



Newsletter

Of the

New York Microscopical Society



1 Prospect Village Plaza
(66F Mt. Prospect Avenue)
Clifton, New Jersey 07013-1918
GPS: Latitude 40.8648N, Longitude 74.1540W

May 2012

N.Y.M.S. (973) 470-8733

Volume 6 (26) Number 5

Meeting Announcement

2012 Spring Lecture Series

Sunday May 27, 2012, 2 PM
At NYMS in Clifton

Examples of Contrast Enhancement in Human, Digital and Optical Imaging

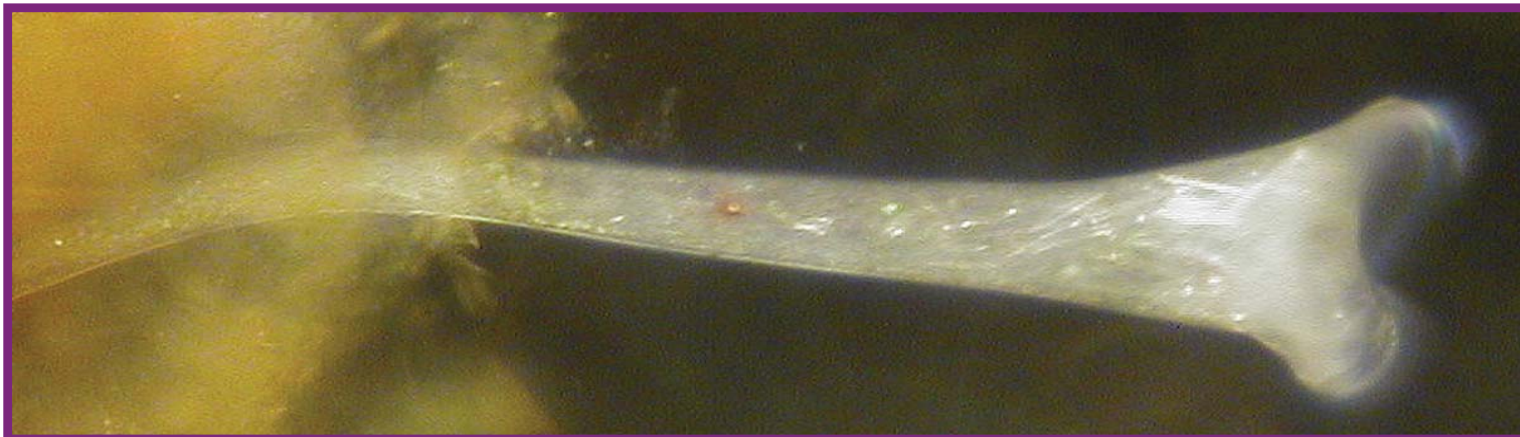
Presented by Dr. Stan Petrash
Henkel Corporation, Analytical Science Group

Microscopy is somewhat unique amongst analytical techniques in a sense that the role of "detector" is performed not by electronics or hardware, but by the "wetware" of human brain. The presentation uses a real-world industrial application to illustrate some of the phenomena occurring during the processing of microscopic images by three main parts of modern microscopy system: a microscope, human visual cortex, and image acquisition and editing software. Examples of interactions between each part of this system are examined in closer details.

Stan Petrash is a Research Scientist at Henkel Corporation, Bridgewater NJ. After graduating from the University of Akron with Ph.D. in Polymer Science, Stan gained 15 years of hands-on experience in each segment of industrial R&D: from basic research and development, to technology marketing and product support. He is a co-author of several US and EU patents, academic and trade publications, and a chapter in the Encyclopedia in Analytical Chemistry.

Doors will open at Noon. Refreshments will be available. Those attending will have a tour of our facility and also see our member-accessible microscopy lab and library. For additional information please contact Mel Pollinger (pollingmel@optonline.net) or (201)791-9826, no later than noon on Saturday, May 26th, or on Sunday, May 27th before 2pm on meeting day only by cell at (201) 314-1354.

Stentor, 20x image by Mel Pollinger (see page 3)



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Chair: John A. Reffner

Members

Jan Hinsch
Don O'Leary
Mel Pollinger



From The Editor... if you have email: Getting the newsletter by email means you receive an **extended pdf version** that cannot be sent by "snail mail." Even if you continue your USPS delivery of the newsletter, NYMS needs your email address for reporting priority events and special news. Being able to contact you by email means better communication between us.

Dues for 2012 is now due!

Buy and Read a Good Book on Microscopy.

Dues and Addresses

Please remember to mail in your Dues to Mary McCann, Membership Chair (see this page for address).

Junior (under age 18) \$10 Annually

Regular \$30

Student (age 18 or above) \$20 Annually

Supporting \$60 Annually

Corporate (includes one advertisement in NYMS News) \$175 Annually

Life \$300 (payable within the year)

To avoid missing notices:

Notify Mary McCann and Mel Pollinger if you have changed your address, phone or email.

The Mission of the New York Microscopical

Society is the promotion of theoretical and applied microscopy and the promotion of education and interest in all phases of microscopy.

Alternate Meeting Notifications

Please note that due to time constraints in publishing, some meeting notices may be available by calling Mel Pollinger at 201-791-9826, or by visiting the NYMS website.



This extended, feeding stentor was found in a mass of algae while collecting pond water at Barbour Pond in Wayne, New Jersey during the Summer, some years ago. The water sample was brought home and immediately placed under the B&L StereoZoom 2. Two fiber optic light tubes illuminated the container, one on each side. Magnification was set at 20x and the search began. The light was reflecting from the creature's surface and also transmitting through its interior. Organelles and food particles could be easily viewed in this living stentor. Imaging was done with an Olympus C5060 WZ digital camera. Minor adjustments to contrast were made with Adobe Photoshop. The apparent thickening of the stentor's mouth is due to reflected light and the rapid motion of its many oral cilia during a tenth-second exposure. This and many other creatures in the container stayed viable for over two weeks, with only the maintaining of the container's water level with distilled water. *Mel*

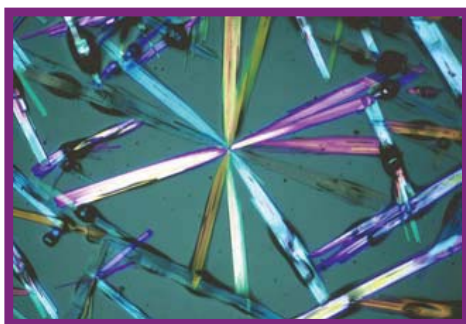


Image by
Mel
Pollinger

Image No. P1340631: DHPG (Ganciclovir), an antiviral drug. Grown from a hot water solution. Photographed with an Olympus OM2 35mm camera, using Kodachrome KPA at ASA 12 through a B&L-LC Petrographic microscope using polarized light.

