



**THE
OUGHTRED
SOCIETY**

BULLETIN

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The First Ever Oughtred Society Winter Meeting. Everyone is invited!

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Winter 2007

Welcome to The Oughtred Society Bulletin

For the online version of the Oughtred Society Bulletin, most of the images are now clickable and will open in a new browser window showing a larger image.

Previous issues of the OS Bulletin are available to view by clicking on the Archived Bulletins link to the left. That section also contains [PDF](#) versions of past issues and this current issue.

Five Oughtred Society members serve as co-editors to create The Bulletin ... Gary Flom, Ted Hume, Ron Knapp, Steven Mays and Otto van Poelje, pictured at right, with each gathering articles and reports from several authors. Production of this issue was done by Ron Knapp.

We constantly strive for improvement and invite your comments, suggestions, questions, feedback and participation. Please contact us at *osbulletin* "at" *zipnet.us*

What is happening in the Oughtred Society :

- ***The Oughtred Society Slide Rule Reference Manual*** is available until the supply is exhausted. Only 140 copies remain. This Manual is 104 pages, size 8½" X 11", with over 100 color photographs of slide rules. It contains



[Printable PDF](#)
[Coming Soon](#)





extensive information for beginners and advanced collectors. Price is \$35 plus shipping. Order at www.oughtred.org

- Joe Soper's book ***K&E Salisbury Products Division Slide Rules*** is available. It contains 143 pages, size 8½" X 11", with 102 photographs and previously unpublished information about K&E's slide rule design and production processes. It answers many questions and is a valuable asset for all collectors. Want to hear the complete story of the Analon? It is here. Price is \$39 plus shipping. Order at www.oughtred.org
- ***The Oughtred Society Slide Rule Learning Kit*** is available. Everything one needs to become a proficient slide rule user. It contains a copy of the OS SR Reference Manual, a special edition of the Journal of the Oughtred Society containing 7 past articles of basic information about slide rules, and a brand new Nestler slide rule, randomly selected from 3 different models. The slide rules were donated to the Society and are provided in this kit at no cost to buyers. Price is \$53 plus postage. Order at www.oughtred.org
- The booklet ***Handbook of the Gauge Marks*** by Panagiotis Venetsianos is provided to all new Oughtred Society members at no cost while the supply lasts. This valuable reference was compiled by Pano over a ten year period of researching slide rule gauge marks. Join the Society at www.oughtred.org
- The new ***Winter Meeting*** will be February 23, 2008. This will be a different type of Oughtred Society meeting. Non-members are invited to attend. Registration fee is only \$35. This

fee is used for costs of meeting room rent, tables, refreshments, etc. The meeting will feature displays of slide rule collections, an auction, buying, selling and swapping, and the opportunity to meet and talk with fellow slide rule enthusiasts. Also included is a tour of the Atomic Testing Museum. Attendees are encouraged to bring slide rules and/or calculators to display and to sell or trade. See www.oughtred.org

- Past issues of the ***Journal of the Oughtred Society***, prior to 1998, are available for viewing in their entirety on [Rod Lovett's literature search system](#).
- The Oughtred Society has a new address:
The Oughtred Society
9 Stephens Ct.
Roseville, CA 95678

Calendar of Events

- **February 23, 2008.** The new Oughtred Society Winter Meeting in Las Vegas, Nevada, at the Atomic Testing Museum. Mark your calendar. Contact meeting host Richard Davis. *cyberengineer "at" earthlink.net* Or contact the Society *oughtredsociety "at" comcast.net*
- **February 25, 2008.** Deadline for submittal of articles for the Spring 2008 issue of the Oughtred Society Bulletin.
- **April 1, 2008.** Deadline for submittal of articles for the Spring 2008 issue of the *Journal of the Oughtred Society*. Contact associate editor Don Black.



black0755 "at" msn.com

- **April 19, 2008.** German RST in Bochum. You can read more about it in the International Report.
 - **June, 2008.** Oughtred Society West Coast Meeting. Exact dates and more details coming soon.
 - **September 19-20, 2008.** International Meeting 2008 in the United Kingdom. More details and information coming soon.
 - **Anytime.** Submit your articles for the Bulletin. Every effort will be made to include your article in one of the upcoming issues.
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FROM THE OUGHTRED SOCIETY

