

Ken Gregory showed his latest rip from eBay, his 8th Stiassnie stand. This one was a very rare "transition" piece spanning the period when Stiassnie succeeded to Verick's business. It is signed by both, "Mon Verick M. Stiassnie sucr 43 Rue des Ecoles Paris". It now has a triple nosepiece (in the style of Winkel, per John deHaas), rotating centering stage and a swingout condenser. The beautiful Cuban mahogany case is stamped with serial number "8512". A most unusual feature, one not ever seen before by any of the assembled, is its foot of four splayed legs. As commented, by Larry Albright (I think), "Leave it to the French to come up with something to contribute to instability".

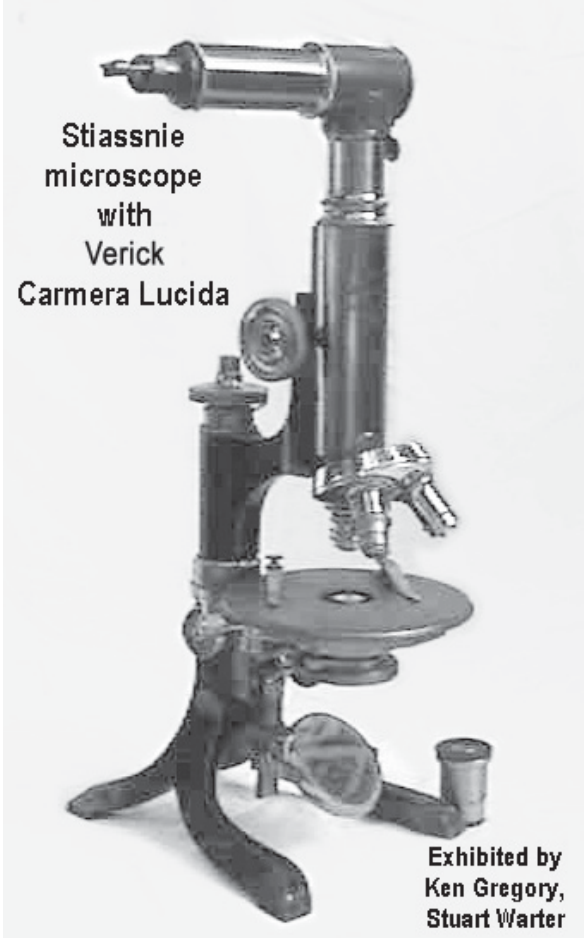


Fred Kahn showed a Leitz "L" student stand circa 1915 that his daughter rescued from a dumpster. This poor, beat up discard was brought back to life by John deHaas. John repaired it, re-lacquered it, repainted it and replaced the missing optics. Fred claims it is now better than the similar microscope with which he went through medical school. Great job, John!


Mon Verick
M. Stiassnie sucr
43 Rue des Ecoles
Paris
No.8512
Exhibited by
Ken Gregory


Signature
of
(Maurice)
Stiassnie


Verick
Camera Lucida
(Stuart Warter)
Stiassnie
Microscope
(Ken Gregory)


Stiassnie
microscope
with
Verick
Carmera Lucida
Exhibited by
Ken Gregory,
Stuart Warter

On the subject of Verick, **Stu Warter** showed a beautiful camera lucida, signed by Verick, in a fitted case. Of course we had to try it in Ken's stand where it fitted perfectly.

Proving there are still bargains to found on eBay, **Izzy Lieberman** showed a $2000 surface tension meter he ripped for $25. This is an apparatus whereby you can lower a platinum wire ring into the solution under test. Rotating a crank connected to a calibrated dial slowly raises the ring out of the fluid. When the ring just breaks the surface, surface tension can be read from the dial directly in dynes. This instrument is used by Izzy in his work on formulating printing inks.

Izzy also discussed his fairly successful experiments in refilling Epson and HP inkjet cartridges with generic inks from China.