To Order Your NYMS Lapel

Pins

Send a check in the amount of \$12.00 per pin to:
New York Microscopical Society
c/o Mel Pollinger, 18-04 Hillery Street,
Fair Lawn, NJ 07410. To avoid shipping
& handling charges, pins may be
purchased directly at any NYMS meeting
for \$10.00.



Skip Palenik To Receive Abbe Award in 2012 (reprinted from Feb. 2012)



Skip Palenik has had a lifelong fascination with the microscope that started when he received his first instrument at the age of eight. Since then he has devoted himself to increasing his knowledge of analytical microscopy and microchemistry and applying it to the solution of real world problems, especially those of forensic interest. He was fortunate in having worked closely with his mentor, Dr. Walter McCrone, for thirty-five years and to have studied forensic microscopy with Dr. Max Frei-Sulzer of Zurich. Skip and Peter De Forest taught a microscopy workshop at the New York Microscopical Society Centennial meeting in 1977 has been teaching analytical microscopy to forensic scientists ever since. He has published numerous scientific articles and book chapters on the applications of chemical and forensic microscopy. His most recent contribution is a chapter on the use of heavy minerals in forensic science. He established his company, Microtrace LLC, in 1992 to provide a resource for organizations and individuals in need of expert scientific analysis and consultation in the area of small particles and microscopic samples. His special research interests are the identification of single small particles, small amounts of complete unknowns and tracing dust and soil back to their origins.

Errata: Coprolite was incorrectly stated as the "Answer to Mystery Photo for March 2012" as indicated in the April 2012 Newsletter. The fossil is actually that of a dinosaur egg. I learned of my error at the fossil section of the New York Gem & Mineral show at the Meadowlands Exhibition Center in Secaucus, N.J. on 12-May-2012. Sorry about the doodoo dung dilemma. My apologize to the previous pro-primordial poopists. Mel

NYMS Welcomes Visitors

Although most NYMS events and meetings are held in Clifton, New Jersey on Sundays, the building may be opened for visitors at other times providing an appointment is made with Don O'Leary or Mel Pollinger at least two days prior to the desired appointment time. NYMS Headquarters at Clifton, NJ will be open by appointment only to members from 8:00pm to 10:00 pm most Tuesday evenings.

Those members wishing to visit must call Don O'Leary or Mel Pollinger to confirm. Don's cell-phone number is (201) 519-2176 or email: dkoleary@verizon.net. Mel's Home phone number is (201) 791-9826 or email: pollingmel@optonline.net

Dues for 2012 is now due!

Need to use a Microscope?

The various microscopes that are presently set up on the main floor of the New York Microscopical Society building in Clifton, N.J. are there for the use of its members.

Microscope Cleaning Kit

A complete set of tools and accessories to keep your microscope in optimum operating condition. The kit is put together by our Curator/Educational Chairman and available directly from NYMS for only \$35.00 plus shipping & handling, or may be purchased at a meeting. Call or email Mel Pollinger or Don O'Leary for details (see page two for contact numbers).

Also: Slide boxes 100 capacity, used: \$5.00 while they last

Awards Given by the New York Microscopical Society

The New York microscopical Society takes great pleasure in recognizing and rewarding individuals who have contributed to either the activities of the society or to furthering microscopy. These awards are described in our website and in a pdf file for our email newsletter recipients. All members are eligible to nominate individuals for these various awards, and are encouraged to do so. John A. Reffner, Awards Committee Chairperson

Answer to Mystery Photo for April 2012



New-Born spinal cord ganglia (source species unknown) cross-section stained with silver nitrate. Original prepared slide from the collection of the late Dr. Julius Weber. Image by Mel Pollinger

Mystery Photo for May 2012



Want to take a guess? Send it to me by email or call me: pollingmel@optonline.net, (201) 791-9826

Additional Historical NYMS Supplements
Email Newsletter recipients will also be getting copies of NYMS Newsletter pdf back-Issues from 2007. Copies of older newsletters will be sent as I convert them.

Got something you want to sell, trade or publish in the Newsletter and/or on the website? Write, call or send an email message to:

201-791-9826 or pollingmel@optonline.net (images ok)

or

Mel Pollinger, Editor
NYMS Newsletter
18-04 Hillery Street
Fair Lawn, NJ 07410



Supporting Member

NYMS Newsletter Extended

Section, May 2012

Directions to NYMS Headquarters

**One Prospect Village Plaza
(66F Mount Prospect Avenue)
Clifton, NJ 07013**

GPS: Intersection of Colfax & Mt. Prospect:

Latitude 40.8656 N, Longitude 74.1531W,

GPS: Our building: Latitude 40.8648 N,

Longitude 74.1540 W

From George Washington Bridge:

Take Interstate Route 80 west to Exit 57A, Route 19 South. Take Route 19 to Broad Street and continue two lights to Van Houten Avenue. Turn Left. Go to second light, Mount Prospect Avenue and turn left. Building 66F is on the left side , one and a half blocks from Van Houton.

From Lincoln Tunnel:

Follow exit road to NJ route three west. Continue to Bloomfield Avenue exit. Turn right to Circle and go three quarters to Allwood Road West. Mount Prospect Avenue is a few blocks on the right (a small street) Turn right and go to first light (Van Houton) continue. Building 66F is on the left side , one and a half blocks from Van Houton.

From North:

Take Garden state Parkway South to Route 46 Clifton Exit. On 46 Make second exit to Van Houton Ave. Continue to third light Mount Prospect Avenue and turn left. Building 66F is on the left side , one and a half blocks from Van Houton.

From Route 46 coming from west:

Take Broad Street Exit in Clifton and follow Directions above from GW Bridge.

From route 46 coming from East: Take Paulson Avenue Exit in Clifton and follow to Second light, Clifton Ave turn right. Go to next light, Colfax, turn left, go three blocks and turn right on Mount ProspectAve.. Building 66F is half block on right.

Public transportation from NY:

Take NJ Transit train from Penn Station to Secaucus Transfer Station. Change trains to Bergen Line to Clifton (call NJ Transit for schedules). From Clifton Station cross under tracks to first street and go left one block to Mount Prospect Street, turn right and Building 66F is one half block on Right.

If you plan to come by bus or train, please copy the links below into your browser:

http://www.njtransit.com/sf/sf_servlet.srv?hdnPageAction=TripPlannerItineraryTo

http://www.njtransit.com/sf/sf_servlet.srv?hdnPageAction=BusSchedulesP2PTo

http://www.njtransit.com/sf/sf_servlet.srv?hdnPageAction=TrainTo

In This Section: Directions to NYMS

- Ernst Abbe Awardee for 2012
- Elements of Optics
- Zeiss Michel Levy Chart
- NYMS Newsletter December 1968
- Dues/Membership form
- NYMS Sale Items & Image

Please Mark Your Calendars for EAS 2012!