President's Report

Robert De Cesaris, Granite Bay, California

Our OS East Coast Meeting, held November 10 in Westbrook CT, was another unqualified success, with the usual impressive member displays of rare and esoteric items from the last three centuries and with several exceptional and unexpected items for sale at our auction. Highlights on display included a desk-sized version of a Boucher calculator, a beautifully engraved brass and nickel circular rule from the mid-19th century, and numerous unusual (and some unique) Fowler pocket-watch type calculators. Also displayed were an impressive collection of educational rules for use with an overhead projector, early and different boxwood ullaging rules from the 18th century, a beautifully preserved 20" Tavernier-Gravet with brass cursor and hinged box, and numerous other unusual and interesting items. Items for sale included a Thacher Model 4013 complete with magnifier, a later version of the K&E Cox Duplex, numerous early 20th century Keuffel and Esser catalogs and early Pickworth books, and several very calculating and rule-related books dating back to the 1850's.

After the meeting, we reconvened a few miles away at Leighton Lee's Museum of Early Engineering, housed in a nicely maintained building which dates from the 1680's--- the first time in my experience in which the building predated every early item housed in the room! Leighton's museum collection includes an outstanding calculating device and slide rule collection as well as representative hardware and equipment from the Mercury, Gemini, Apollo and later space programs as well as important items from the building of America's first submarine. Calculating items that quickly caught everyone's attention included a Hannington grid slide





rule, examples of early Fuller and Thacher calculators, advanced rules for time and frequency domain analysis, and many additional specialized rules for artillery and other military applications.

On behalf of the Oughtred Society, I would once again like to thank Leighton for providing us with a most interesting venue and also for his unexpected assistance in helping to subsidize part of the cost of the meeting.

All preparations have been made for our First OS Winter Meeting to be held February 23, 2008 at the Atomic Testing Museum on the campus of University of Nevada at Las Vegas. The organizers of this meeting have confirmed at least one dealer who will be bringing some wonderful items for sale! Of course, Las Vegas also provides a good opportunity for a family winter vacation on the side. Be certain to mark your calendars and plan to attend this important event!

Since our last Bulletin, the Oughtred Society Awards Committee, consisting of Bob Otnes, Colin Barnes, Klaus Kühn, Otto van Poelje and Ted Hume, announced that the OS Award for 2007 was presented to Rodney Lovett, of Addlestone in Surrey, England for the creation, maintenance and extension of a number of powerful and user-friendly online databases and search engines, which have greatly assisted the global community in research and cataloguing of information. These information services have made our accumulated knowledge widely available to every collector, anytime and anywhere. The Award was presented to Rod during a UKSRC meeting in England. Let us all congratulate Rod on his accomplishments. The OS will continue to support and increase our presence in the use of these tools.

As mentioned in my last note to all of you, currently we do depend very heavily on a handful of key people for most of our activities and publications. I would request that each of us try to find some time to volunteer, even if for only a few dedicated hours a month, to support the Oughtred Society. This could be as simple as a one- or two-page article for the Journal; also, several areas have been identified for future activity as noted in the last Bulletin. Find that area that best resonates with your interests, whether it be writing, research, education.....my key message here is that there are many ways in which you can become involved and greatly enjoy the experience!

Thank you,

Bob

From the Vice President

Kate Matthews, Sonora, California

For those who don't know, our excellent Journal is a collaborative effort between the Society and our authors. The actual production work is done by Bob Otnes and Don Black, who heroically each issue edit and lay-out each one of our 64 pages, plus the front and back covers. They literally pour untold hours of their time into each issue. In the real world, the cost of making a publication like ours is astronomical. The magazine *Antiques*, for example, has a circulation of 60,000 and runs more than 100 full page color advertisements to support their 64 pages of well researched, documented and photographed articles. *Antiques* doesn't publish their advertising rates, but *Smithsonian* and the *New Yorker* each charge around \$100,000 for a full page ad (I leave it to you to do the math). The *Antiques* editorial staff consists of 5 editors, 2 editorial assistants, an art director, 3 production people and that's just the folks who make the masthead. We just have Bob and Don quietly, faithfully, performing miracles every issue.



How can we help them? For one thing, it would be nice to appreciate them a bit. If you see something you really enjoy or are particularly impressed with, it's OK to drop them a note or an e-mail. If you have a complaint, it might be better to send it to one of the officers, or maybe even just to let the matter drop.

