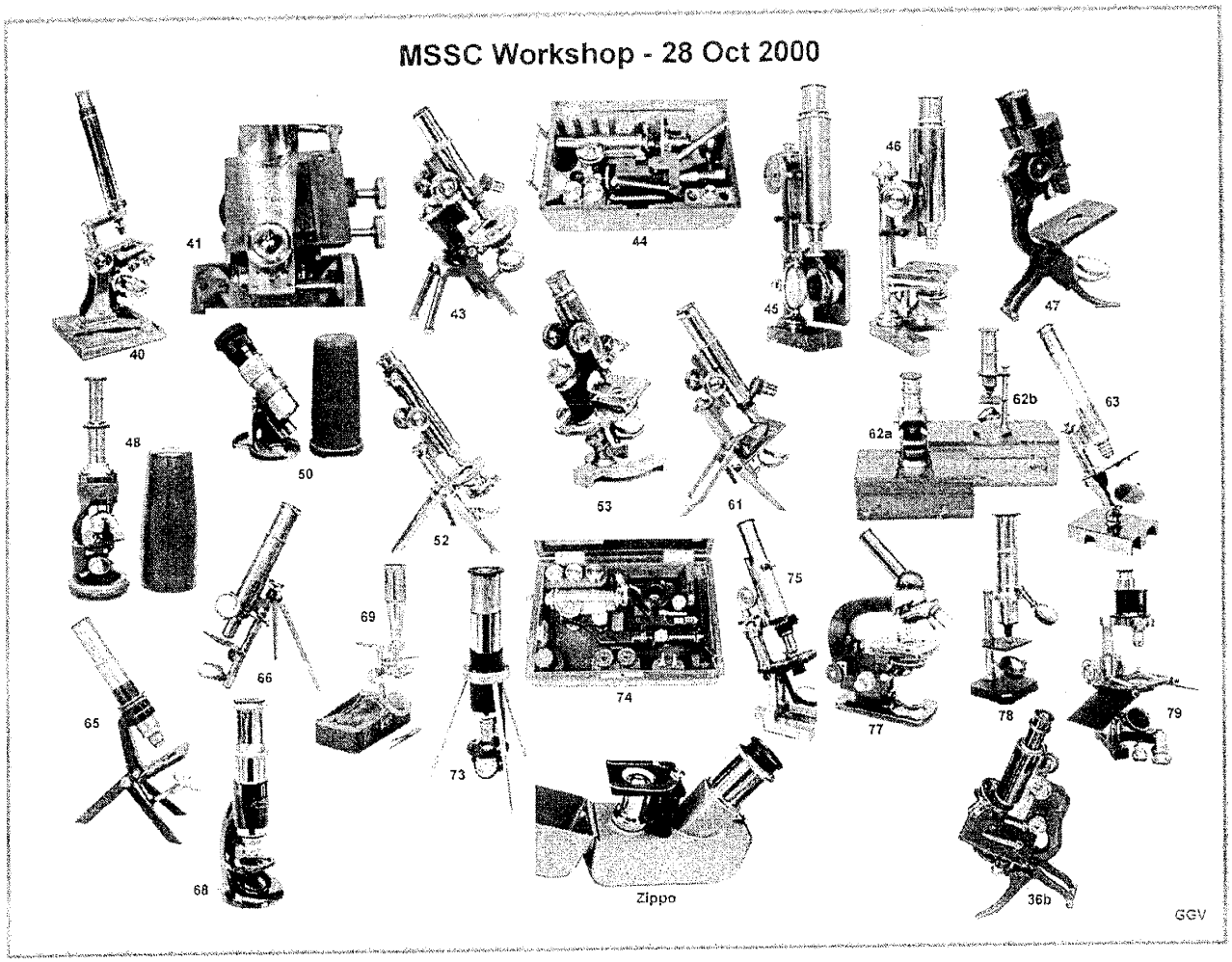
Journal of
THE MICROSCOPICAL SOCIETY OF SOUTHERN CALIFORNIA
Volume 5 Number 11 November 2000

# Oct. 28 Special Workshop on Portable Microscopes

## On the Occasion of the Visit of Mike Dingley, President of the Australian Postal Microscopical Society

George G. Vitt Jr.




This Special Workshop at Lem Gregory's residence was indeed a Gala Occasion which was organized specifically to coincide with the visit from Australia of our friend, Mike Dingley. For those few who may not know, Mike is the founder and 'Major Domo' of the Postal Microscopical Club of Australia. In addition, he is an enthusiastic collector and expert in portable, traveling, and pocket microscopes, and is now in the process of writing a definitive book on this subject. Since many of our MSSC members are also collectors of such

microscopes, we organized this special workshop in order that they could display their portable instruments, show them to Mike, and have them photographed for possible inclusion in his book. Ken Gregory again deserves our plaudits for his warm hospitality, and Leon Stabinsky did a superb job in furnishing the refreshments and pastries. Jim Solliday was our 'Mr.Interlocutor'.

The membership response was overwhelming! There must have been more than 100 instruments on display, and you will find many photos of them in this issue. John Field came all the way from Santa Cruz to show some beautiful Leitz instruments. Among the makers were Cuff, Watson, Swift, Ross, Zeiss, Leitz, Zentmayer, Spencer, B&L, Wollensak, Hensoldt, Busch, and others from France and Japan. When Mike gets back to Australia, I shall e-mail all these photos to him, as he had requested.

Mike proved to be a most charming, enthusiastic, friendly and sociable individual with lots of 'get up and go'. He took many photos, videotaped the entire meeting, and gave an interesting slide show dealing with portable microscopes of all ages. The group took to him like a duck takes to water and, I suspect, the feeling was fully reciprocal.

There were too many microscopes to be verbally described here, and pictures are worth a 1000 words. However two items will be mentioned. Alan de Haas provided the following description of a hardly ever seen instrument he had brought. It was a rare Stiassnie portatif mic. made in France about 1905-10 (see photo). The date is only a guess since there are no formal company records available. It is portable by virtue of the folding foot which uses a copy of the inclination joint rotated 90 degrees and placed immediately above the base. This allows the foot to be swung to the right (as viewed from the back of the instrument). The scope comes with a #3, #6 and an oil immersion objective and one eyepiece. It has an attachable mechanical stage which sits in the bottom of the case beneath two wood clips.

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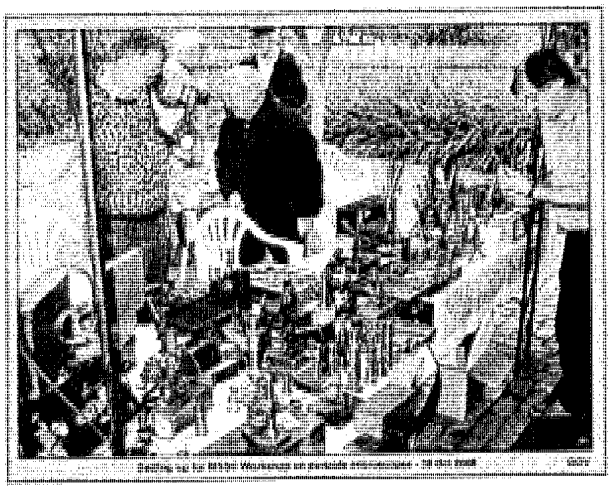
The other item is not a microscope but is a real 'goody' which, besides being generally useful, may be an inexpensive boon to who participate in ebay auctions where a bid during the last second of sale might mean the difference between success and failure. Larry McDavid showed a recently acquired clock that is automatically set by a signal from WWV. The clock is marketed as "Atomic Clock" and is distributed by SWC, Bentonville, AR 72716. It is available locally at Sam's Club for only $21.95. The clock is 22 x 23.5 cm with a 17 x 9.3 cm LCD display; the time digits are large (5 cm) and easily read across a room. It displays time in 12/24 hour format with seconds, day of week, date and temperature. Time can be optionally set automatically for daylight savings time. The clock sets itself accurately using the WWVB 60 kHz time signals broadcast from Ft. Collins, Colorado by NIST. The NIST recently greatly increased the power of the WWVB transmitter to improve reception throughout the US. Accurate time is required for final seconds bidding at eBay.

Now to the photos:



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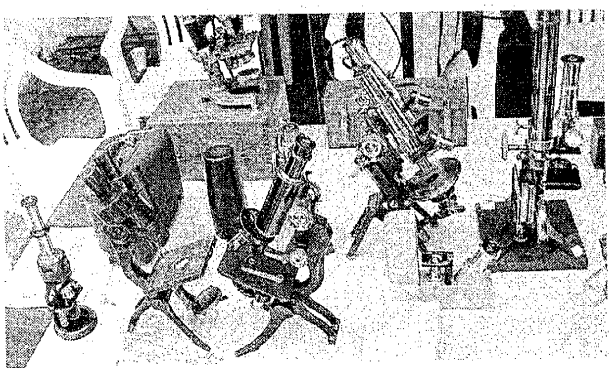

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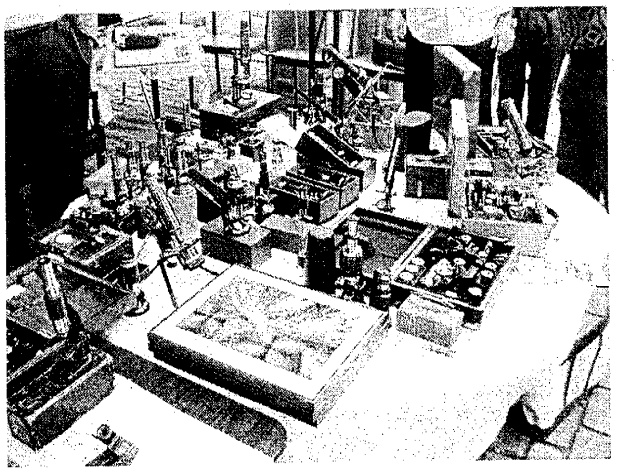

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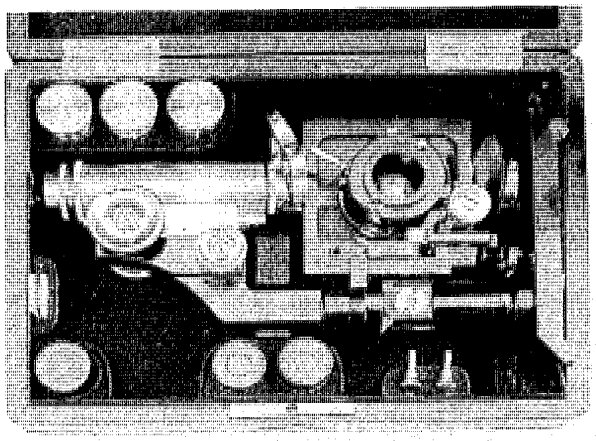
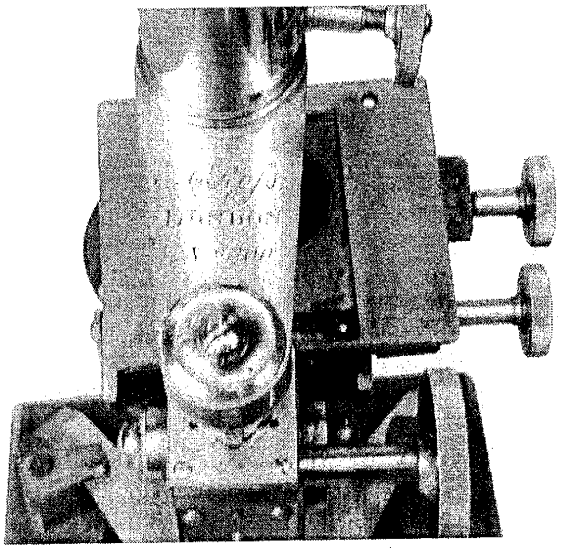
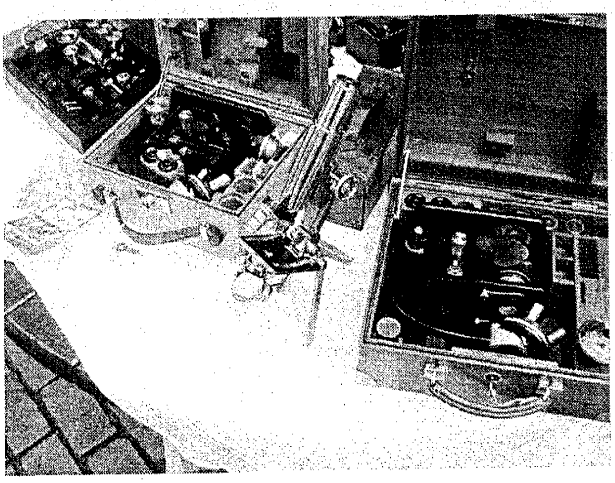
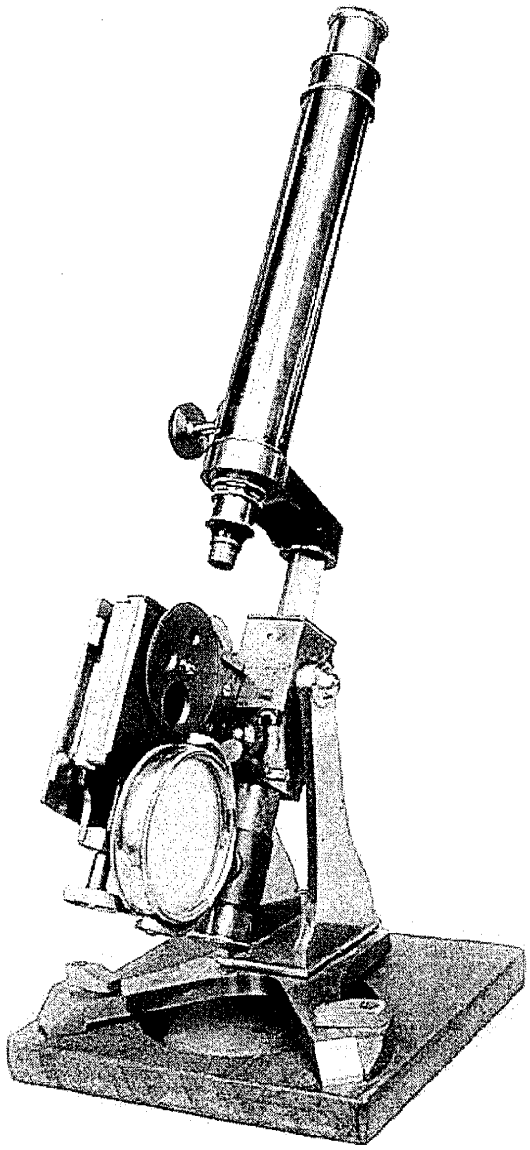