Tuesday Afternoon, November 13, 2012

**New York Microscopical Society's Ernst Abbe Memorial Award
Honoring Skip Palenik, Microtrace, LLC**

Chair: John A. Reffner, John Jay College, CUNY

- Tuesday 2:00-pm Skip Palenik and the Role of Microscopy for Scientific Problem Solving in Forensic Science, Peter R. De Forest, John Jay College, CUNY
- 2:30 Rapid Characterization of Forensic Paint Samples by Raman Microspectroscopy, Christopher S. Palenik, Microtrace, LLC
- 3:00 Botany and Mycology with the Light Microscope: Exciting Weapons in the Forensic Armoury, Patricia E.J. Wiltshire, Milford House, The Mead.
- 3:30 Break
- 3:45 Presentation of the New York Microscopical Society's Ernst Abbe Memorial Award
- 4:00 Microscopic Trace Evidence – The Overlooked Clue, Skip Palenik, Microtrace, LLC

Speaker details on second page.

Professor John A. Reffner
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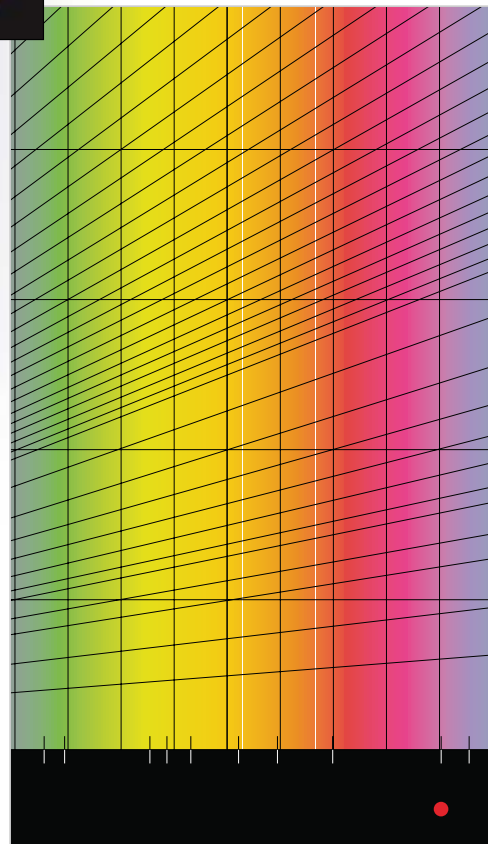
CPalenik@mictotracescientific.com