The Board continues to try to find ways to support Bob and Don. They currently use software called PCTEX to do the actual lay-out. TEX is widely used in Academia because it handles equations and mathematical formulas beautifully. This is also why Bob and Don prefer to use it.. The concept of changing to a different software, much bandied at one point by the Board, has been considered and rejected for now because after 16 years, both are comfortable with TEX and both are skilled users.

They could each use a reliable editorial assistant to help with pre-production work, but those obviously are tough slots to fill as quite frankly, the hours are long and the wages lousy. Nevertheless, anyone interested in helping with the JOS who thinks they might have the

credentials (basic editing skills, flexibility and a willingness to learn at least a little TEX) should let either me or Don or Bob know. I can be reached by e-mail at katematthews@sbcglobal.net.

Membership Report for the Oughtred Society

Clark McCoy, Membership Secretary, Roseville, California

Membership through Nov. 15, 2007	456
Membership for 2006	463
2007 New Members	52
2006 Members not renewed yet	63



World wide distribution of membership for 2007:

US	292	64%
Europe	128	28%
Canada	15	3%
Australia	13	3%
All other	8	2%

We are about on pace with membership at this time last year. From experience we can expect about one new member per week which would put the total for 2007 almost the same as last year. The non-renewal rate is also about the same as in the past.

Please note that the Oughtred Society has a new address:

The Oughtred Society
9 Stephens Ct.
Roseville, CA 95678

The Oughtred Society Award: Winner

Otto van Poelje, Chairman,
The Netherlands



The Oughtred Society Award Committee has decided unanimously to present this year's Award to Rodney Lovett in England.

The consideration for the choice of Rod was:

"for creating in 2004, maintaining and extending a number of powerful and user-friendly online databases and search engines, to look for many facets of slide rule information: Literature Search and Retrieval, eBay Search, ISRG and Forum Archive, and more recently Herman's Archive. These information services have made the accumulated slide rule knowledge widely available to every collector, anytime and anywhere"

The previous weekend, during a regular UKSRC meeting in England, Colin Barnes presented the Award, with its framed certificate and golden Oughtred Society pin, to Rod in person.



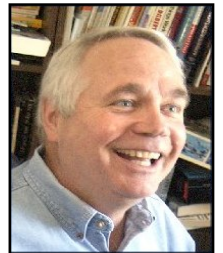
Let us all
congratulate Rod
Lovett with his
Award, and hope that
he will continue to
maintain and even
expand his data bases
and search engines,
to the benefit of all
slide rule enthusiasts.

More details on The
Oughtred Society
Award, with a picture
of the 2007 Award
presentation, can be
found on the
Society's website:
www.oughtred.org

Webmaster's Report

Mike Konshak, Louisville, Colorado

Since the end of October 2007, the Oughtred Society's website (www.oughtred.org) has been hosted by a new service, <http://Aplus.net>. We have their Solo XR plan which is on a Unix server. The switch not only provided a cost savings, but greatly expanded the capacity and potential capabilities for growth in providing information to members and visitors alike. We have at our disposal 170 Giga Bytes (GB= 10e9 Bytes) of disk space with a monthly transfer limit of 2000 GB, that is a tremendous amount of storage and bandwidth and we will be hard pressed to ever need more. For example, the website as it is, only uses 0.7% of the available disk space so there is ample room to store a significant amount of images and files. For example, a typical slide rule image, at 150 dpi resolution and its corresponding thumbnail takes up on average 300KB (KB=10e3 Bytes). We could easily provide over 500,000 images to our users, or at least archive them for historical preservation, and other relevant files for later dissemination.



Putting a lot of photos on line is a lot of work, and Aplus.net makes it easy to update the website and to upload files through their control panel at <http://cp.aplus.net>.

As a volunteer webmaster, I find this service very convenient, in that I can go on-line with any computer, anywhere, at anytime and make changes or updates to the OS website fairly rapidly. Most of us get very busy in our day-to-day activities, so anything that can make life easier is a good thing. If anyone has a large amount of files to contribute, it is easiest to FTP the data directly to the site, rather than sending them through emails.