Ross portable, Ser. No.300, (1846-7)





Ross portable,
Ser. No.300,
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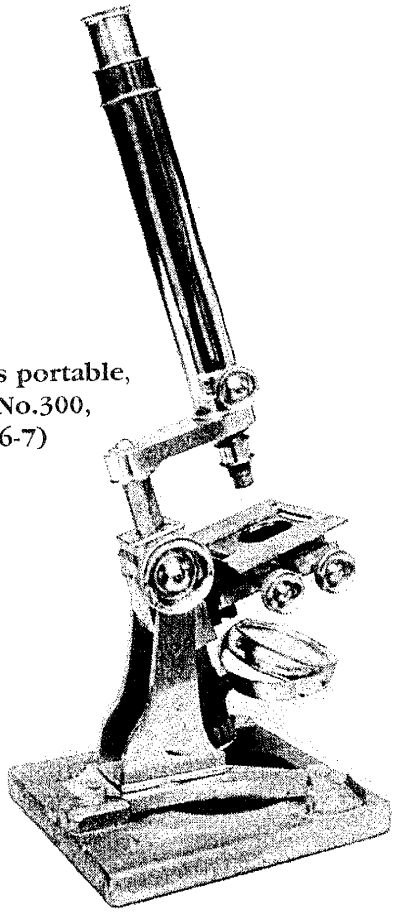
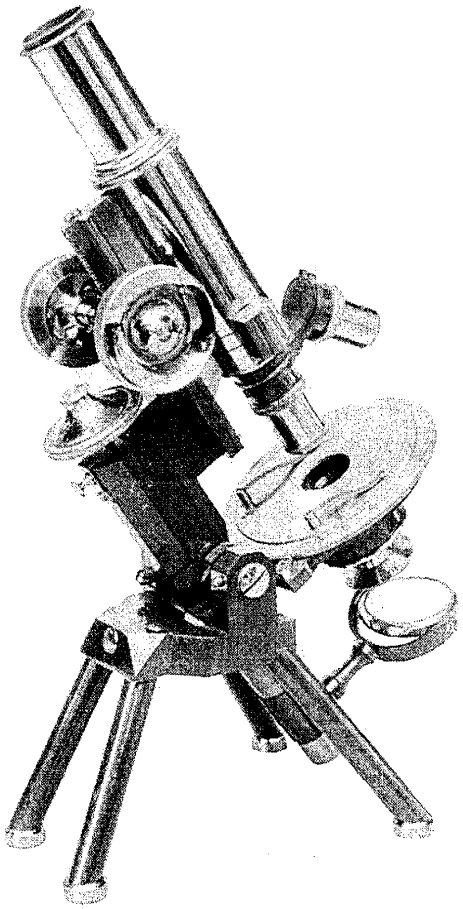
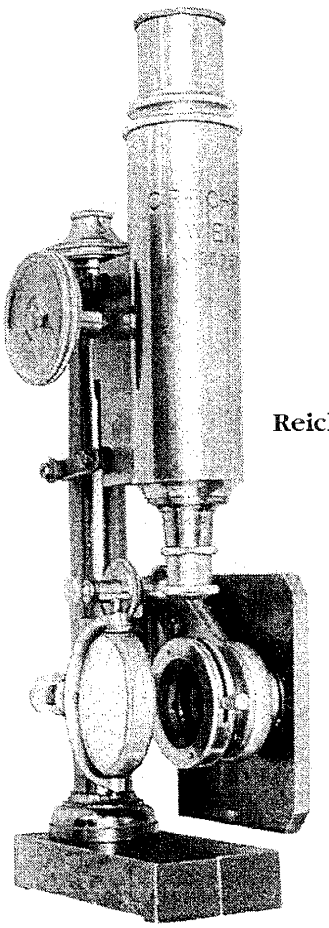
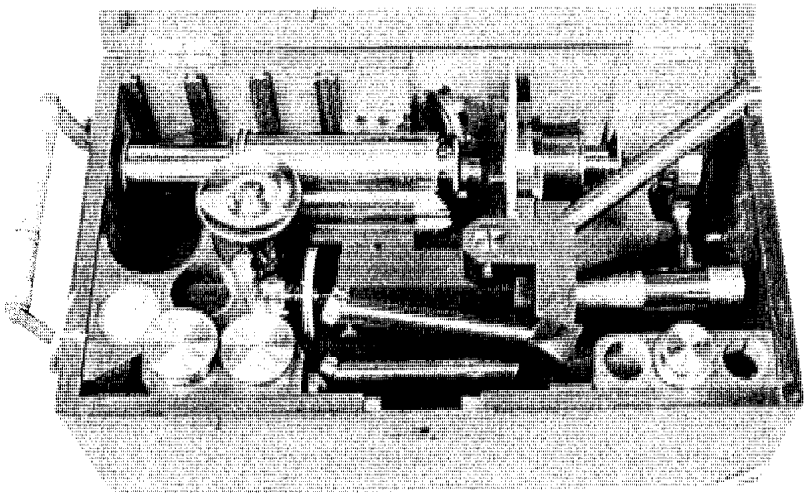




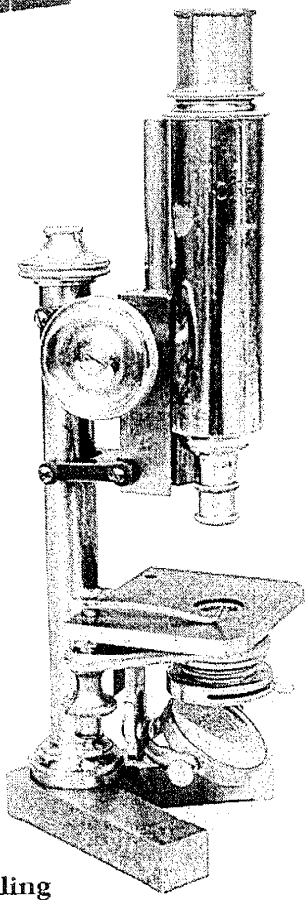
Swift portable petrographic (with folding feet)



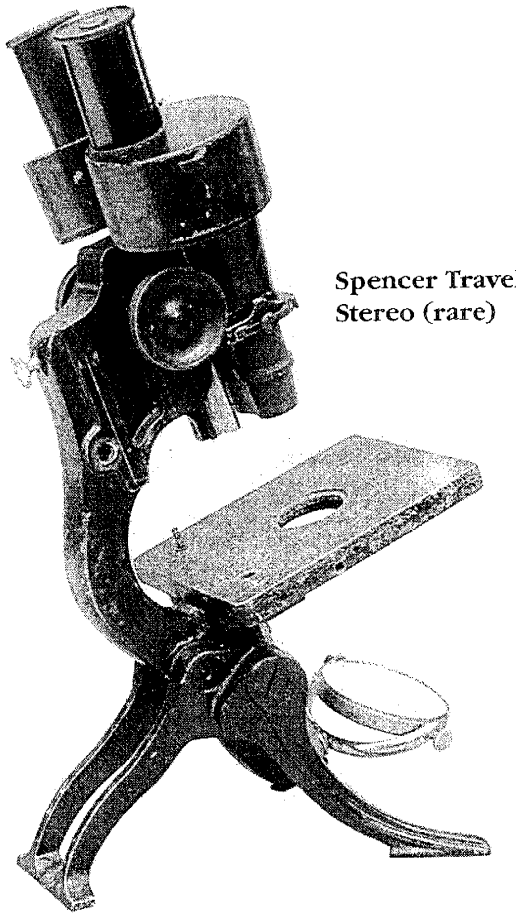
Reichert travelling



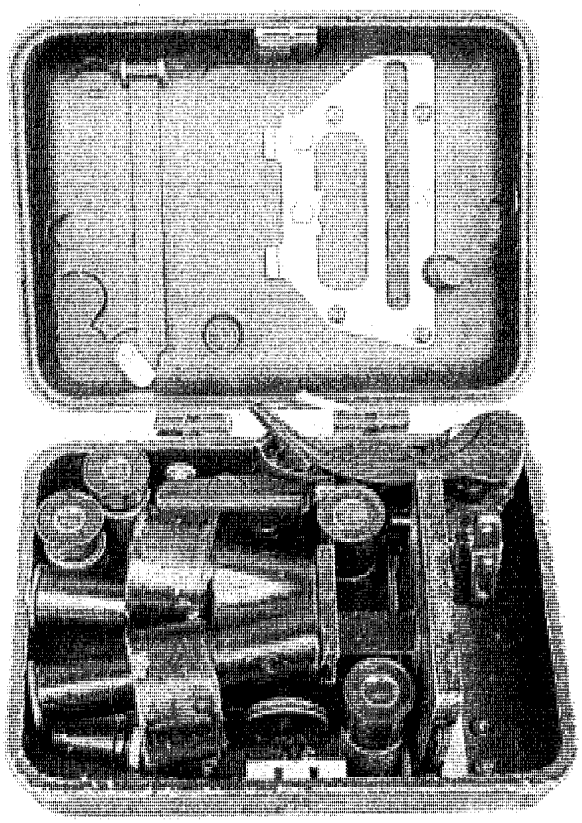
Swift portable petrographic (in case)



Reichert travelling



Spencer Travelling Stereo (rare)



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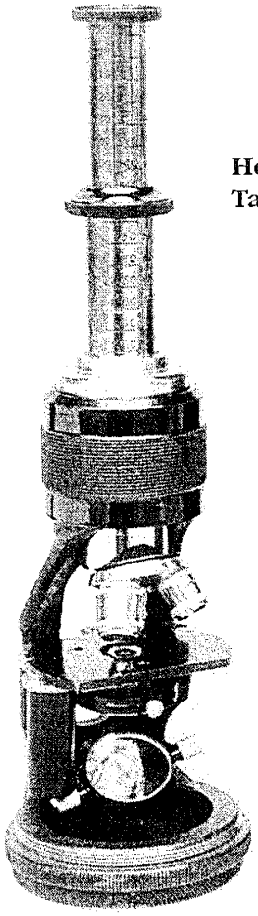
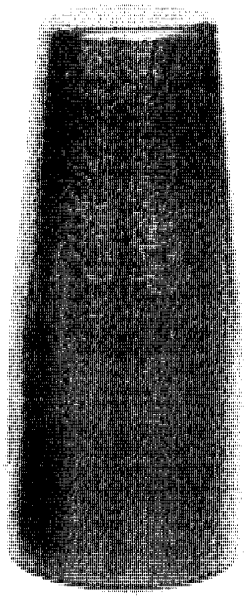
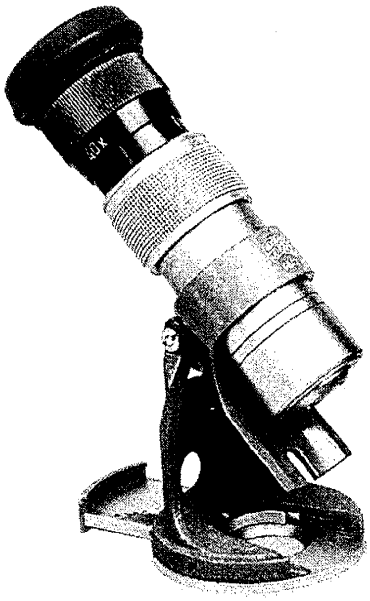
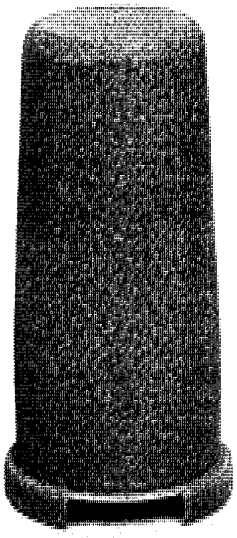