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(f) 847-742-2160

Microscopy from Carl Zeiss

Info-forum

Michel Lévy Color Chart Polarized Light Conoscopic Determination



**Information forum:
Polarization microscopy**



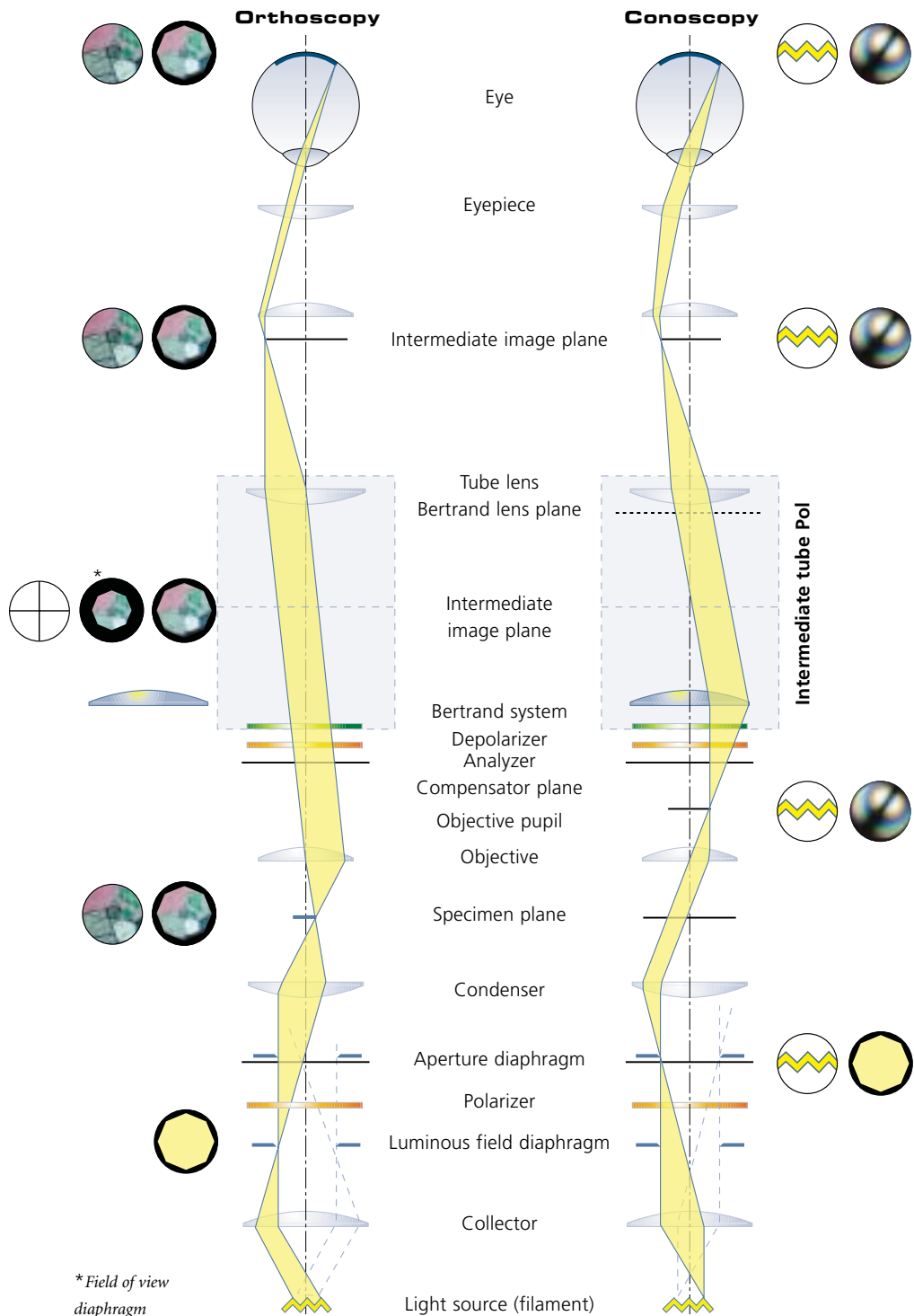
Polarization in transmitted light

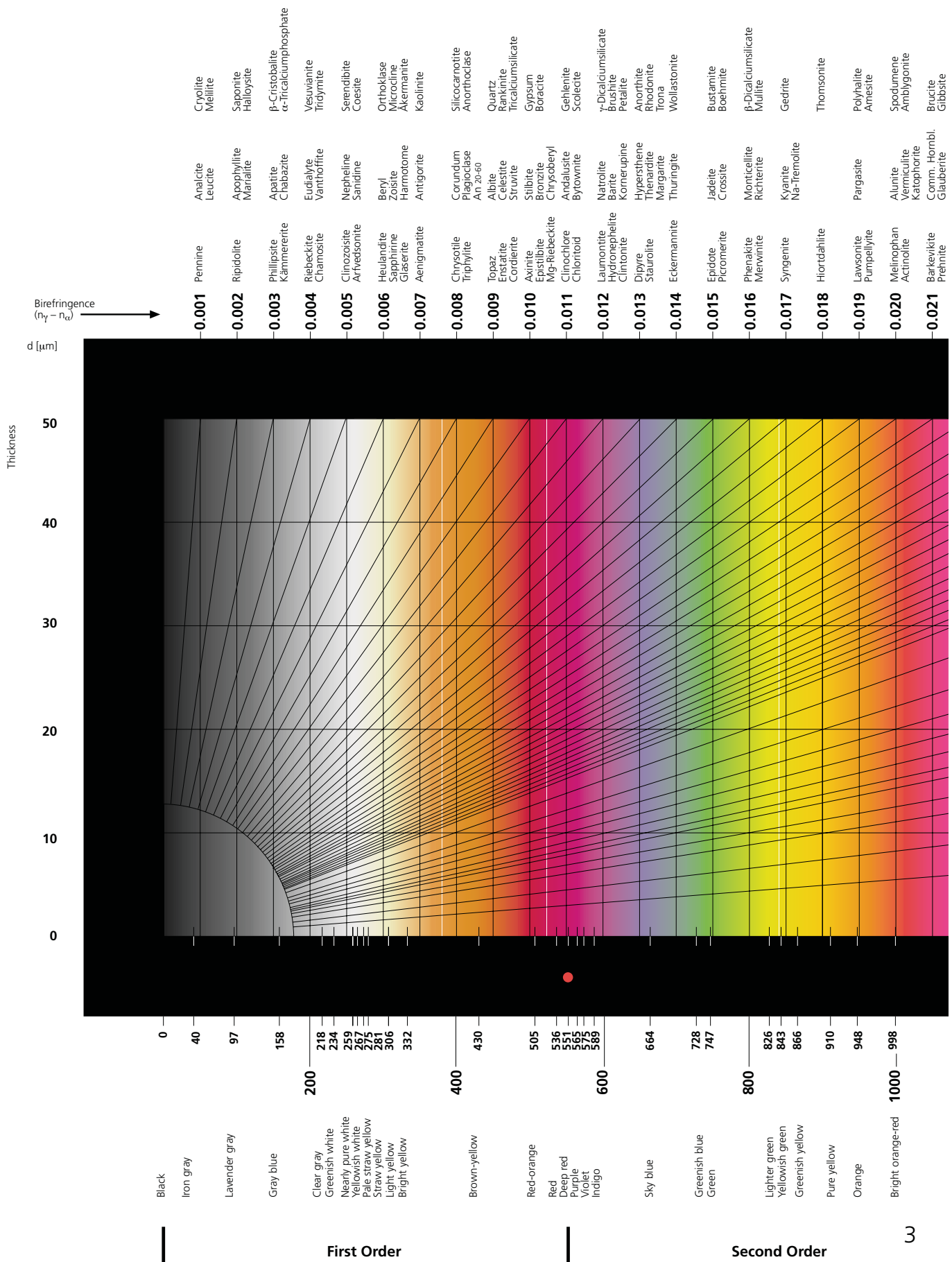
Orthoscopy and conoscopy are the most important techniques in classical transmitted light polarization microscopy. With their different ways of examining, they provide different options, e.g. in mineral diagnosis in geological microscopy. In orthoscopy, each pixel corresponds to a dot in the specimen. Analyzing minerals is based on such morphological and optical features as form, cracks, color, pleochroisms, and their characteristic interference colors.

In conoscopy, each pixel corresponds to a direction in the specimen. This technique requires the use of the highest objective and condenser aperture possible.

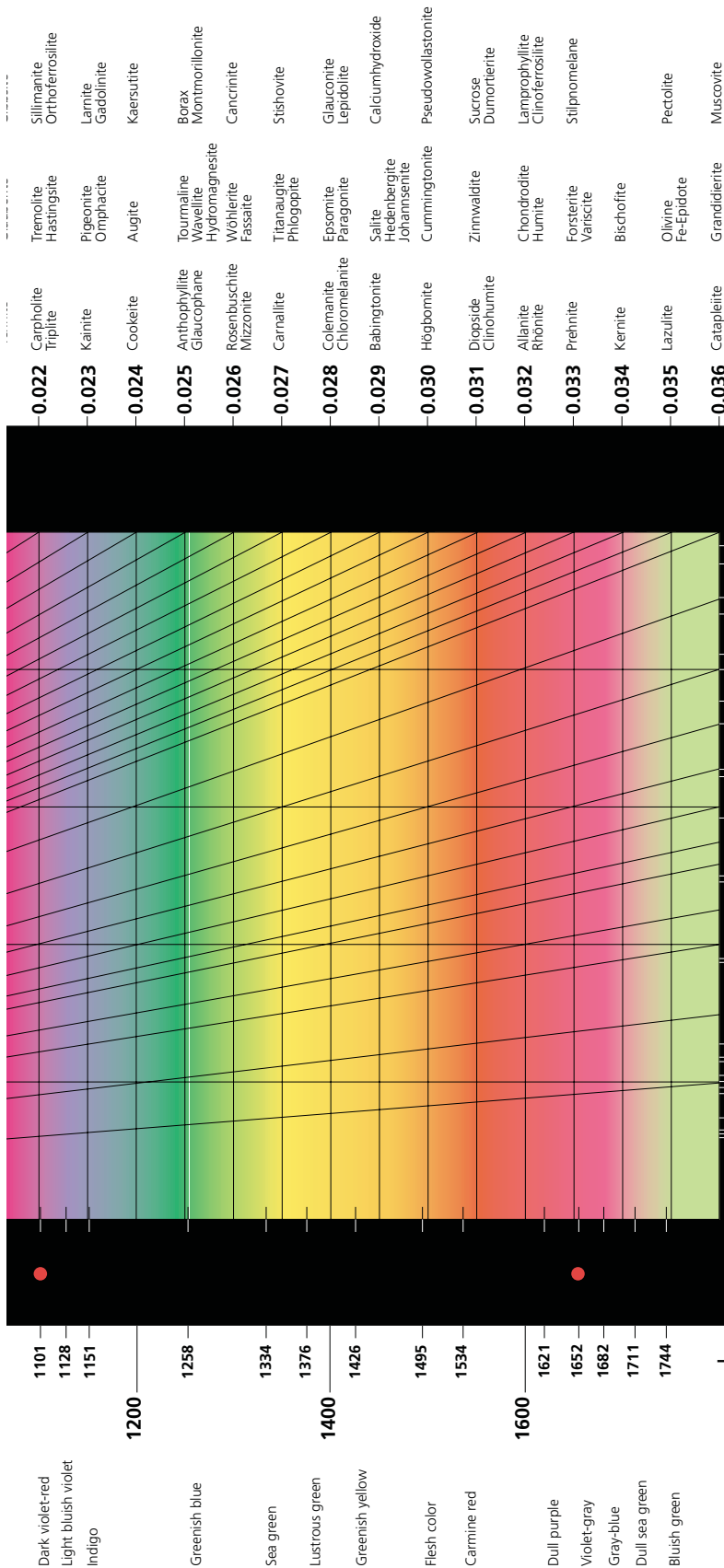
Particularly suitable objectives are CP-Achromat 50x/0.80 Pol, Plan-Neofluar 40x/0.85 Pol or Plan-Neofluar 100x/1.30 Oil Pol. When the Bertrand lens is placed in the light path, the interference or axial image in the back focal plane of the specimen becomes visible. Conoscopy is used when additional information about the specimen is necessary for analysis. It provides interference images that can be seen through the eyepiece and enable differentiation according to 1 or 2 axes and with compensator λ (λ -lamina, Red I), according to 1-axis positive/negative or 2-axis positive/negative.