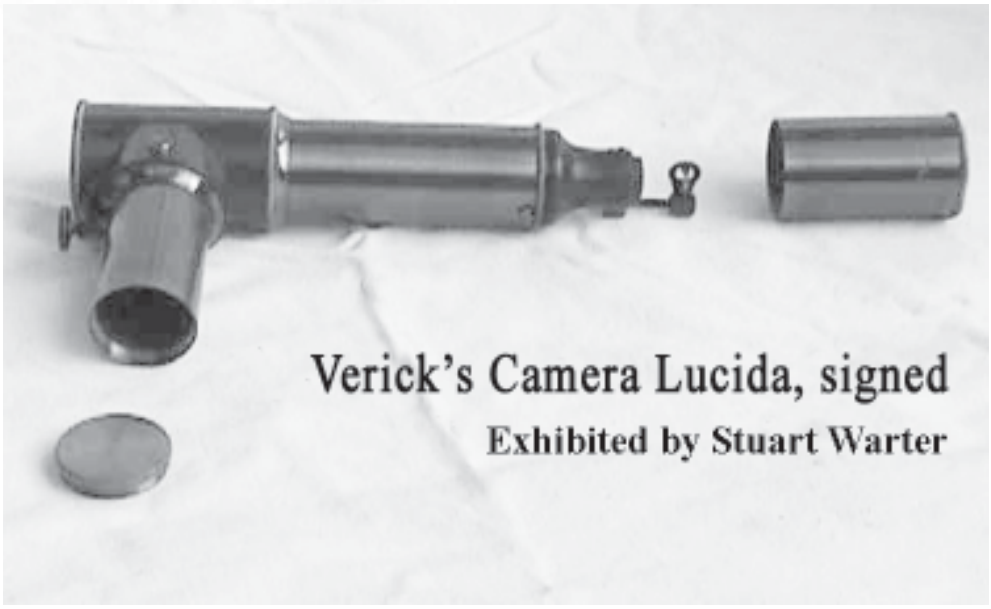
Bill Hudson is hobbling around on crutches with a ruptured Achilles' tendon. This is the result of a wicked fall into a pool excavation on the Alan deHaas estate. Bill will be out of commission for several months during which time we must find a replacement for his refreshment services. A call for a volunteer to temporarily replace Bill went unanswered. Looks like starvation is on the horizon for our multitudes.

Dave Hirsch has at last put his Olympus 2020 digital camera into service. He suggested we should have a workshop on digital camera techniques and four or five members agreed. Pete Teti said he would look into arranging such a meeting.

Gaylord Moss spoke about George Vitt's miraculous efforts to restore color to some very badly processed film. George has published some of his amazing results, one of which is a Bhutan archer taking aim with a compound bow.

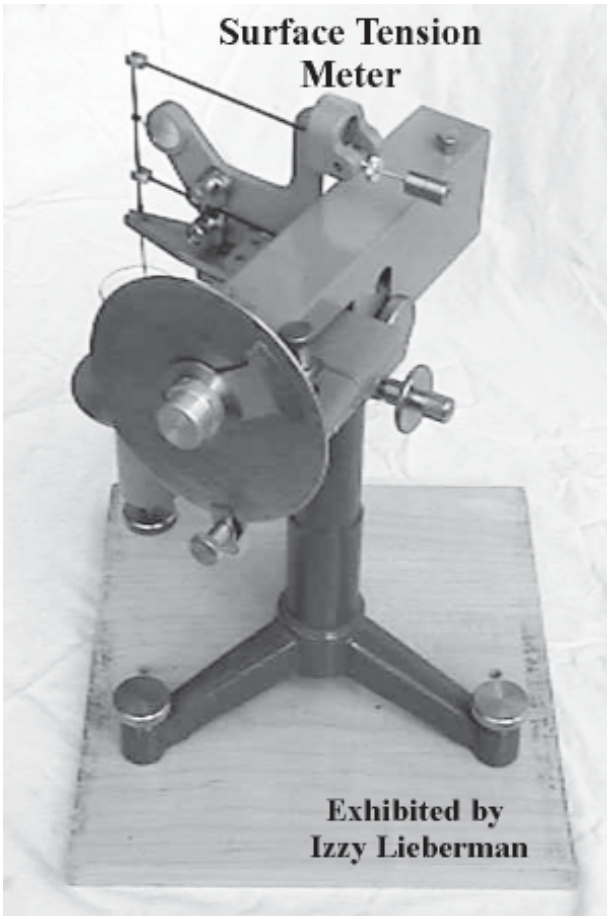
Verick's Camera Lucida

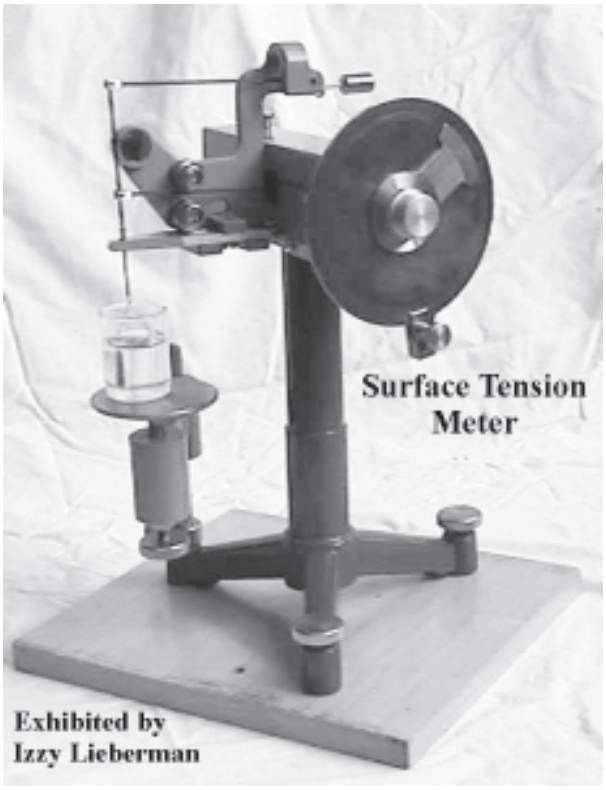
Exhibited by Stuart Warter



Verick's Camera Lucida, signed

Exhibited by Stuart Warter





"**Reino" Mascarino** regaled us with a description of his wife's work in breeding Surinam Horned Frogs (Ceratophrys Cornata) and his efforts in feeding them. If the tadpoles are not fed they will eat each other. Reino's job is to cull the local ponds for suitable tadpole feed. He has had great success in Lincoln Park battling the gangbangers for pond scum. The adults are voracious, being mainly a toothed mouth and stomach capable of munching down full grown mice and other passing morsels. He calls them his "little elves".