Hensoldt Wetzlar Pro-Tami







Hensoldt Wetzlar Measuring instrument (New Tami)

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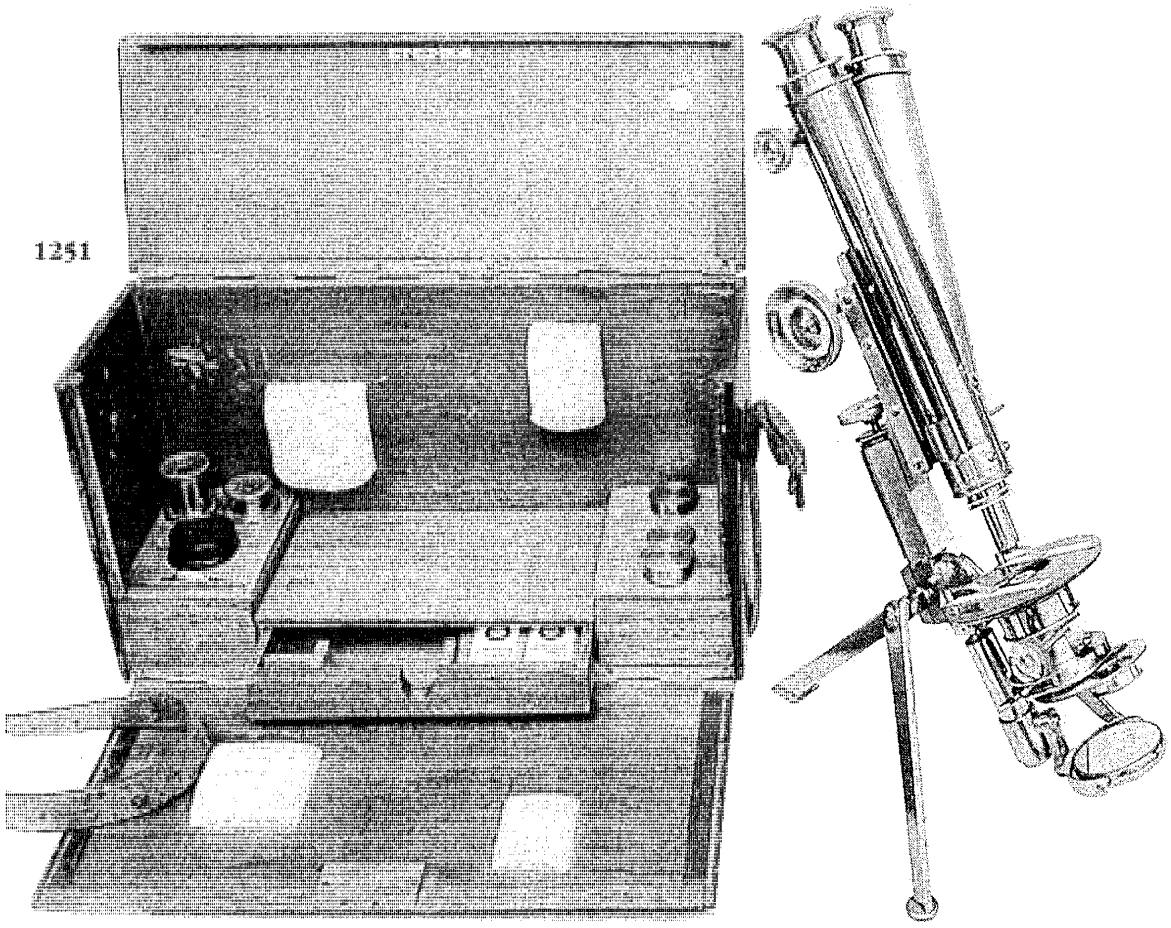
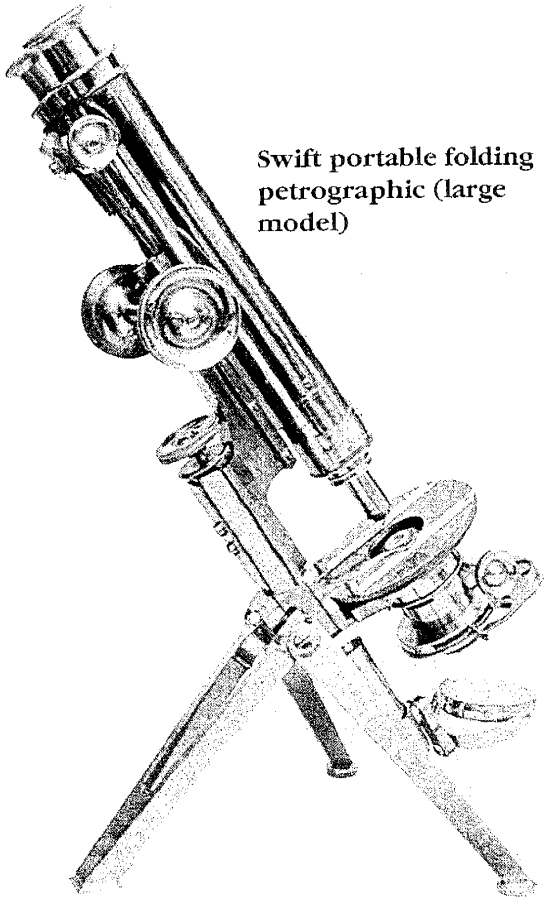
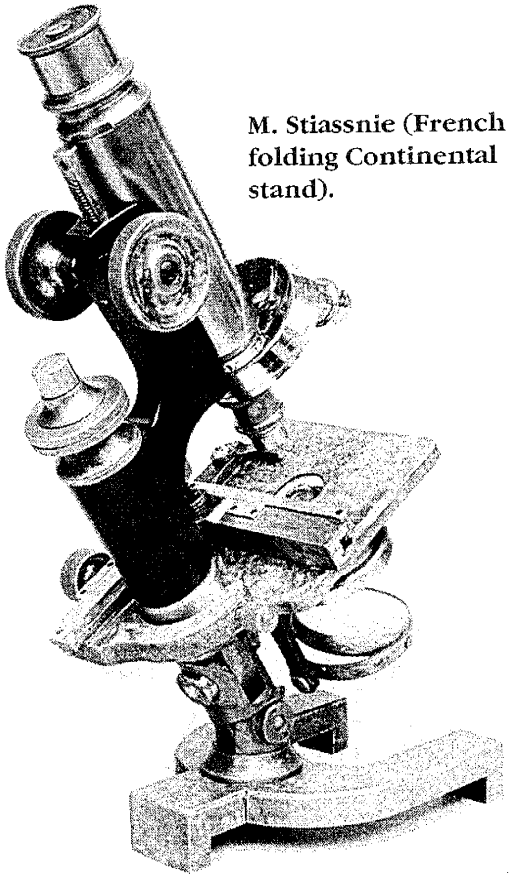
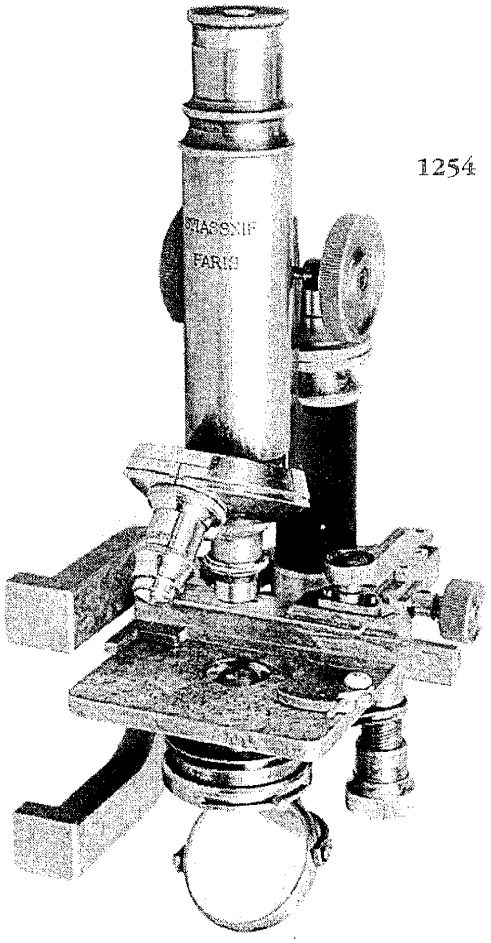




Swift portable folding petrographic (large model)



M. Stiassnie (French folding Continental stand).



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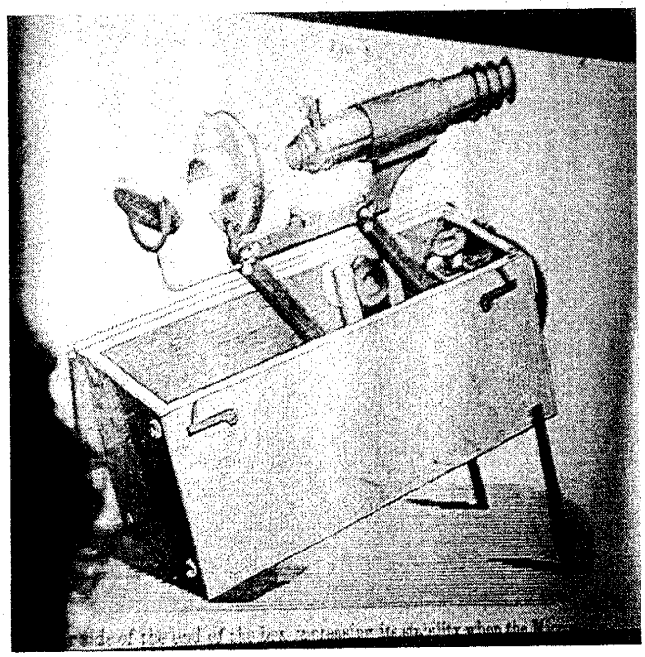