Part of taking on the OS website has involved cleaning up unnecessary files, re-arranging the folder structure and making each page have the same look-and-feel as the other pages. I've had to learn a few new HTML coding techniques, particularly in the use of SHTML and style sheets, but the excellent work that Jim Cerny did in documenting the pages has helped me tremendously in understanding the files. Hopefully, as I make changes I won't introduce a bug or a broken link. The goal of course is to make the site easy to navigate for users as well as easy to maintain for the future. I also have modified the primary navigation menu to allow expansion of link items and to insure that the menu will display on a laptop computer without scrolling.

I've submitted the OS site to 30 search engines which will automatically be re-submitted every two weeks by Aplus.net. This should help our ratings.

A concern of mine is the many excellent non-profit slide rule websites that individuals have created and built, and then, for many reasons, such as disinterest, financial, or age related issues, these websites have disappeared or have become unavailable. I would propose that we offer to archive (sub-host) any such websites, for the continued preservation of the data for posterity. I have done this for several individuals at sliderulemuseum.com but I think that oughtred.org would be a better repository for mirrored sites, and we have plenty of storage space. I believe this to be an appropriate function of the OS if our creed is in fact, "dedicated to the preservation and history of slide rules and other calculating instruments".



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IM 2007: The Dutch Excel Again! (written for the *Journal of the Oughtred Society*)

Tom Wyman, Palo Alto, California



On September 14th and 15th the Dutch Circle convened IM 2007, the 13th Meeting of Collectors of Historical Calculation Instruments with the theme "Low Lands and High Skies," in Lelystad situated some six meters below sea level. Under the leadership of Chris Hakkaart, the event was an outstanding success; the weather was ideal, the companionship warm, the papers opened new vistas and the dikes held! Attendees all had an opportunity to see how the Dutch add real estate to become the fastest growing country in the world. We learned early-on that "God created Heaven and Earth and the Dutch created the Polders," the now-habitable lands that once lay below the sea. The locale of the meeting in Lelystad dates back only 40 years when the land was first reclaimed, and it was indeed fascinating to see how the area is being developed in accordance with sound planning principles.

The turn-out was excellent with 61 participants and their 20 partners, along with seven students representing a total of eight countries.

The Dutch introduced a new conference concept with their "One-Off" display. Participants were urged to bring one or two items from their collections that were unique -- that is, a prototype, a hand made instrument or a slide rule otherwise singular in nature. This resulted in a remarkable display which participants enjoyed both Friday and Saturday. Contributors prepared page-long descriptions of their "treasures" that were published in the conference proceedings.



The meeting organizers broadened the scope of this conference to include drawing and measuring instruments with the result that attendees were treated to papers on Linex drafting templates and on slide calculators by John Kvint. We were also treated to a variety of topics, several with a special emphasis on air and marine transportation. These included “Knemeyer’s Dreieckrechner” and “Dead Reckoning Computers” (Ronald van Riet), “A Global Engagement with Calculating Instruments in WW II” (Alex E. S. Green), “In-Flight Performance Management” (Robert Bargl), “Siegfried Knemeyer: A Career in Aviation” (Huib Ottens), “Time-Speed-Distance Calculators” (Otto van Poelje) and finally, “Slide Rules & Plotters at Sea and in the Air” (Peter Soole).

Other papers included “A Special Slide Rule for Calculations of Pressure Loss in Water Drains” (Nils-Gunnar Larsson), “Collecting Early Electronic Calculators” (Hans Bloemen), “Elektro Slide Rules: Their Use and Scales” (Robert Adams) and “Notes on Mechanical Fourier Analysers” (Bob Otnes).

IJzebrand Schuitema made our Friday evening dinner memorable through his contribution of hundreds of slide rules that were packaged and given to participants as mementos of the occasion.

The conference proceedings available to attendees were printed on quality paper and in color. It is a valuable record of the occasion and undoubtedly will become a useful and sought-after reference work as time goes by. Unfortunately, no more IM 2007 proceedings are available, and it appears that the cost of producing a limited number of copies for those who may want a copy but could not attend would be excessive. Alternative arrangements for making the information available are in preparation. Please contact Otto van Poelje at ovpoelje@rekenlinialen.org for details.