The intermediate tube Pol is designed for high-performance conoscopy. Thanks to its two additional intermediate image planes with suspended crosshair and field of view diaphragm, it permits the conoscopy of crystals larger than 10 μm .





Michel Lévy Color Chart



-0.040	Tephroite Meionite Aegerine-augite Grunerite Datolite	Tilleyite Spurrite Biotite	Lävenite Nontronite Phengite Titanbiotite Anhydrite	0,038 0,039 0,041 0,043 0,044
-0.045	Talc Monazite Zircon Aegirine	Carborundum Diaspore Fayalite Ilvaite	Pyrophyllite 0,045 0,047 0,048 0,049 0,050	
-0.050	Astrophyllite	Cholestero	0,052	
-0.055		Silk	Piemontite	0,055
-0.060		Nylon	Kieserite	0,060 0,063
-0.065	Basaltic Hornblende Oxyhornblende	Cellulose		0,065 0,070 0,073
-0.070	Ascharite Anatase	Maltose		
-0.080	Siderophyllite	Bicalciumferrite Brownmillerite Glucose	Stilpno melane Cassiterite	0,080 0,090 0,096
-0.090	Baddeleyite	Carbamide	Xenotime	0,107
-0.120	Sphene Brookite Columbite Aragonite Calcite Dolomite Magnesite Siderite Pyrophanite Hematite Rutile Geikielite Lepidocrocite	Goethite Monocalciumferrite Whewellite Ludwigite		0,120 0,140 0,150 0,156 0,172 0,180 0,195 0,241 0,270 0,280 0,286 0,36 0,57

Path difference [nm]
(1000nm = 1µm = 10⁻³mm)







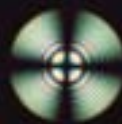
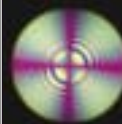

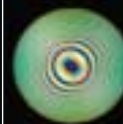
We make it visible.

Linear and circular polarized light







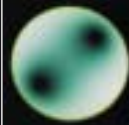









State of polarization of the light			Rotation of the microscope stage				
			0°	45°	90°	135°	180°
Specimen	Zircon	linear					
		circular					
	Muscovite	linear					
		circular					

Behavior of optically anisotropic crystals in linearly and circularly polarized light in orthoscopic and conoscopic observation.

Determination of optical character

uniaxial	State of polarization of the light			
	linear		circular	
	compensator λ			
	without	with	without	with
positive quartz				
negative calcite				

Determination of the optical character of uniaxial and biaxial minerals in linearly and circularly polarized light. The reference direction n_y of the λ -compensators is oriented NE-SW.

biaxial	State of polarization of the light							
	linear				circular			
	compensator λ							
	without	with	without	with	without	with	without	with
	normal position		diagonal position		normal position		diagonal position	
positive barite								
negative muskovite								

Dunite thin section, transmitted light polarization



Polarization microscopy from Carl Zeiss

Polarization microscopy from Carl Zeiss is based on Axioskop 40 Pol and Axioplan 2 imaging Pol. Two powerful microscopes that are tailor-made for your individual applications and designed to meet the

growing needs of polarization microscopy – easier and more effectively than ever before.

	Stands	Tubes	Reflector turrets	Nosepieces	Polarizers	Analyzers	Bertrand system
Axioskop 40 A Pol	Transmitted light (basic version)	Binocular tube 30°/23 or binocular tube with photo-port 20°/20 Pol or ergotube 20°/23 and other tubes if desired	5 position, change of Push&Click module without tools	6 position H 6 position Pol (5xW 0.8 screw thread, 1xM27 screw thread for HD DIC objective), individually centerable	All polarizers except Circular Polarizer D Transmitted light: Polarizer (switchable), polarizer (rotatable with 0° and 90° stop), polarizer (switchable with λ -plate, rotatable) Reflected light: Reflector module Pol, reflector module Pol for HBO 103	Analyzer slider or analyzer slider with λ -plate Analyzer module or measurement analyzer with 0.1° splitting, 180° rotatable	Diopter or auxiliary microscope Fixed focus Bertrand module and switchable pin hole diaphragm or intermediate tube Pol with centerable Bertrand lens; crosshair and field of view diaphragm in additional intermediate image planes
	Transmitted light						
	Transmitted and reflected light						
Axioskop 40 Pol	Transmitted light	Binocular tube with photo port 30°/25 with slider prism or with 2 ports, TV tube mio. with 2 ports and further tubes from the Axioskop 2 program if desired	8 position, manual or motorized, change of Push&Click module without tools	6 position Pol, encoded (5xW 0.8 screw thread, 1xM27 screw thread for HD DIC objective), individually centerable	Transmitted light: Polarizer (switchable), polarizer (rotatable with 0° and 90° stop), polarizer (switchable with λ -plate, rotatable) Reflected light: Reflector module Pol, reflector module Pol for HBO 103	Analyzer module or analyzer slider or analyzer slider with analyzer and λ -plate, rotatable +/- 10° or measurement analyzer with 0.1° splitting, 360° rotatable	Intermediate tube Pol with centerable Bertrand lens; crosshair and field of view diaphragm in additional intermediate image planes
	Transmitted and reflected light						
	Reflected light						
Axioplan 2 imaging Pol	Transmitted light	Binocular tube with photo port 30°/25 with slider prism or with 2 ports, TV tube mio. with 2 ports and further tubes from the Axioskop 2 program if desired	8 position, manual or motorized, change of Push&Click module without tools	6 position Pol, encoded (5xW 0.8 screw thread, 1xM27 screw thread for HD DIC objective), individually centerable	Transmitted light: Polarizer (switchable), polarizer (rotatable with 0° and 90° stop), polarizer (switchable with λ -plate, rotatable) Reflected light: Reflector module Pol, reflector module Pol for HBO 103	Analyzer module or analyzer slider or analyzer slider with analyzer and λ -plate, rotatable +/- 10° or measurement analyzer with 0.1° splitting, 360° rotatable	Intermediate tube Pol with centerable Bertrand lens; crosshair and field of view diaphragm in additional intermediate image planes
	Transmitted and reflected light						
	Reflected light						

Carl Zeiss Light Microscopy

P.O.B. 4041
37030 Göttingen
GERMANY
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Telefax: ++49 551 5060 464
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www.zeiss.de/micro

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THE N.Y.M.S.