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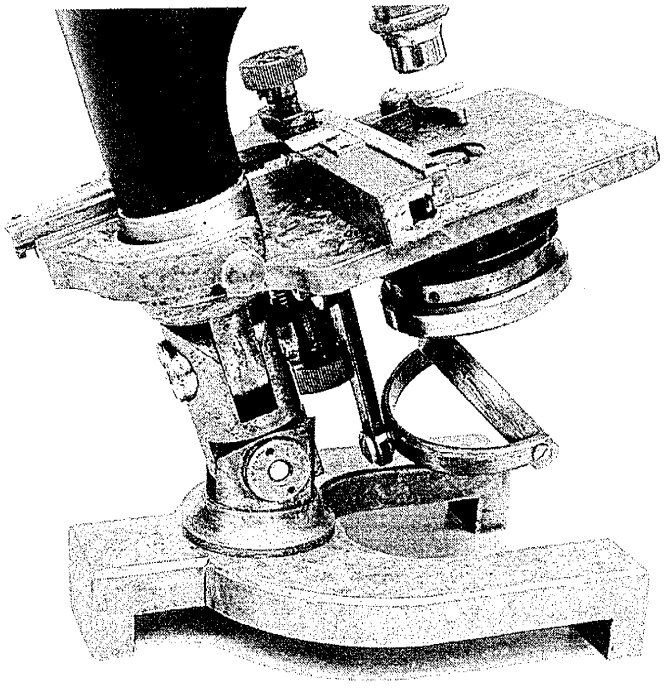
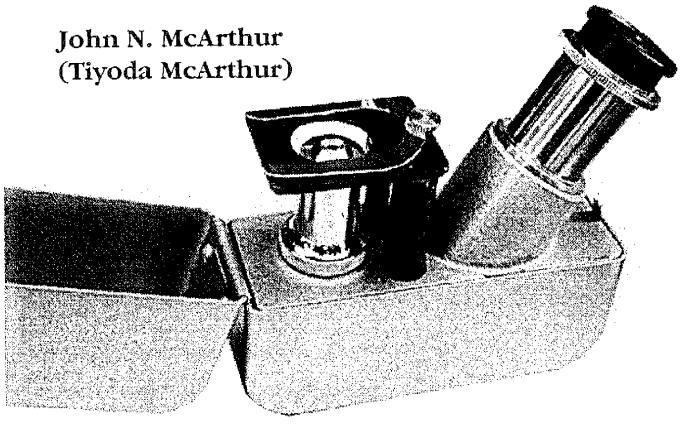
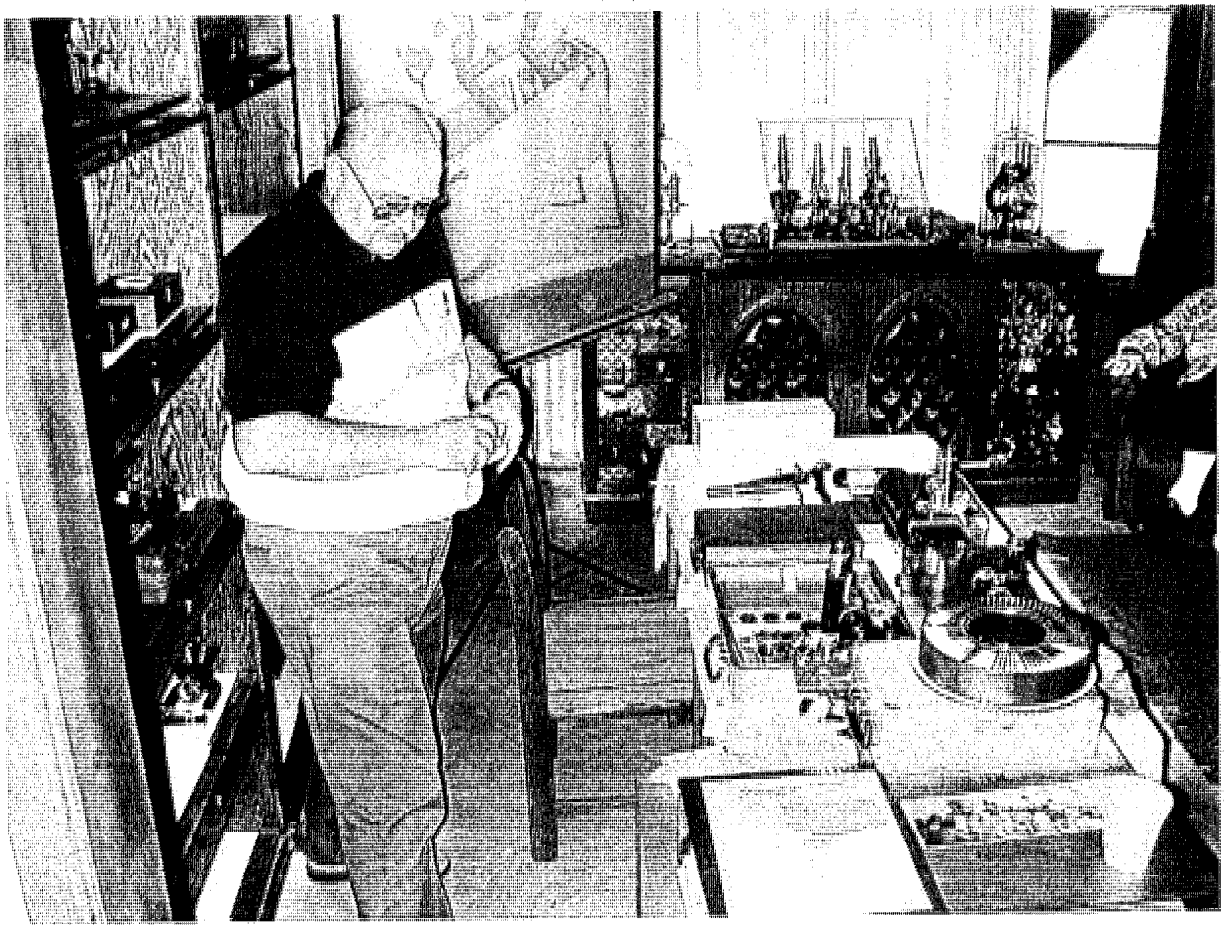
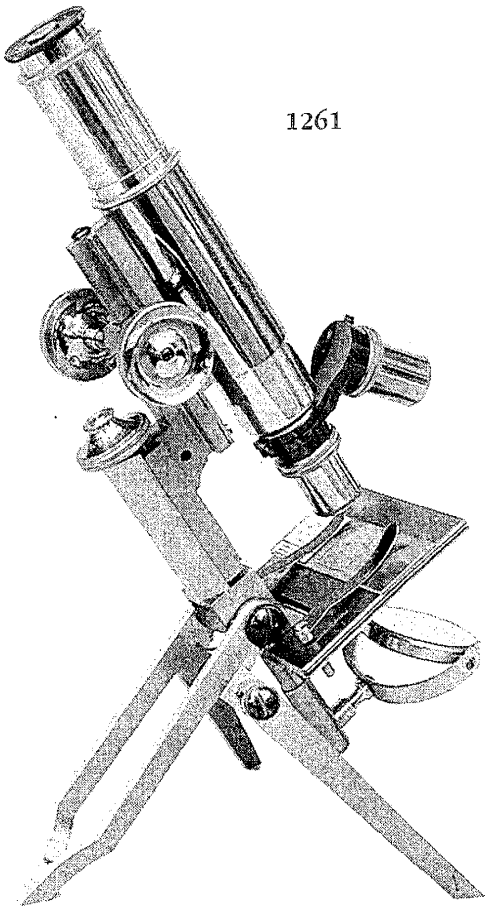


**John N. McArthur**
**(Tiyoda McArthur)**







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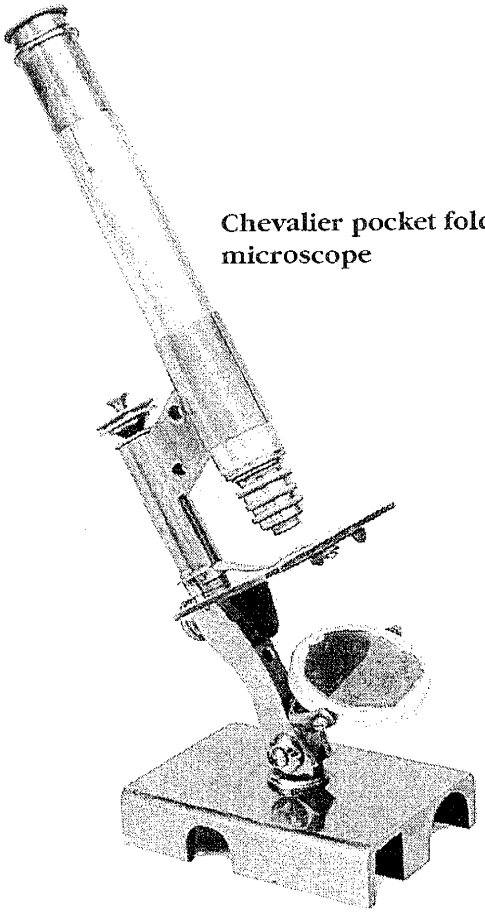
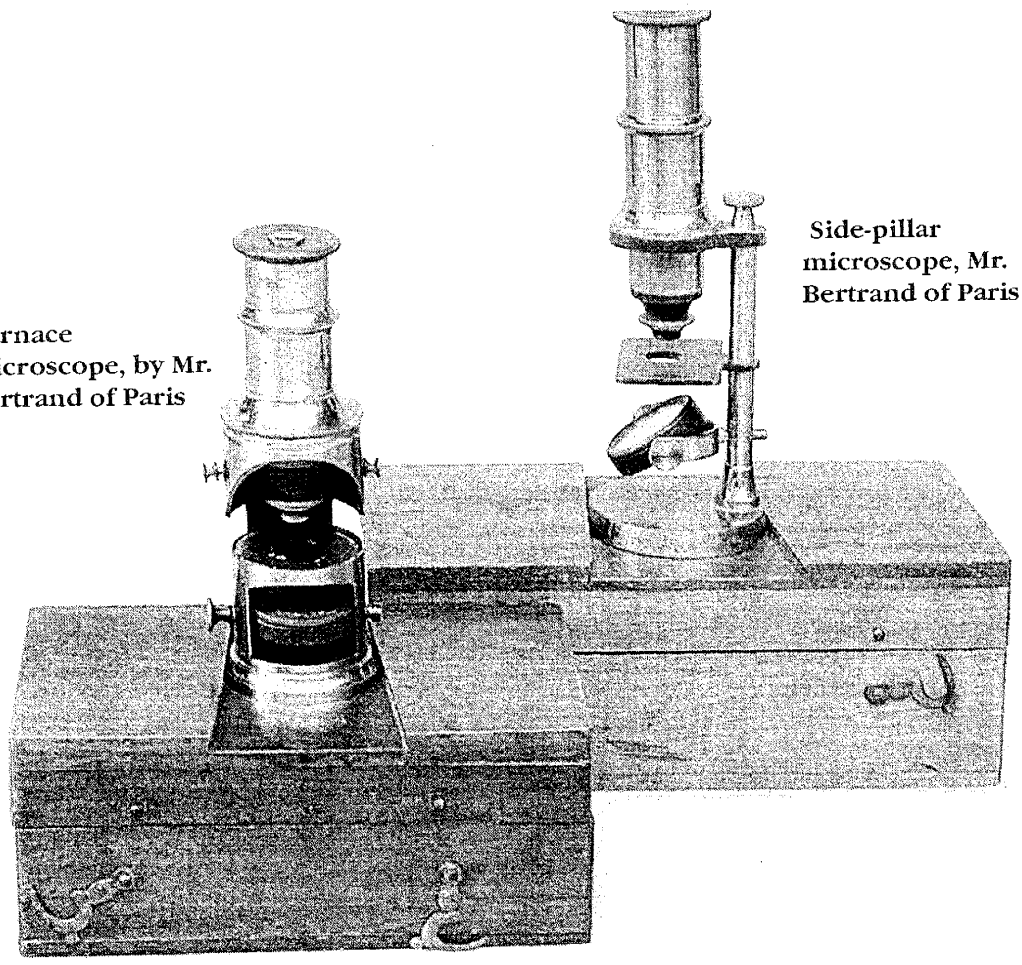


Chevalier pocket folding microscope



Furnace microscope, by Mr. Bertrand of Paris

Side-pillar microscope, Mr. Bertrand of Paris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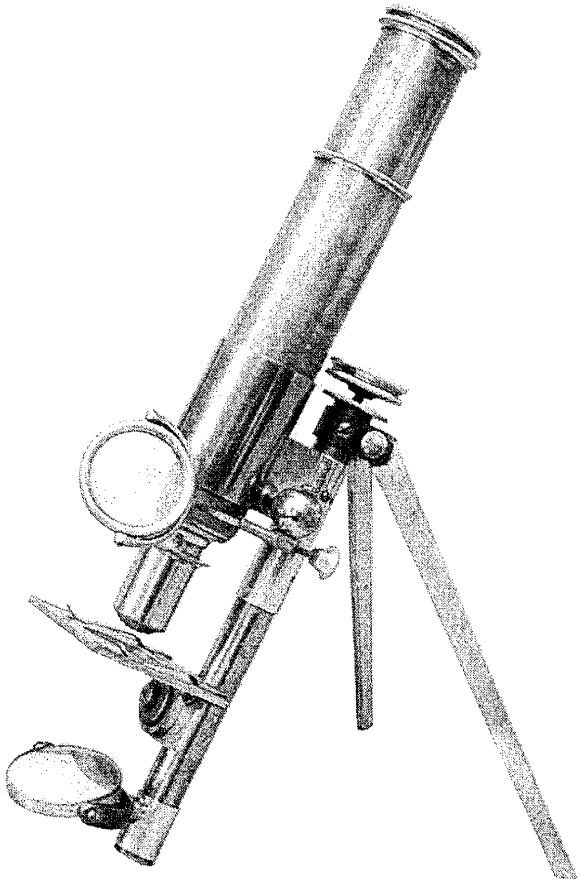
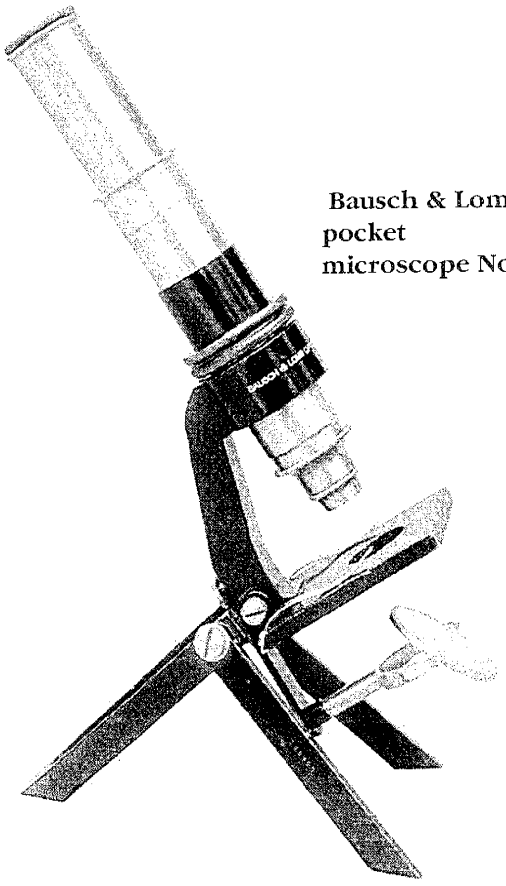
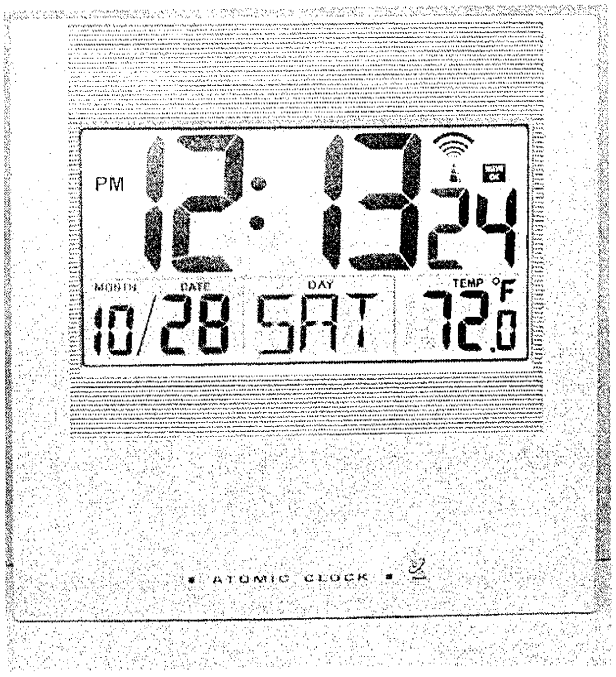