In reflecting on the weekend activities the next day aboard the Eurostar bound for London, I can say that the event was thoughtfully planned, well organized and smoothly carried out. The perpetual trophy was accepted at the close of the meeting by the British, as hosts of IM 2008, who have their challenges if they are to rise above the “below-sea-level standard” set by the Dutch.

On a personal note, I would express my special

appreciation (which I know others share) to the multi-lingual conference organizers for making the entire event so very accessible and enjoyable to English “mono-linguists.”

United Kingdom Slide Rule Circle (UKSRC)

Peter Hopp, United Kingdom



The UKSRC continues from strength to strength. At our most recent Circle activity, the Autumn local meeting of members, where, as usual, the conversation flowed seamlessly from the previous meeting! The theme was mahogany and brass, a general enough theme to cover a multitude of sins, and ensure a wide selection of slide rules to discuss and comment on. An attendance of 14 members from all parts of the country is not a bad participation. When it is realised that this is over 10% of the membership one realises that it is in reality pretty good, how many clubs or organisations can rely on a 10% active membership? A most pleasurable part of the meeting was the presentation to our member Rod Lovett of the 2007 Oughtred Society Award in well deserved recognition of his fantastic [web site and search engine](#) mentioned in the last of these reports – very well done and congratulations to Rod!

An important part of the meeting was the discussion and agreement of the venue and content of the 2008 International Meeting of slide rule collectors to be hosted by the UKSRC here in England next year, our fifth such international gathering. Watch this space or the [UKSRC web site](#) for further details. We very much hope to welcome a greater number of American and European collectors, as well as more of our own UK members, to this International Meeting in September 2008.

This autumn we published our eighth annual Slide Rule Gazette. It has received favourable comment from a wide readership, both for its content as well as presentation, where I would suggest we are even better than the JOS! I would commend it to a much wider audience than presently read it. The following Contents list should tempt any reader with an interest in any sort of collecting as well as slide rules. Contents of earlier

issues are available via [Rod Lovett's web site](#) or indeed the [UKSRC web site, www.sliderules.org.uk](#)

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Dutch Circle for Historical Calculating Instruments (KRING)

Otto van Poelje, The Netherlands

The KRING has been very busy with the 13th International Meeting in Lelystad and Enkhuizen on September 14 & 15.

We leave it to others to report on this event from the viewpoint of the participants. For the Organizing Committee and supporting volunteers it has been a very demanding but also rewarding project.

After the highly successful IM2007 conference on



Historical Calculating Instruments in the Netherlands, there have been many questions from the general public to buy a copy of the Proceedings book. This book however, with its 245 pages in full colour, is very expensive to produce. Instead, we have put all digital information from IM2007 on a CD.

This CD requires a computer with Microsoft Windows, version 98 or higher. The contents consist not only of the full Proceedings in Adobe Acrobat PDF format, but also the complete set of presentations in slide show format.

The full list of paper and presentation subjects is listed below.

In addition, more than 100 pictures (shot during the meeting and at the separate session on Harmonic Analysers) have been added in a separate slide show.

The IM2007 Proceedings file allows printing in high resolution, for your personal use only. The Copyright Notice on this CD forbids any other copying or editing, like for commercial purposes.

The added advantage of the Proceedings in Acrobat format is that it becomes easy to jump quickly to any chapter in the index, and to search for any text string in the 245 pages of the Proceedings.

This IM2007 CD will be sold to the general public for 20.- Euro, including shipping to anywhere in the world. The revenue of these sales will be used for the next meeting in the Netherlands: IM2010.

If you want to make use of this offer, please send 20,- Euro for your copy of the IM2007 CD, to Otto van Poelje preferably via internet, by PayPal transfer to: ovpoelje@rekenlinialen.org
After receipt of the money transfer, the IM2007 CD will be shipped priority mail.

Otto E. van Poelje
(on behalf of the IM2007 Committee)

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Hakkaart



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Rechenschieber Sammler Treff (RST)

Prof. Karl Kleine, Germany



Announcement: German RST 16 on 19.04.2008 in Bochum

The 16th German RST meeting will be on Saturday, April 19th, in the Bochum Ramada Hotel. Local organizer is Werner Rudowski. By now there we have offers of presentations by Mrs. Oetling, Klaus Krämer, and Karl Kleine. As usual, the group will meet on Friday evening at the hotel, and there will be a swap session on Saturday. There are two options for a side programme: First, we might arrange a visit of the “Bergbaumuseum”, the well-known Bochum museum of coal mining (for readers abroad: Bochum lies in the heart of the Ruhr Region famous for its coal mines and steel-works). The second option is a visit of an exhibition on industrial work safety in nearby Dortmund, which is said to be very interesting and worth the trip.