Meets 1st and 3rd Fridays of the month at 8 P.M. in Room 419 of the AMERICAN MUSEUM of NATURAL HISTORY
Central Park West at 79th Street
New York, N. Y. 10024



VOL. II, NO. 4
DECEMBER, 1968

BULLETIN

N Y M S PROGRAM 1969

JANUARY 17

Dr. William A. Henderson
American Cyanamid Company
"Microscopic Liquid Inclusions
in Minerals"

FEBRUARY 7

Jack Kelsch
(Brookhaven National Laboratory)
"Electron Microscopy at Brookhaven
National Laboratory"

FEBRUARY 21

Arthur B. Coe
(Textile Research Institute)
"Surface Topography as Revealed by
the Scanning Electron Microscope"

MARCH 7

Panel Discussion
Moderator and topic
open to your
suggestions

MARCH 21

Robert F. Smith, RBP, FBPA, FRMS
(Brookhaven National Laboratory)
"Contact Microradiography"

APRIL 4

Good Friday
No Meeting

APRIL 19

Annual Exhibit - Saturday Evening

MAY 2

Philip Feinberg
President, N.Y.M.S.
President's Night
Annual Business Meeting and a Talk on
Microscopy by **Mr. Feinberg**

MAY 14, 15, 16

N.Y.M.S. Dialogues in Microscopy 1969
New New Yorker Hotel

JUNE 7 (Sat.)

Annual Field Trip

FRIDAY, JANUARY 3, 1969

John Facq of the Colgate-Palmolive Research Center will talk on "Scanning Electron Microscopy---Theory and Practice". He will speak on the basis of considerable experience in using this relative newcomer which is quickly taking an important place in the family of microscopes because it combines high resolution with great depth of focus directly applied to surfaces. It also has such a range in magnification that it links the areas of light microscopy with those of transmission (replica) electron microscopy. Consequently an interesting meeting is promised to all members and guests.

John Facq is known to most of you as a lecturer, teacher and former member of the Board of Managers. You are cordially invited to join him beforehand for cocktails and dinner at the nearby Hotel Alden.

HAPPY NEW YEAR!

1. May 1969 be a happy year for you! And may we ask those who pay their dues promptly to keep up the good work so that your Society may do likewise. To those who need a New Year's resolution in order to be prompt dues payers, we offer our best encouragement.

2. May 1969 be one of marked growth for the Society. And may we ask those who have sponsored one or more new members in 1968 to double their quotas for 1969. To those who need a resolution to be a member-getter we offer our best.

3. May attendance and other activities in 1969 SOAR! And may those who attend every meeting, continue! To those who need a resolution to attend more often, we urge you to make one.

FRIDAY, JANUARY 17, 1969

The speaker will be **Dr. William A. Henderson, Jr.** of the Central Research Division of American Cyanamid Company at Stamford, Connecticut 06904. His topic is:

MICROSCOPIC LIQUID INCLUSIONS IN MINERALS.

From a study of the liquid inclusions within minerals by microscopical and other techniques, a great deal of the history of the minerals and their rocks can be learned. A description of the techniques used and the information obtained will be presented by **Dr. Henderson.**

Dr. Henderson was born in Winthrop, Massachusetts in 1932. He attended Melrose high schools. He has a B. A. degree from Harvard in chemistry, and M. S. from Yale and Ph. D. from the same University, 1968 in organic chemistry. His hobbies are in geology and mineralogy and he lectures on both at Fairfield University. He is a past-president of the Stamford Mineralogical Society. His mineral collection numbers 2,500 specimens. He is presently teaching himself to use the polarizing microscope for the identification of minerals.



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Symposium, 1969 Mitchell A. Sieminski

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STUDY OF METRIC SYSTEM to be Authorized by Congress

The Metric Association reports on the status of the bills in Congress to authorize a study of the problems in removing the U.S. as the last major nation on the list of those countries which are on the pound-foot-gallon "system" of measures. In the July issue of its Newsletter the Association reports:

On 24 June the House of Representatives by a vote of 269 to 42 passed H.R.3136 with three amendments. The first amendment removed the \$500,000 authorization for the first year. The bill is scheduled for Senate action in early August. A similar bill was approved by the Senate in 1965, so passage is expected. Final passage of this bill will authorize the Secretary of Commerce to make a comprehensive study to determine the impact of increasing world-wide use of the Metric System upon the U.S. A detailed account of the House debate is contained on pages H5347-58 of the Congressional Record.

INCIDENTALLY

The September-October, 1968 issue of Pacific Discovery, published by the California Academy of Science, Golden Gate Park, San Francisco, contains a two-page spread of beautiful close-up pictures in color of several species of flowers by T. L. Ford, Director and Chairman of the Board of Insul-8, Corporation and Director of the Rucker Company, and long life-time pioneer in photographic techniques. He is now experimenting with laser beams and holographic stereomethods, and promises a revolution in photography.

EDITOR'S NOTE: It seems to us that NYMS should subscribe for the library to both Pacific Discovery (\$4.00 per year) of the California Academy of Sciences and Natural History of the American Museum of Natural History. Every issue of each has something of interest to members.

MINUTES OF MEETING

November 1, 1968

by

Winston W. Clay, Rec. Secretary

The meeting was called to order and the minutes of the previous meeting were read and approved.

The name of Mr. E. R. Berliner, an applicant for membership was proposed.

Mr. Sieminski introduced the speaker of the evening Mr. Lewis Koster of Rockefeller University who has a very extensive background in microscopy including experience in teaching. He is a Fellow of the Biological Photographers Association and a professional photographer.

Mr. Koster said he does not consider himself to be a microscopist, rather he considers himself to be a microscope operator. He stressed the point that his primary interest is from the viewpoint of a professional photographer.

Mr. Koster then proceeded to show a series of projected slides which might be described as "horrible examples". He called upon those present to express an opinion as to what was wrong with each slide. There were photomicrographs of slides improperly stained, wrongly mounted, with dirt and other artifacts in the specimen etc. Mr. Koster mentioned that he was showing these slides to point out that the photographer is not always at fault and that the photomicrograph can be no better than the subject matter it is meant to portray.