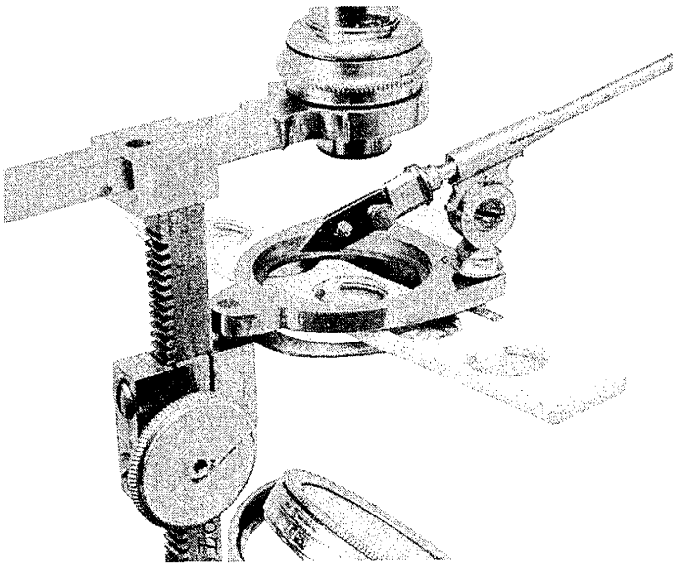
Swift pocket (Sea-Side Microscope)



Bausch & Lomb pocket microscope No.40.

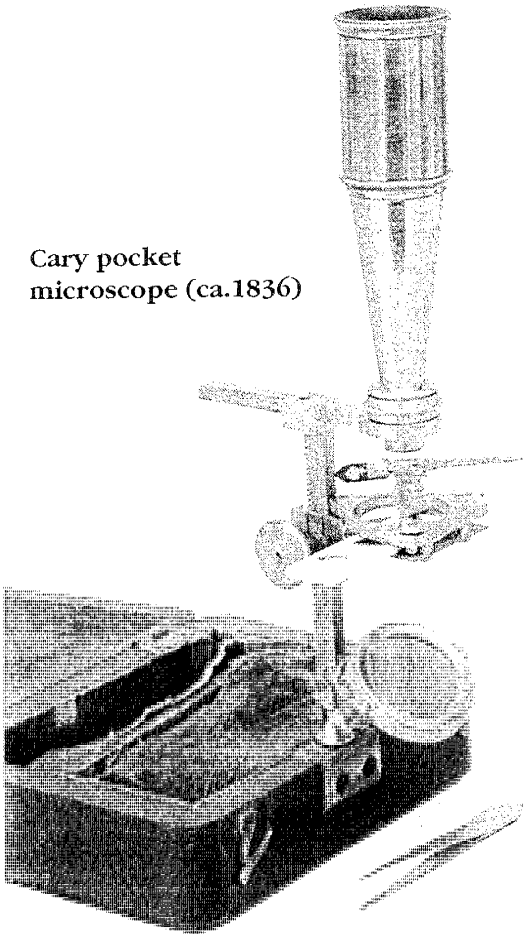


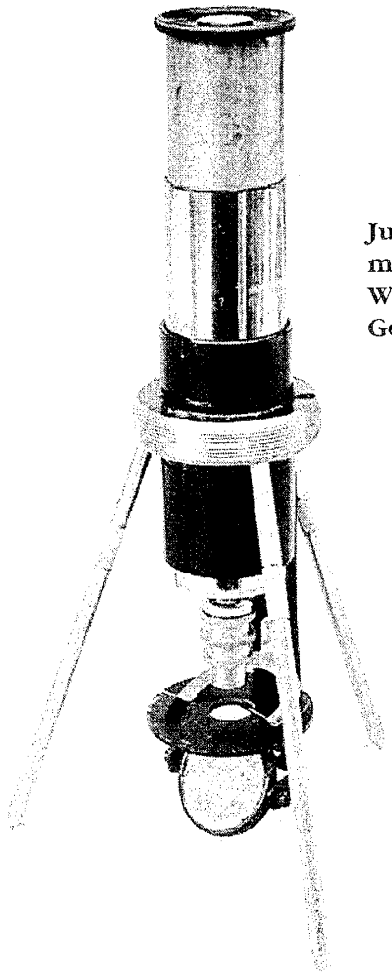
Busch pocket microscope



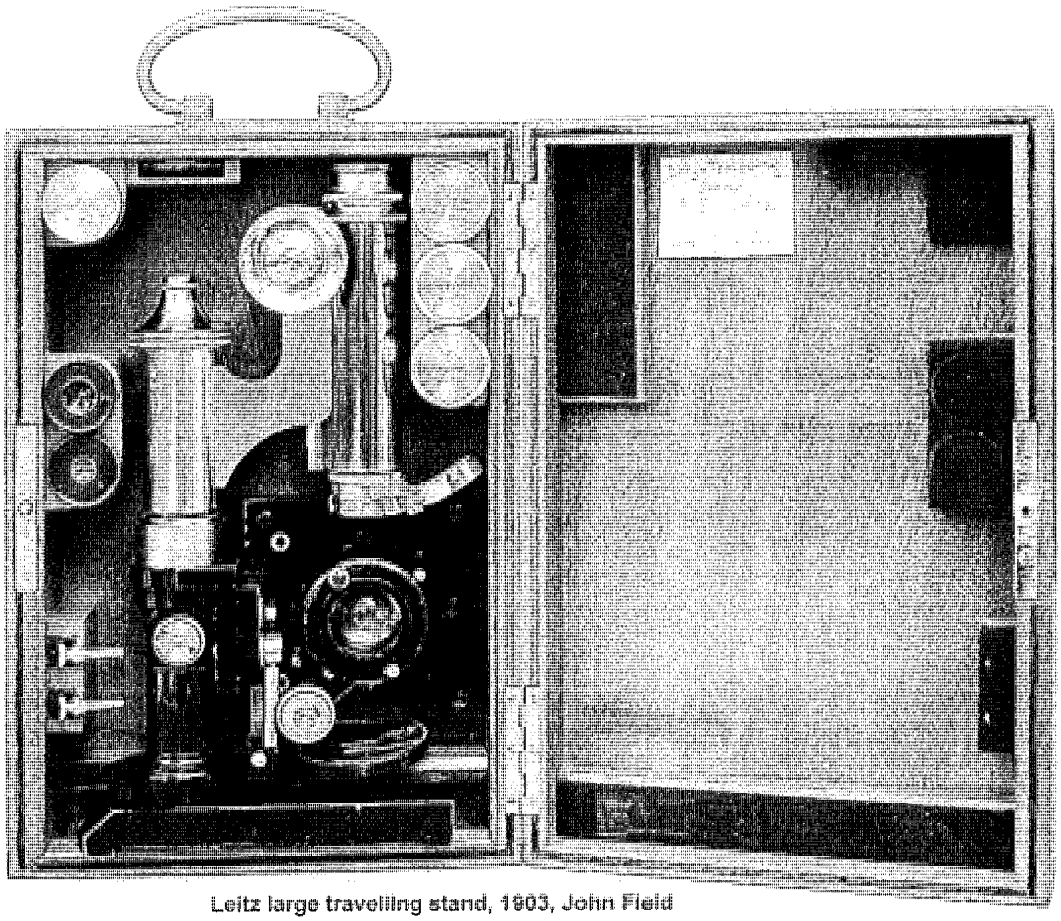
Aquatic

Cary pocket microscope (ca.1836)