The organizers have made arrangements with the Ramada hotel for a cover fee of 39 Euro per person for lunch, coffee breaks and the conference room. Accomodation with full board for participants is available at 122 Euro and another day is 79 Euro (plus 14 Euro for breakfast). Additional arrangements are possible. Please contact the hotel at your earliest convenience and state “RST 16” as registration code: Ramada Hotel Bochum, Stadionring 22, D-44791 Bochum. Phone 0234-92566-0, Email bochum@ramada.com.

For further information (and offers of presentations!) contact Jochen Konrad-Klein (Email: post@jochen-konrad-klein.de, phone: 0211-2406332) or Werner Rudowski (Email: i.rudowski@web.de, phone: 0234-471333). Please help the further planning of the event by sending a message, if you intend to come to Bochum.

Finding Slide Rule Information : Rod Lovett's Data Base and Search Engines

Otto van Poelje, The Netherlands



NET SEARCH - The latest Search Engine by Rod Lovett

While preparations were under way to present the Oughtred Society Award 2007 to Rod Lovett, he had quietly installed yet another Search Engine: NET SEARCH. This new piece of software solves a number of issues that Rod had experienced himself every time he searched on Google for a slide rule-related set of keywords. For example, when asking for a slide rule related name, one inevitably gets many pages of that name's genealogy: such websites might be skipped for most purposes. Another problem occurs when finding a hit in a very large page: to find an exact place of the hit, one needs to do an additional search in the edit menu.

To help slide rule collectors in their search for slide rule information, Rod has designed his own mini-Google. The first step was to constrain the search to known slide rule websites. He started with selecting some 40 websites, which number will be extended as new sites become available. Then he executes a monthly index update by a web crawler on those 40 sites. When a user asks for a search in NET SEARCH, with a maximum of three AND-ed text strings, the result is returned very quickly, organized by the matching website name and pages. A matching website is returned only once. Multiple references to your search string for all matching sites may be requested but the default is to return the first match on a site and then move on to further sites. There are direct links which show found pages with the hits marked in red. For more information check the HELP link in the NET SEARCH page of <http://sliderules.lovett.com>.

I tried NET SEARCH myself with the keywords GUNTER and DONN, given my interest in the Donn variant of the Gunter rule. Three websites were found. The first one, the OS website, contained the reference I expected. The second was the G. Pastore website, where the Gunter key occurred on one page together with the French word "donner". The last website found was the German RST home, where Gunter was found in the same page as a reference to Jo Donner's book. Here the proximity between the 2 keywords was so low that also Google would have put it at a very late result page. Note by Rod: To avoid "donn" matching "donner" etc, enter

"donn" as " donn ", i.e. spaces around the "donn". Do not, of course, enter the quotes ("). In this case only the first website is returned.

When I tried the same search in Google, it had to scan 3 pages of Google results before I got the OS hit I needed. NET SEARCH is very much recommended but it is not, and was never intended to be, a full replacement of Google. If you want to see results outside the 40 pre-selected slide rule sites, you still need to go through the many pages of Google results while continuously adapting and improving your search key combinations.

Individual Portrait

Andrew Davie, Tasmania



Hello all. I've been asked to write a little about myself and my interests.

I live in Hobart, Tasmania. Tasmania is the small triangular island on the bottom right of Australia.

I am married with a very tolerant wife and we have two teenage(ish) children both of whom know Pi to more places than I do; I lose track around the 30th decimal. I'm sure that my somewhat eccentric interest in science and math has sparked their thirst for knowledge, which is great to see.

I'm a bit of a hunter/gatherer as well as a science buff. For me, the actual hunt for things (especially information) is the best part. I'm interested mostly in early computing devices, ranging from slide rules right through to unusual computers and

calculators of modern times... but I also have side interests like ... barbed wire and blue bottles! I don't really have a large collection of rare and unusual items; I've always felt free to sell the things I used to be interested in to buy the things I'm interested in now. I've also been rather fortunate to be a few years ahead of the "boom" in interest in things, so I buy low and sell high.