The speaker then shifted his discussion to films and emulsions, their physical and chemical properties, shortcomings and potentialities.

A photomicrograph of a section of a film emulsion taken at varying magnifications was shown to illustrate grain structure and to show that silver grains are not singular in nature. Also an electron micrograph of silver grains was shown.

The speaker then gave a general description of film characteristics in terms of grain size as measured in square microns.

OPEN LETTER TO NYMS FROM A SISTER SOCIETY

3001 NORTH CLARK STREET
CHICAGO, ILLINOIS 60614



TELEPHONE: LI 9-0606

State Microscopical Society of Illinois

October 14, 1968

Mr. Phillip Feinberg, President
New York Microscopical Society
New York, New York, 10024

Dear Mr. Feinberg:

The members of the State Microscopical Society of Illinois send their sincere best wishes and their congratulations to the New York Microscopical Society for its recent proposal to the Boy Scouts of America for its Merit Badge Program.

The SMSI has long recognized the need for such a publication and has indeed been actively preparing such a pamphlet based upon actual teaching experience, proven methods, and positive results obtained during the past ten years with scout age boys and girls in its microscopy course entitled, "Learning to Use the Microscope".

Recognizing the significance and importance of what the New York Microscopical Society has undertaken to accomplish for youth and being entirely in favor of the New York Microscopical Societies proposal for scouting, we of the State Microscopical Society of Illinois lend our hearty support and best wishes to the NYMS and would encourage the Boy Scouts of America to seriously consider their proposal and create such a merit badge for the scouting movement.

Respectfully,

Marion R. Wiemann, Jr.
Marion R. Wiemann, Jr.
Member, NYMS; Exec. Comm., SMSI,
Commissioner Staff
Pottawattomie Council, B.S.A.
Michigan City, Indiana

John G. Delly
John G. Delly, Exec. Comm., SMSI
Merit Badge Counselor
Frontier District, Chicago Council
Boy Scouts of America
Chicago, Illinois

CC: Mr. Alden G. Barber, Chief Scout Executive
Boy Scouts of America
New Brunswick, New Jersey 08903

Ronald G. Draftz
Ronald G. Draftz
Past President, SMSI
Executive Committee, SMSI

Edward F. Lebryk
Edward F. Lebryk, Vice Pres., SMSI
Exec. Committee, SMSI
District Commissioner
Twin City Council, B.S.A.
Munster, Indiana

Mr. Koster then discussed density in the photographic film in reference to the Airy disc showing the distribution of density. He also explained the distribution of illuminance in the image of a test object.

A discussion of resolution followed. Mr. Koster gave a simple and interesting analogy in his discussion of resolution which involved automobile head lights at a great enough distance to cause them to be perceived as a single point of light. As the car moves nearer the eye is finally able to resolve what appeared to be a single point into two points. It was explained that resolving power refers to the ability of a film to separate and show details.

Mr. Koster discussed a series of sensitometric curves and explained how this graphic material is interpreted. He also described the relationship between density and log of exposure. Directly following this a discussion of gamma and contrast was illustrated by graphs of curves, showing characteristic curves for given negative materials and the effect of development on the time-gamma curve. Shown also were response curve in terms of development time and the effect of time and/or temperature on gamma.

(Continued, top of p. 4, Co.. 1)

Also discussed was the effect of agitation and the effect of the developing agent on emulsion speed. In addition the speaker discussed the effect of intermittent exposure.

The speaker then remarked on the spectral sensitivity of the eye as compared with photographic materials and pointed out that the way in which the human eye perceives and the photo emulsion are quite different.

In his concluding remarks **Mr. Koster** described and illustrated the structure and mechanics of color reversal film and described some of the characteristics of such material.

LETTER TO THE EDITOR

76 Brook Green,
Hammersmith,
London, W. 6.
2nd December, 1968.

Dear Mr. Rochow,

I have been more than usually pressed since I heard from you that you would like me to give you a review of Dr. Baker's book on Trembley, but I now, belatedly, enclose an account of the book. But you will probably take the view that in view of Kurt Marcus's note in the September BULLETIN, it is now redundant. In that case, perhaps you could arrange for it to be circulated to interested people; the main point is to have the book read by as many members as possible.

I took the book to New York with me to renew acquaintance with it, as I intended mentioning Trembley in my talk, and it was a matter of surprise to me to learn that your library did not possess a copy, and the people to whom I spoke did not seem to know about it. Consequently, I could do no less than leave it behind me. It is out of print now, of course, and is very difficult to find secondhand, but I was lucky enough to find a replacement for myself; it is one of those books of which I never tire, there is so much good stuff in it.

Yours sincerely,

E. P. Herlihy

ABRAHAM TREMBLY

A REVIEW

by

E. P. Herlihy, London, 12/2/68

Many naturalists used to have, and some still have, a notion that someone did some extraordinary things to the freshwater Hydra ages ago, but till **Dr. John R. Baker's** book appeared in 1952, there was no readily accessible account of these activities. **Dr. Baker**, lately President of the Royal Microscopical Society, published in that year the results of many years delving into old records, his well-documented "Abraham Trembley, Scientist and Philosopher, 1710-1784", a copy of which has now been placed in the Society's library, and it is remarkable that a scientist who has been distinguished over a generation for his histological work at Oxford, managed to find the time to cover the wide-ranging and diverse activities of such a man as Trembley, who was not only a keen biological researcher, but was also prominent in the politico/religious and educational conflicts of his time.

Trembley was a Swiss and he was fortunate, early in his career, in entering the household of a very influential Hollander, William Bentinck, a Curator of the University of Leyden, who engaged him to tutor his two young sons. He thus not only secured a powerful friend and patron, but stepped into a world of comfort he had not known before, where he had every opportunity for scientific investigation. He knew of Réaumur's "Mémoires, pour servir à l'histoire des insectes" and, after a little work on the large water-bug Notonecta and some other insects, he found the waters nearby teeming with other interesting subjects never before described. The green Hydra, now Chlorohydra viridissima, was a great puzzle; it had not been noticed before and, because of its green colour, he at first took it to be a plant. Under this belief he cut one in two, to find out whether either of the two separated parts would survive. To his great surprise, both did, and this led him on to the studies that engaged him for many years and with which his name will always be associated.

He wrote to Réaumur in 1740 and this commenced a friendship that lasted till the great French Naturalist's death in 1757. Leeuwenhoek had announced that Aphida are capable of parthenogenetic reproduction, but the matter seemed to call for further investigation so, under Réaumur's expert direction, he and a Geneva relative, Bonnet, undertook a series of controlled experiments which established that it is indeed true, and Réaumur published the conclusions in Volume VI of his "Mémoires".