Junior, pocket microscope, Wetzlar Germany



Leitz large travelling stand, 1903, John Field

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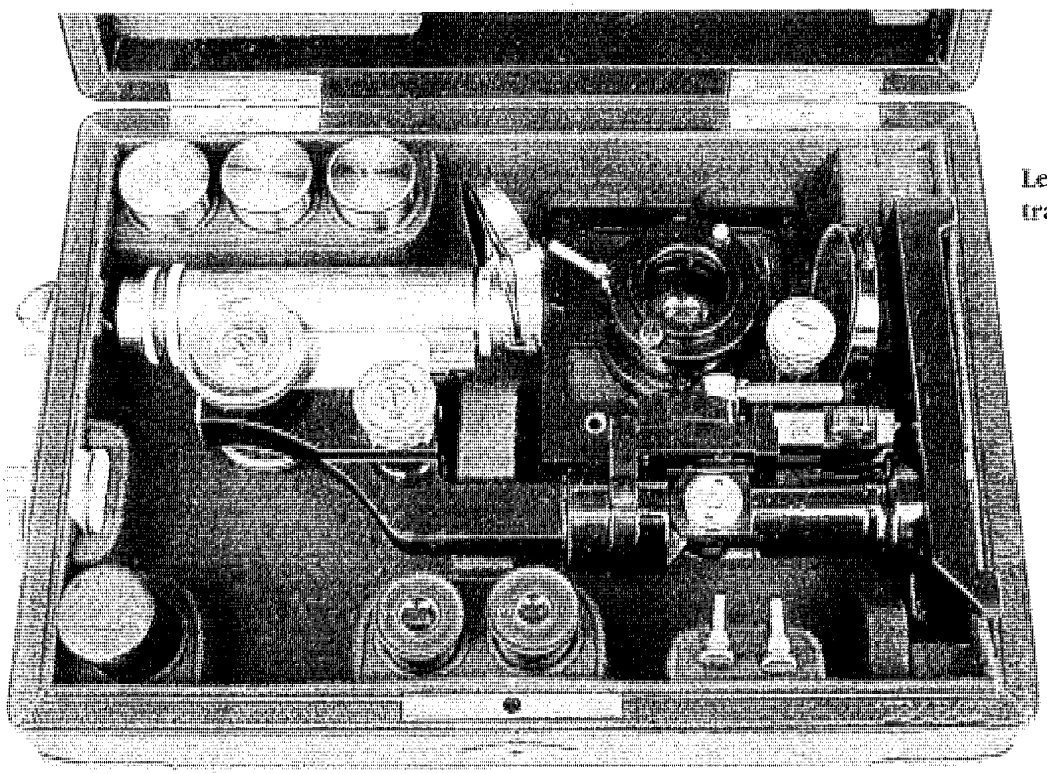
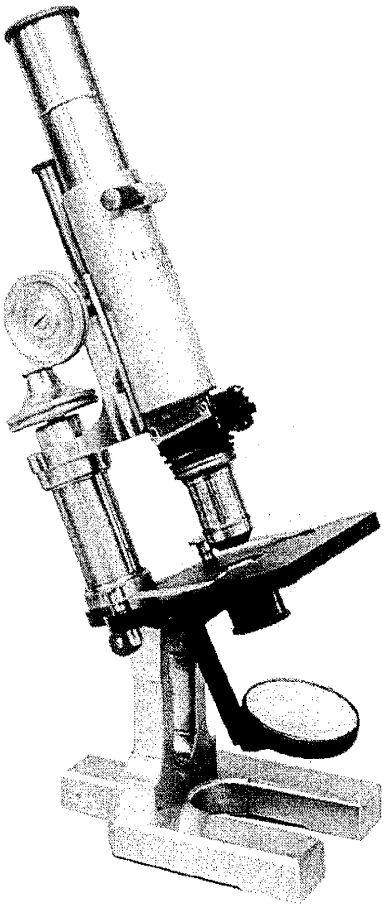
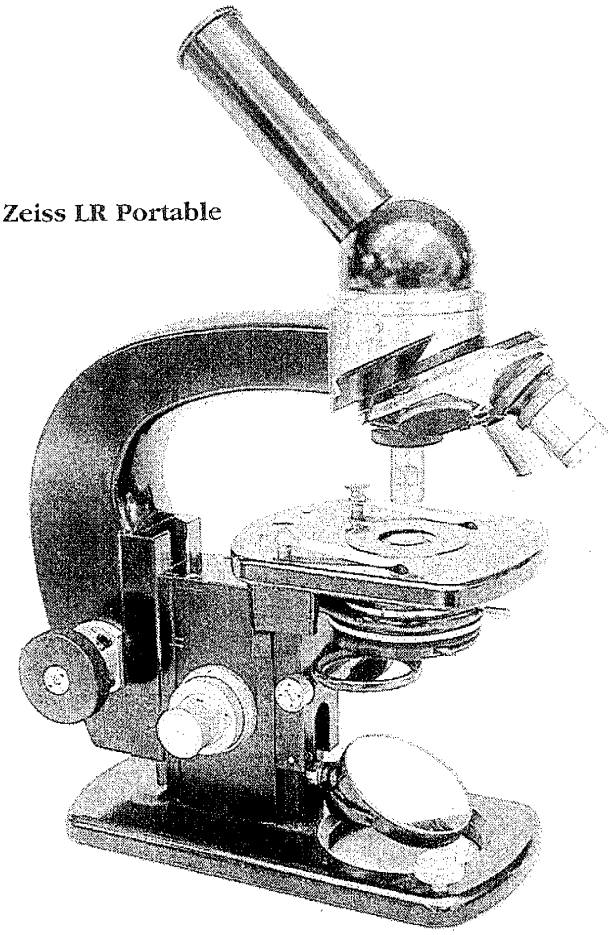
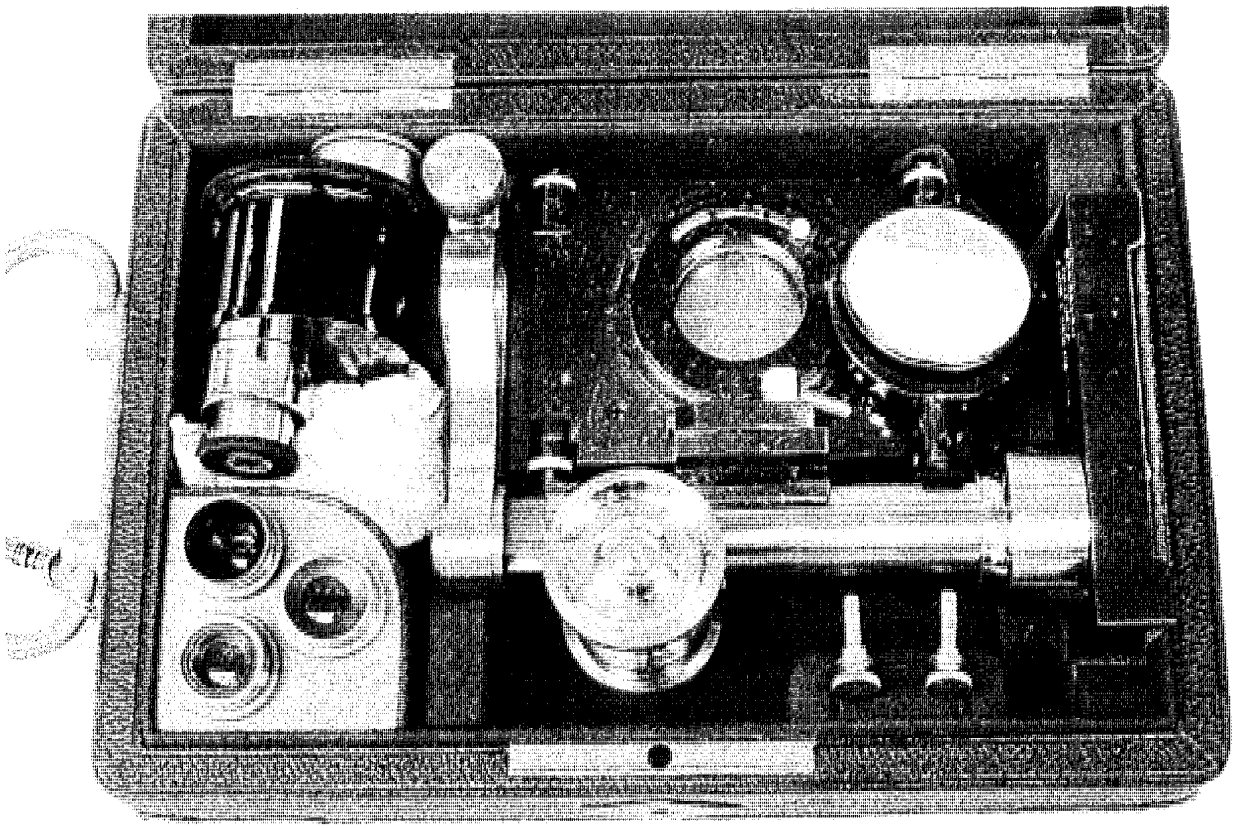


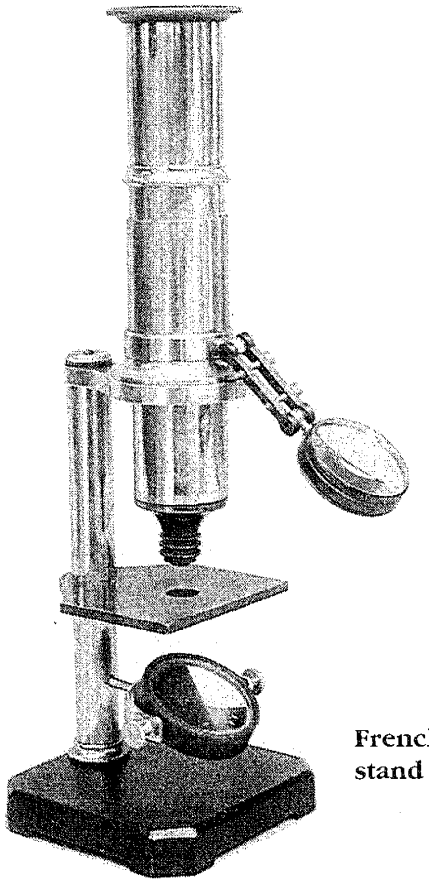
Leitz large travelling



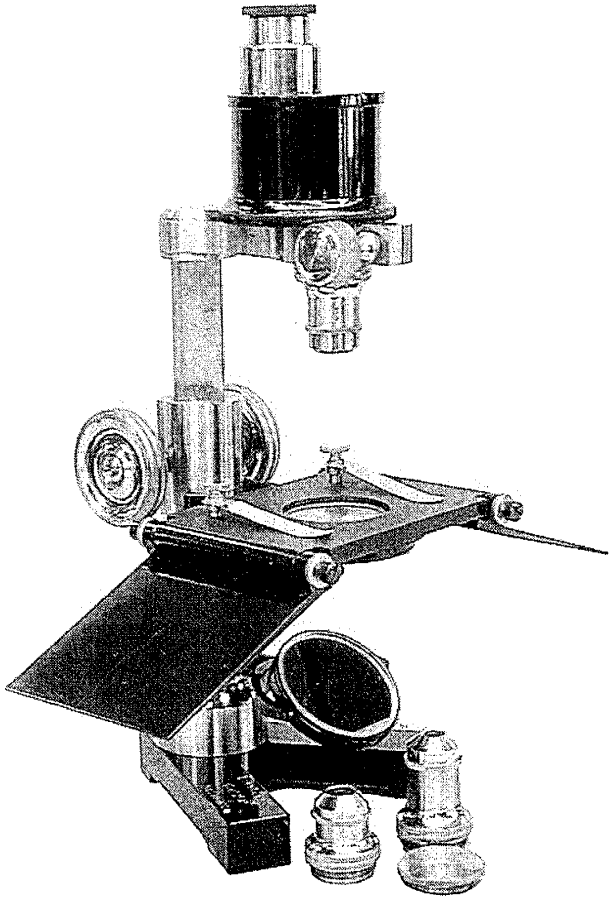
Zeiss LR Portable



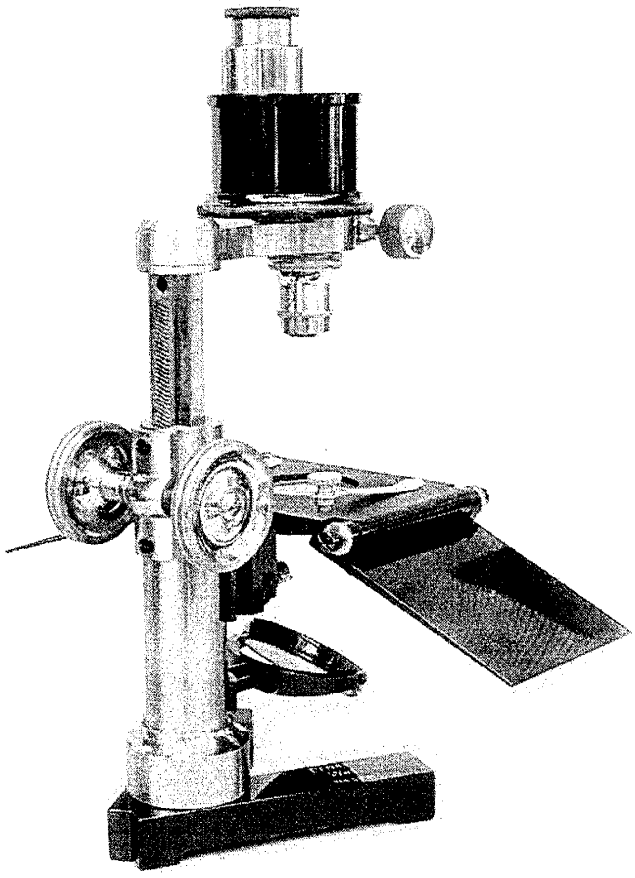


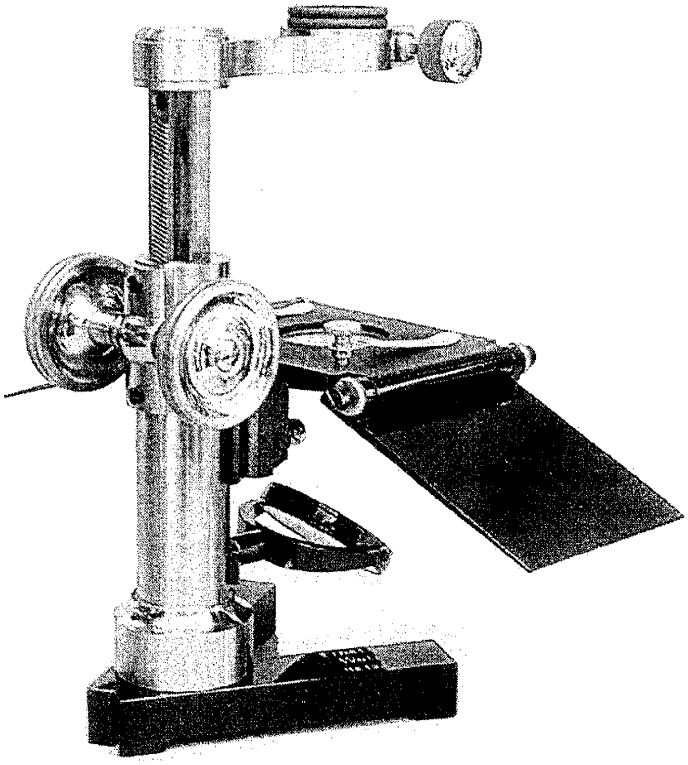


French student stand



Leitz Specimen Preparation Microscope





# WORKSHOP of the Microscopical Society of Southern California

## Date: Saturday, 4 November 2000
## Location: Izzy Lieberman's residence

George G. Vitt, Jr.

Announcements: The March and April 2000 MSSC Workshops will be held at the residence of Ken Gregory, since Izzy will be away.

We need a new refreshments Chairman in view of the fact that Pete Teti, who has been doing a terrific job for several years, wishes to hand over this position to another who will be equally dedicated and appreciated by all the membership. We urgently need, and would very much appreciate, a volunteer to step forward. We wish to thank both Pete Teti and Leon Stabinsky for the wonderful and essential service they have been providing.