My interest in slide rules started in July 1996 when I visited a pawn shop in Iowa, USA. They had a slide rule in the display case, and I had never really thought about one before. It was interesting looking so I bought it. I was never taught/shown a slide rule in school. The slide rule just mentioned, by the way, is the one I scanned when I wrote the very first Java Slide Rule (called JavaSlide). The WWW did not have much about slide rules back in '96, so I started my own site – this was the original 'Slide Rule Trading Post' (SRTP), a precursor to today's "International Slide Rule Group" mailing list on Yahoo! It's been over a decade since SRTP first went online, and I still remember the excitement of watching the visitor count go up by as much as 2 or 3 per day!

An interesting aside; that very first slide rule had a name scratched on the case. I actually tracked down the original owner who was, to say the very least, rather



Fig. 1



Fig. 2

surprised to get a phone call from the other side of the planet asking about a slide rule he'd sold to a pawn shop some 30 years earlier. It's the hunt that matters, you see ... never give up!

It didn't take long before there were a dedicated group of regulars visiting SRTP, many of whom are still active in our online community (which has about 1300 registered members!) ... a community which, I must say, is quite distinguished by the way in which we all seem to be able to get along, despite our different backgrounds – most unusual for an Internet community.

A common thread in my interests seems to be “missing information”. I do like to thread together bits and pieces about some unknown subject and build a cohesive “whole”. Along with SRTP, I also worked on a site called the Museum of Soviet Calculators (on the Web) which is still alive at www.taswegian.com/MOSCOW/soviet.html. Here I document roughly 120 of the very early electronic and electromechanical calculators from the former Soviet Union. When I started, only about 20 of these machines were “known” to the west. They're really quite fascinating, and I have quite a collection of them just sitting in boxes under the house. The collection itself should probably be in a

museum somewhere. Around the mid to late 1990s was the last time you could find many of these early machines, and I have a few which are known only by the single example in my collection. When western calculators hit the streets of the (former) Soviet Union, most Russians discarded their home-grown machines as inferior junk (which is understandable, but not entirely accurate – some of the programmable Soviet machines were really quite useful and interesting). Soviet machines show parallel development of technology and design, not always copied from the west. Soviet designers did not have to compete in a commercial marketplace, so functionality, and not design, was the driving factor. But because there was no driving force to encourage quality, manufacturing was somewhat shoddy and few of these machines survived their first year or two. I believe I built up an interesting historical perspective on the early Soviet electronic calculating ‘age’, and I’m still quite fond of many of the machines.

These days I’m more interested in mechanical television rather than computing machines. At the beginning of the year, with some assistance from the NBTV (Narrow Band Television) community, I taught myself a little electronics (having zero experience) and built a

working Nipkow-disk mechanical television with a display exactly like televisions of the late 1920s. (Please see Fig. 1.) Yes, they had TV back then, but TV that was flickery and had a “screen” the size of a matchbox. (Please see Fig. 2.)

Mechanical television operates by rotating a disc in front of a very bright light source. Spaced in a spiral towards the outer edge of the disk are very small holes – 32 of them, in my case. As each hole passes in front of the light source, the light source is modulated in brightness rapidly. Each hole is slightly displaced in position from the previous/next (a spiral of holes, remember!) so the holes tend to ‘scan’ an area in front of the light source. By employing exquisitely precise timing, that is, the speed of rotation of the disc and the frequency of modulation of the light source, an image (and a very good one, too!) is formed. It’s all quite amazing that this was operating in the 1920s, but it was – and it works – and it’s a lot of fun to build your own. Visit www.taswegian.com/NBTV/forum if you’d like to learn more about this fascinating retro-technology. Believe it or not, some amateurs in the 1930s recorded the sound of mechanical television broadcasts onto records (yes, LP-type records) and those records have been restored to give recognisable TV

recordings from 70 years ago!
Again the missing
information common thread
in my interests appears.

I'm deeply grateful to the
slide rule community for the
friendship and physical help
that my wife and I have
received. When we hit a
speed bump, the community
came to our aid. Likewise, we
as a community have helped
others when needed. I'm very
proud of this community
spirit. When I've visited the
USA, as I try to do
occasionally (my wife is
American) I have always
been delighted to receive
"come and visit/stay" offers
from those of you with
similar interests. I have had
the pleasure of meeting some
of you, and showing one or
two of you around Tasmania,
too. I would like to encourage
any of you coming "down
under" to drop me a line and
we can get together and talk
about slide rules and other
shared interests.