Alan deHaas offered for sale a nice portable Meopta microscope housed in a bullet-shaped can. He also had some exotic 19th Century French volumes with wonderful plates describing microscopical life forms.

The meeting was adjourned before 11:00 am leaving plenty of time to photograph the exhibits. Those with an appetite gathered at the Coco's restaurant for lunch and continued fellowship. □

MSSC Monthly Meeting

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

This month Ken Gregory, Program Chair, facilitated a workshop on drawing through the microscope using a camera lucida. First Jim Solliday gave a PowerPoint presentation showing examples of items drawn using camera lucidae during the 19th century, including some spectacular drawings of diatoms by Christian Enrenberg from the 1830's; drawings by W. Smith from his publication, "The British Diatomacia," 1856; from C. Baker's "Pond Life"; Saville Kent's "Manual of the Infusoria," 1880; and Friedrich Blochmann's work from 1886.

Camera Lucida drawing by Leonie Fedel

Dr. Stuart Warter followed Jim with a brief history of the camera lucida tool. Originally designed in 1807 by Dr. William Wollaston, it was subsequently adapted for use with the microscope by Professor Ernst Abbe in the mid 1880's. The principle is really quite simple. The camera lucida is clamped around the outside of the microscope eyepiece tube, allowing the specimen to be seen through a prism. At the same time a mirror reflects the bench surface to the prism, superimposing it on the image from the microscope. To draw the specimen, you simply trace its outlines to paper. After this Ken provided a summary of some practical applications and had exhibits to illustrate its use.

Members then had an opportunity to try their hands at drawing objects through the microscope. Insect slides from the MSSC Slide collection were on show, courtesy of Pete Teti. Jim reminded members that the MSSC has a large slide library which is available to any member on short term loan (maximum of one month). Interested members should contact Pete for the index.

John and Leonie Fedel later gave a short demonstration on the new MSSC website to members. **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 currently paid members. (Leonie distributed usernames and passwords to members during the meeting.) Send an e-mail to Leonie editor@msscweb.org if you still require a username and password.

Some suggested additions from members for the website included developing a way for member to upload links to other relevant websites; providing photo album space for members' photomicrographs; and showcasing a "picture of the month" on the website. □

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.

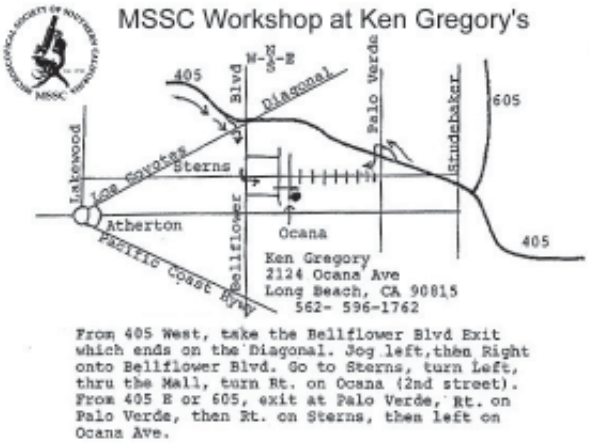
The schedule for 2003 is as follows:

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, July 16th, 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, August 20th, 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.

7:00pm, September 17th, 2003

Dr. Clifton Franklund, Department of Biological Sciences, California State University, Long Beach will give a lecture on the microscopic analysis of oral biofilms. Biofilms are populations of microorganisms that adhere to any environmental surface with sufficient moisture and adequate nutrients. Dental plaque is an example of the development of a biofilm. His particular research interest is in oral gingival pathogens.

7:00pm, October 15th , 2003

Dr. Lawrence Ash, Department of Biological Sciences, UCLA, specializes in parasitology. His lecture is titled "Zoonotic Larval Nematode Infections and Childhood Diseases." Children, in particular toddler-age children, are especially vulnerable to becoming infected with parasites occurring in household pets (ie, dogs and cats) but also parasites of wild animals living in urban and peri-urban environments. Such infections, deriving from animals, are referred to as zoonoses or zoonotic infections. This talk will focus upon the interaction of animals, their parasitic infections, the external environment where fecal material is deposited, the influence of weather, and the behavior of adults and children - all contributing to the public health problem associated with B. procyonis and other similar nematode infections.

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). □

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

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Have You Paid Your Membership Dues?

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