It was decided that the annual MSSC Christmas party be held at a restaurant, and George Petrelli's restaurant, known to many MSSC-ers, was chosen for this festivity. It is a landmark in Culver City and is well known for its fine food and reasonable prices. Alan de Haas will contact Petrelli's in order for us to make the necessary arrangements. Present information indicates that a minimum attendance of 60 persons is required, and that a variety of meals can be furnished in the range of $15 - $20 per person. However, we must make haste in contacting both the restaurant and the membership before the 'crunch' of the holiday season overtakes us.

Please remember that the November meeting is our annual MSSC "Exhibition Meeting". All are urged to prepare an exhibit and display it to the membership.

1. John De Haas brought 5 biological binocular microscopes made by Spencer and B&L around the 1940s and 50s. All featured X-Y stages. These were for sale at the bargain price of $100 each! Several are still available.

2. Dr.Myron Lind offered for sale, at very reasonable prices, several boxes of excellent prepared microslides. These included 19th century slides by Enoch, Flatters & Garnett diatom test slides, butterfly wing slides and many other types. Some are still available.

3. Stuart Warter showed a microscope made by Leopold Schrauer which resembles the Bulloch (see photo). It is a brass monocular with a 3-legged foot, a 2-objective turret, a swinging substage mirror and a calibrated sector disk to enable a precise setting of oblique illumination via the mirror. The substage condenser is of the conventional 2-lens Abbe type made by B&L. The microscope is equipped with a spring-loaded arm for holding the slide down against the glass surfaced stage which, along with the slide frame, is missing. There is an unusual rectangular cross-section filter holder immediately below the substage condenser which allows the insertion (from either the left or right side) of a filter or a slide with several filters, or stops of various shapes and orientations for oblique trans-illumination. Schrauer was a Swiss immigrant who made microscopes in New York and sold them directly, instead of through a dealer. He used objectives made by both Hartnach and Leitz and his eyepieces were by B&L. He advertised between 1878-1888.

4. Gaylord Moss suggested that we tape record the comments made during workshops and then transcribe them for use in the Journal. George Vitt volunteered to bring his Sony Mod.153-SD portable stereo recorder and good condenser microphone for this purpose.

5. Jim Solliday displayed a Bulloch, W. H:A118, Compound Monocular, American, 1880 signed on its base, "W.H. Bulloch, Chicago. PAT'D 1879. Serial.No.121". This is Bulloch's "New Biological" Stand with geared mechanical stage. Extending from 13" to 18" tall by drawtube and racked focus, this brass microscope is equipped with a rotating nose piece for the objectives, rear pillar fine focus control, manual rotatable stage with (X,Y) mechanical motion via co-axial knobs. Accompanying the stand are two objectives by W.Wales (Bulloch did not make his own optics). The lenses are stored in a fine box case with silk and velvet lining and marked under the lid in gold with the signature of the maker and the powers of the objectives. The lettering reads: "W. Wales, Economic, 3/4, 1/5". The eyepiece is probably also by W. Wales. On the substage assembly is mounted a rare conical leaf diaphragm using society threads for attachment. The diaphragm has the appearance of an objective and is signed by "Geo. Wale, Pat. June 6, 1876." It is attached to a calibrated swinging arm, and double mirror below on a second and separate calibrated swinging arm. Bulloch was the first American maker to use a sector microscope where the mirror and condenser swing from below to above the stage (the two being separate). This microscope was the progenitor of the English Continental style microscope The overall condition

of this microscope is very good but the brass is somewhat brown due to the loss of most of the lacquer. See RITTENHOUSE Vol.7, No.4, Dating Bulloch Microscopes, by. Paul L. Ferraglio (pp.114-116).

Jim provided the following chronological history: Chicago microscope maker,Walter H. Bulloch (1835-1891). (See his obituary in The Microscope, 1892, pp.38.) In 1852 Bulloch emigrated with his parents to the USA from Glasgow, Scotland. Mr. Richards of the A.O. Co. states (Royal Microscopical Society, June,1964/124) that Bulloch arrived in 1851. He worked for his father in New York as a tailor. Soon he was apprenticed to Benjamin Pike & Son as a machinist and was promoted to foreman. In 1864 he worked with William Wales making stands while Mr.Wales made the optics. For a short time Wales and Bulloch formed a partnership (RMS,June,1964, p.124). In 1866-67 he moved to Chicago where he began his own business and was probably the first microscope maker west of Philadelphia. His great strength lay in his innovative, finely executed mechanical design and he probably made no more than 1,000 microscopes. His business continued uninterrupted until the great fire of 1871. During 1866-1891, he made microscopes in Chicago. By 1884, Charles Coppock, of 100 New Bond St. London, was foreign agent for Bulloch (RMS, Aug, 84, ad). In 1890 he was located at Nos.99 and 101 W. Monroe St. Chicago. He issued a catalogue in 1890, where he states that the "Meyrowitz Brothers" were "Sole Agents" for him in New York (The Microscope, 1890, p.7 ad). In 1869, Bulloch established the State Microscopical Society of Illinois (MSI). The Great Fire of Chicago burned down the shop of Bulloch on 8 October 1871. The Chicago Academy of Science was also burned, destroying the first run of "The Lens", the publication of the MSI. In 1872, following the fire, Bulloch spent a short time with Tolles in Boston, but quickly returned to Chicago and resumed making microscopes until 1890 when, it is believed, he gave up the production of microscopes to accept a position with the Coast Survey (RMS, 1964, pp.124). However, he died soon thereafter, on Nov 5, 1891.

In 1873 he exhibited his Sector Microscope in Chicago. He described it as having an "achromatic condenser with rack & pinion movement in arc of circle for oblique light" (RMS, 1880, p.1067). Description of Bulloch's substage can be found in The American Journal of Microscopy, 1877, p.74. Bulloch produced a stand allowing the mirror to be rotated above the stage in 1870, it was made for Dr.Johnson (American Journal of Microscopy,1877, p.75). It should be noted that Bulloch's mirror and condenser swung on separate stems (1873) while that of Zentmayer's was on the same stem (1876). Zentmayer responded to the priority debate in 1877 (American Journal of Microscopy,1877, p.93).

In 1875 E.B.Meyrowitz was established at 104 East 23rd St., N.Y., N.Y. By the 1890's he offered stands and had purchased the patents of Bulloch among which was the 1879 patent of the "Congress" microscope having the mirror and substage on separate swinging arms. He then manufactured the Bulloch stands, much like the Biological stand (American Monthly Microscopical Journal,1893, p.219). They issued a microscope catalog in 1898. In 1885, E.B, Meyrowitz, was located at 295 and 297 4th Ave., N.Y. According to Padgitt, he was advertising as Bulloch's Sole Agents for New York and vicinity. According to Mr.Tolman's Columbian Exhibition report, Meyrowitz "manufactured" stands made popular by the late W.H. Bulloch. A total of three different models are mentioned (American Microscopical Journal.1893, p.219). In 1879 Bulloch, W.H., was located at 126 Clark St. Chicago, Ill. In 1892 M. Von Mehren, advertised as a manufacturer of microscopes and successor to W.H. Bulloch, at 303 & 305 Dearborn St., Chicago, ILL (American Monthly Microscopical Journal,1892, Jan, No.145 back cover).

6. Ken Gregory displayed 3 Reichert microscopes (see photo) from the early part of the 20th Century (circa 1910). All three had a common feature: horizontal brackets attaching the course focus mechanism (and hence body tube) to the fine focus mechanism in the limb.As the fine focus knob is turned, it raises or lowers a horizontal flange protruding from the coarse focus shank, thus raising or lowering the body tube. Prior to 1900, many Continental microscope makers offered versions of this type of fine focus. Reichert seems to be the lone manufacturers to persist with this design into the 20th Century, especially as adapted to full size Continental style microscopes.

One of the smallest microscopes Reichert produced had such a mechanism as is seen in the photo. It had a black-enamelled, curved, horse-shoe base, pillar, mirror, stage with rotating substage stops, and vertical limb with fine focus using the horizontal brackets as described above. Coarse focus was by sliding body tube. The two full-size Reichert microscopes shown utilize the same style of horizontal fine focus brackets.

The microscope on the left has the fine focus knob on the bottom of the limb containing the fine focus screw. In addition, this microscope has a swing-out condenser and an inclination joint. It features a standard horse-shoe base. The Reichert to the right utilizes the same horizontal fine focus brackets, but the fine focus knob is at the top of the limb. This microscope does not have an inclination joint; the foot, pillar and limb are all cast as one piece. It has a substage wheel-of-stops. Unusual for this microscope (and another reason for acquiring the scope). is a modification of the base into a cross between the English three toed foot and a horse-shoe base (an AngloTeutonic hybrid). It looks sort of like a high-heeled horse-shoe base.This microscope came with a keyed case. Ken remarked that Reichert used a baked-on enamel that "lasts forever".

7. Alan de Haas displayed a Stiassnie portatif microscope No.53 made about 1905-1910 (see photo). The dating is a guess since no formal company record is available. It is portable by virtue of the folding foot which uses a copy of the inclination joint rotated 90 degrees and placed immediately above the base. This allows the foot to be swung to the right (as viewed from the back of the instrument). The scope comes with a #3, #6 and an oil immersion objective and one eyepiece. It has an attachable mechanical stage which sits in the bottom of the case beneath two wood clips.

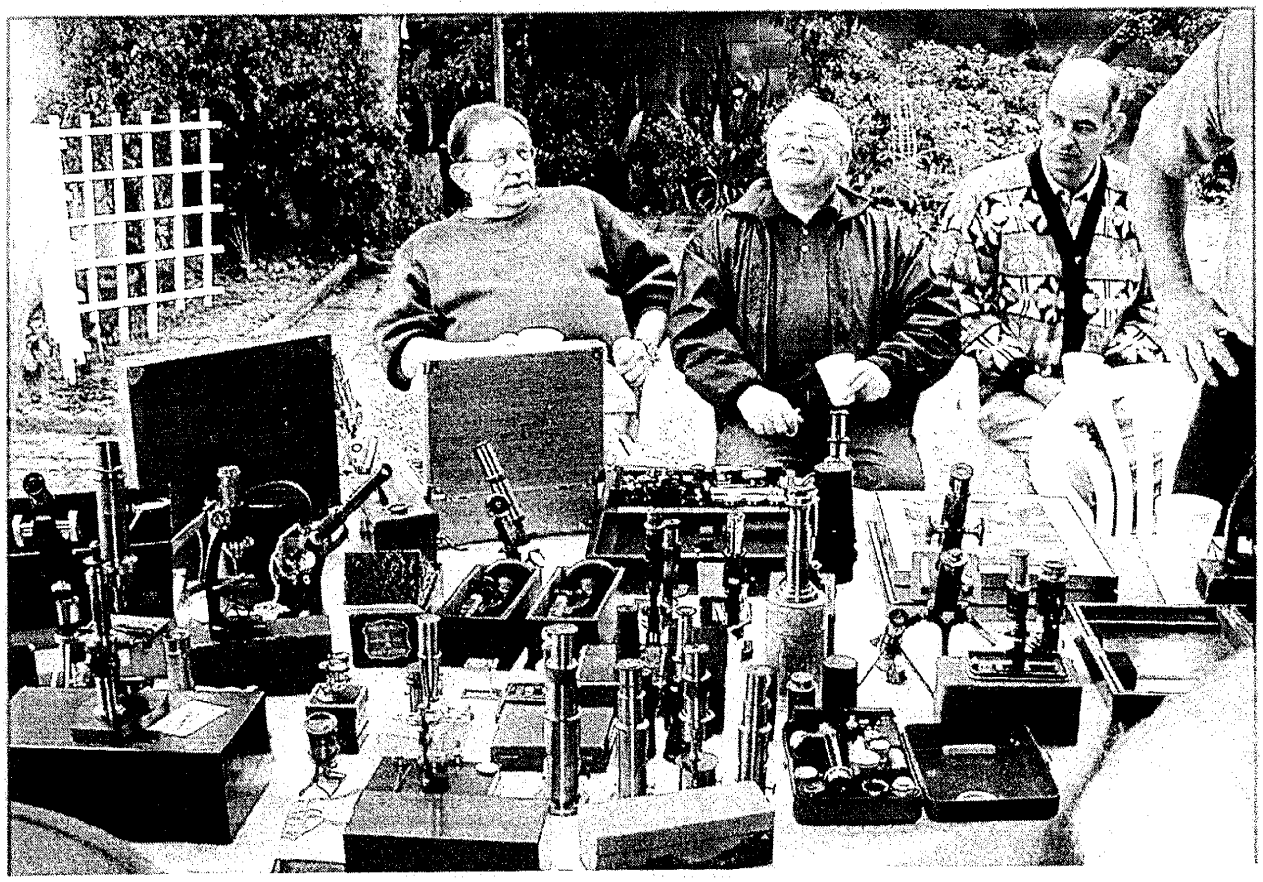
Alan also displayed a rare multi-axis Fedorow stage, cased, with hemispheres, made by Fuess, Berlin, Steglitz (see photos). This marvel of engineering and precision has been used in crystallography as a goniometric instrument to determine the characteristics of mineral specimens and to identify and classify samples of unknown minerals. Leitz also made such stages and our Peter Fischer, who had been closely associated with Leitz, had commented in a recent email, "I have been looking for an old Leitz one (multi-axis stage), which is no longer manufactured. When I was with Leitz they had one year when they sold five, usually it was one or two (per year) until a bean counter said Amen, no more." There was a general discussion on multi-axis stages. George Vitt asked why so many Russian names, such as Fedorow, were associated with mineralogical instrument development in Germany. Alan de Haas surmised that the extensive mining operations in the Ural mountains of Russia prompted many Ural mineralogists, mining technicians and mathematicians to go to Germany and Czechoslovakia as a sort of technological transfer.