Dr. Baker covers in great detail the observation Trimbley made on a large number of fresh water organisms and, although compound microscopes were then becoming available and would have been known to "him", like Leeuwenhoek, showed by the acuity of his observations that simple apparatus in skilled hands can show results that surprise users of more advanced equipment.

Several fascinating chapters are devoted to the experiments on the Hydra, how he cut them into pieces, joined severed portions together in the first ever grafting operations, and even managed to turn some inside out not for curiosity but to study the digestive processes. He also observed reproduction by budding in the Hydra, the Polyzoon Lophopus and the worm Stylaria. When informed by Trembley of these surprising results, Réaumur reported them to the Academie Royale des Sciences in Paris and Buffon, who was present, relayed the information to the Royal Society in London. Bentinck's brother Charles also wrote to London, as did Gronovius of Leyden, who attributed the discovery of Hydra to Allemand. Trembley was not mentioned in any of these communications but Bentinck, on being requested by the Royal Society to give an authoritative account of the matter, put matters right by forwarding with his reply a long report by Trembley which formed the basis of discussions at two sessions of the Society in 1743, following which Trembley was elected to Fellowship and awarded the Copley medal.

Dr. Baker has put us all in his debt by producing such a readable and well-indexed biography.

Dear NYMS Member,

Dues Are Due in January

NYMS Membership dues for 2012 are now payable. We are in the process of setting up a full program of speakers, courses, workshops and celebrations at our Clifton headquarters in 2012. NYMS values your support and participation.

Please make sure to include your current email address. Email communications are particularly useful for announcing any short-term program changes, and provide convenient means for sending supplementary materials. In addition email saves paper and postage - and saves you space. If you have a web site related to your microscopy interests please let us know – we'll add it to the roster.

And--Please include any of your Contact information that has changed in the last two years.

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Work _____

Microscopy Related Website _____

Address: _____

Telephone: Work _____ Home: _____

Microscopy interests:

I do Light _____ Electron _____ Other (what?) _____ microscopy

I use microscopes at Work _____ Home _____

I use microscopes for Research _____ Teaching _____ QC _____ Hobby _____ other _____

Mostly I view specimens that are: Biological ____ Industrial ____ describe? _____

Or Other (what?) _____

I also enjoy viewing (what?) _____

In microscopy I am a Professional _____ Amateur _____ Beginner _____

**Are you interested in working on NYMS Committees? Awards _____ Membership _____ Education _____
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Checks should be made out to NYMS. Updated contact information may be included with your check to the address below, or it may be sent by email to me at mccanns@tiac.net,

Mary McCann

Regular Membership: \$30 per year. Supporting Membership: \$60 per year. Life Membership is \$300, payable within 1 year Corporate Membership: \$175

Junior Membership (18 or under): \$10

Student Membership (over 18 & a student) is \$20

Thank you for your response!

Mary McCann

NYMS Membership Chair

161 Claflin Street

Belmont MA 02478

N.Y.M.S. Items for Sale

N.Y.M.S Microscope Covers

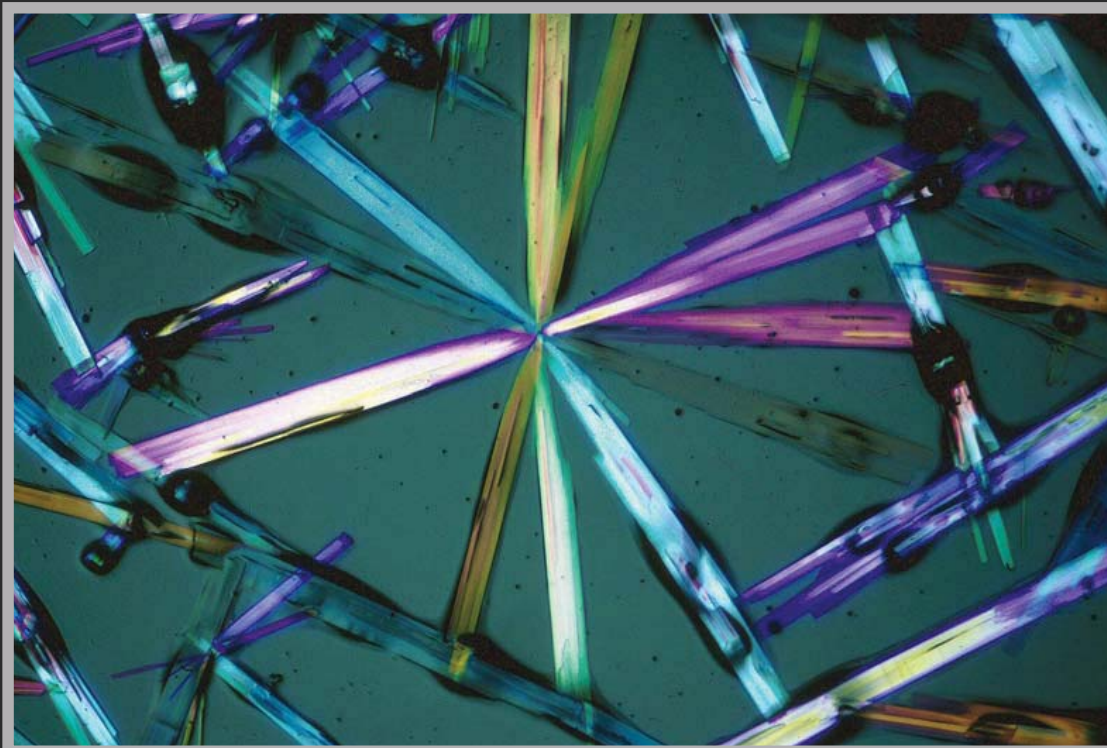
Number	Size	Member Price	List
MT-003	Small Microscope or Stereo	\$ 18.00	\$ 20.00
MT-004	Lab Microscope or large stereo	\$ 23.00	\$ 25.00
MT-005	Large Lab Scope	\$ 28.00	\$ 30.00
MT-009	Large Lab Scope with Camera	\$ 31.00	\$ 33.00
MT-010	Universal scope with camera	\$ 36.00	\$ 40.00
MT-012	X-large Scope	\$ 45.00	\$ 50.00

N.Y.M.S. Microscopes

Dissecting Microscope	\$ 59.00	\$ 99.00
H.S.Student Microscope	\$169.00	\$199.00
H.S.Student Microscope (Fluorescent)	\$179.00	\$215.00
H.S.Student Microscope(L.E.D.)	\$199.00	\$240.00

Other Items

N.Y.M.S. Pens	\$ 5.00
N.Y.M.S. Glossary	\$ 20.00
N.Y.M.S. Paperweight	\$ 12.00
N.Y.M.S. Patch	\$ 5.00
N.Y.M.S. Lapel Pin	\$ 10.00
N.Y.M.S. Microscope Cleaning Kit	\$ 35.00



Gancyclovir (DHPG), 50x

Polarized light (P1340631)

Photomicrograph by Mel Pollinger