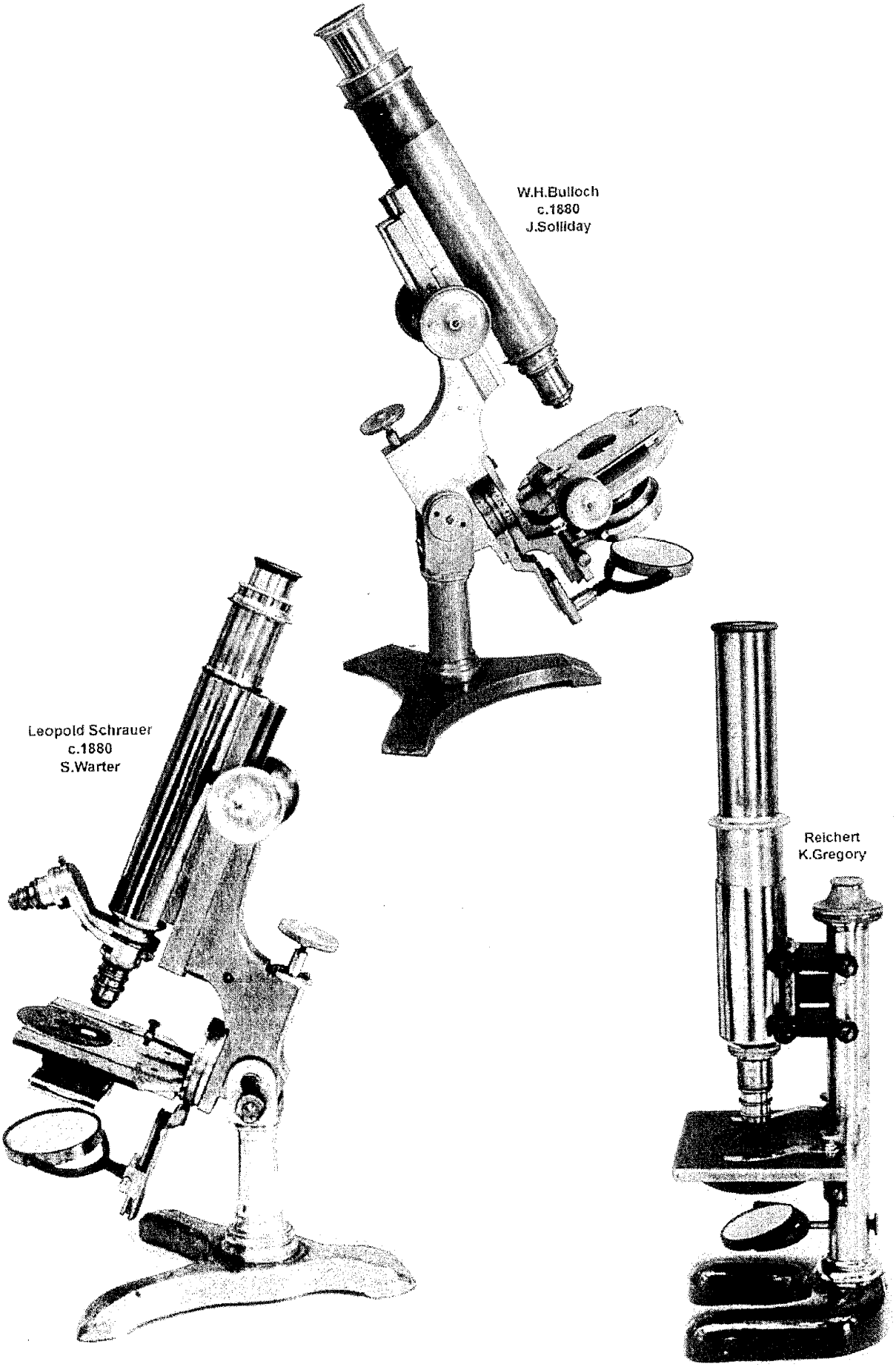
8. Allen Bishop described Ken Gregory's very rare Fuess (Berlin) crystallographic microscope Mod.3B (see photo) which features Nicol polarizer and analyzer an upper prism for analyzing pleochroism, focusable Bertrand lens, and a condenser whose upper element is within the stage and can be horizontally swung in and out of the optic axis. This microscope will be featured in a forthcoming article in the MSSC Journal.

9. Pete Teti described in vivid terms his recent 5-week trip with his wife to Paris and then to various historical places in Italy, such as Milan, Verona, Padua, and Firenzi. He had seen many early Renaissance paintings, starting with Giotto! The hilarious part of his account dealt with the maniacal daredevil automobile driving habits of the citizens of Rome!

10. Gary Legel brought a Leitz Ortholux microscope in immaculate, as new condition (see photo) which was for sale at $1,050. This is a classic in the world of microscopes - and the price is right!

After the workshop, George Vitt photographed the instruments described with the able assistance of Jim Solliday and Stuart Warter.

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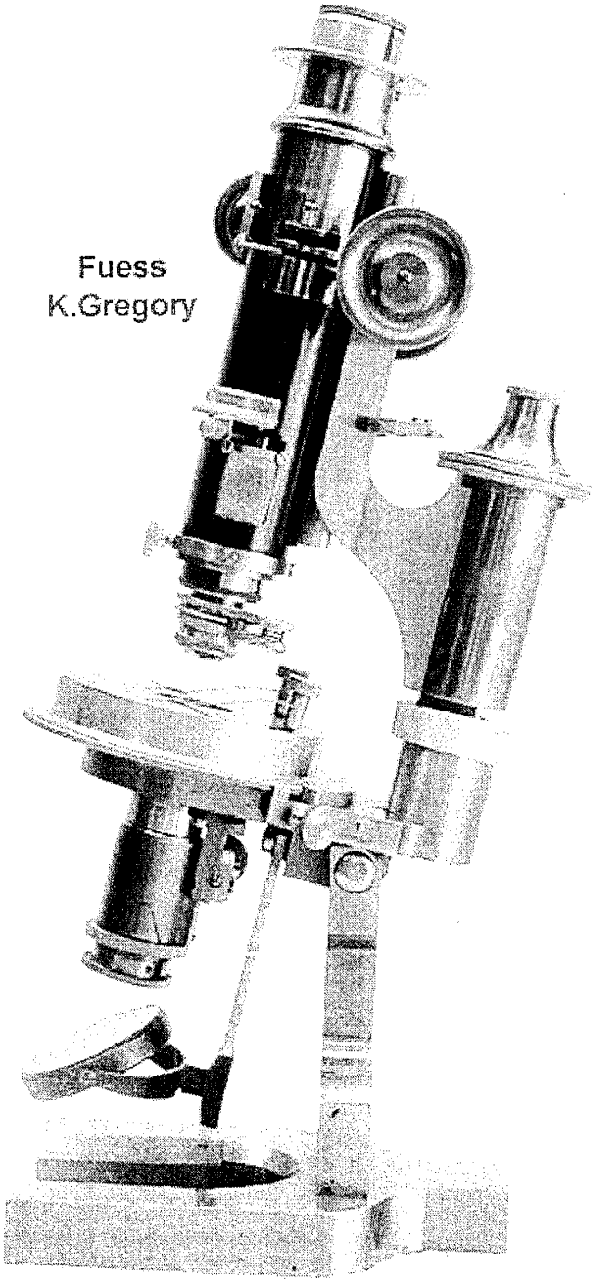
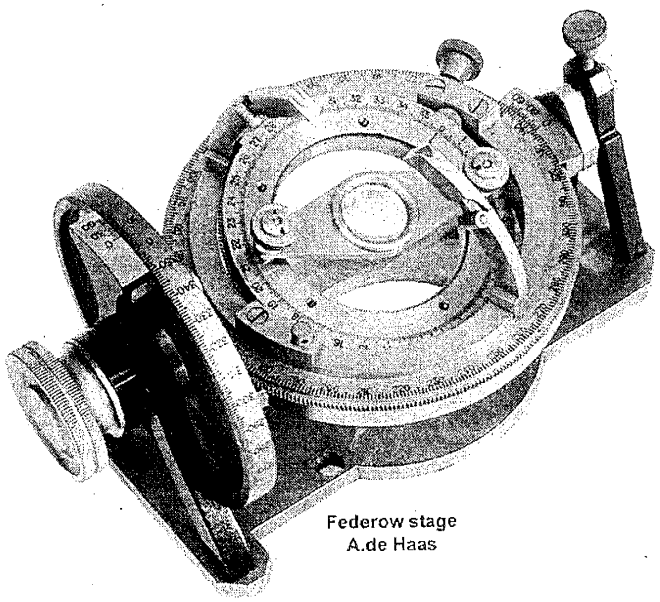
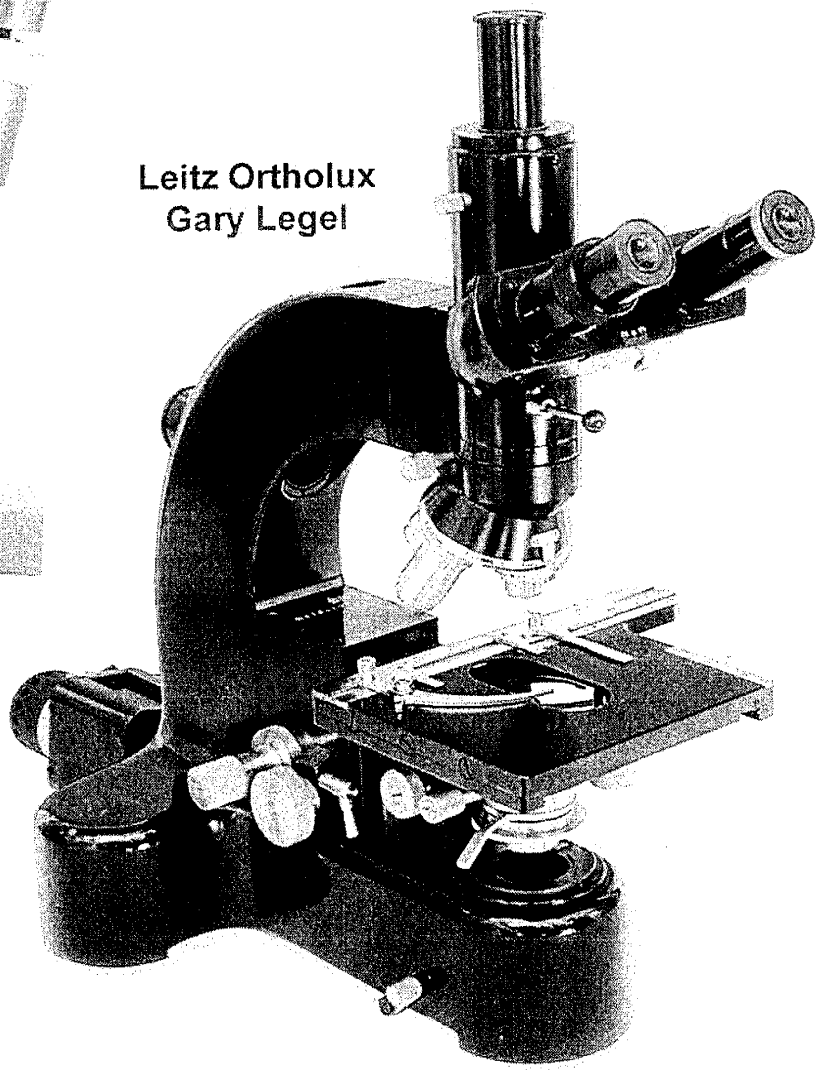
c.1880
J.Solliday
Leopold Schrauer
c.1880
S.Warter
Reichert
K.Gregory



Fuess
K.Gregory



Federow stage
A.de Haas



Leitz Ortholux
Gary Legel