Cheers,

A

(We include Andrew's
signature on this article as
Andrew always signs his
communications ... "Cheers
..... A")

Editor's note : Thanks again,
Andrew, for all you have
done and continue to do for
the world slide rule and
calculator community.)



Welcome

From The Society

International Report

People

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OS Home Page

Announcing ...

**The First Ever Oughtred
Society Winter Meeting.**
Everyone is invited!

[More →](#)



People and Their Slide Rules

Peter Hopp, United Kingdom

John Knott, 1919 – 2005

Having produced the first quarterly “Men and their Slide Rules” column, and had a reaction to it complete with a pair of very interesting images from the Detroit Institute of Arts – many thanks Bryan Purcell – the next problem to solve was who should be featured in the second column. Having started with a “famous” person, it seemed sensible to feature someone not so famous. A little bit of further thought then produced the obvious candidate, the late John Knott, known to slide rule collectors throughout the UK as well as in Europe and America, and who can, in many ways, be considered the father of UK slide rule collecting.

John was the man most of us first contacted when we discovered that there were other slide rule collectors out there, in my particular case in about



Fig. 1



1989. It was via the good offices of Blundell Harling who were still selling slide rules at that time. We were rewarded by finding a thoroughly nice and knowledgeable chap, who was obviously not mad (as many feared) and who was generous in the extremes with sharing the information that he had. He dealt with us “newcomers” to the world of slide rules with great patience and good humour, and certainly in my case we became good friends as well as regular and prolific corresponders much to the amusement of both families.

John had started collecting slide rules in 1987, sometime after he retired from the General Railway Signalling Co of Rochester USA (but working here in the UK near Manchester) where he had finished up as Manager of the Quality Control Department. He was a typical engineer of his generation, eminently practical, pragmatic and with very broad interests. Like many of his age, he had started as an apprentice, and then joined a large engineering concern, in his case Metropolitan Vickers in Manchester in 1938. Apart from being a founding member of the UKSRC (and a possible catalyst for its formation), he was also an early member of the Oughtred Society. He exhibited his slide rules at his hometown Museum in Bolton in 1988 and 1996/7, in Salford Museum in 1989, and in Manchester Science Museum in 1993. These exhibitions were an eye-opener and a real pleasure to visit as I can well remember having seen



Fig. 2

his 1996/7 exhibition in Bolton. John also had an interest in musical boxes and clocks as well as slide rules. He maintained and repaired electro-mechanical devices as a hobby, including a collection of thirty Victorian musical boxes in Salford Museum and mechanical machines in Salford and Bolton Museums.

In mid-December 2005 John collapsed suddenly. A few days later on December 17th, he died in a hospital at the age of 86. We all lost a friend and the slide rule collecting fraternity on both sides of the Atlantic is smaller and poorer without John. Within the UKSRC he was a regular and enthusiastic contributor to our publications. We miss his wide knowledge, wise council and wicked sense of humour.

The two photographs I have selected are of John with his collection. The colour photograph (Fig. 1) is from his "Collectomania" certificate, which was presented to people who had taken part in this television program. John declared on the certificate that he "...hoped to preserve for the future what was probably the greatest invention in the history of civilisation". The second picture (Fig. 2) is a print I begged from him, as it seemed silly not to have a record of our own eminent collectors with their collections. It was taken in about 1989 for an article in his local newspaper. Both show the essential character of John.

This series is good fun, and I am

enjoying choosing candidates from my collection. It can only get better if there is some feedback, that is up to you the readers. Any new images will be gratefully received.

People Stories

Atsushi Tomozawa, Japan

Slide Rule Collectors Meetings in Japan

There are only a few slide rule collectors in Japan and we normally communicate through a mailing list which functions as an informal forum for discussion.

Although there is no scheduled meetings we sometimes take advantage of someone coming to one city for business or other purposes and set up an off-line meeting.

One such meeting took place in June 2003 at a small drinking place in one of the suburban towns near Tokyo. In this case, it was to welcome Satoru Kimura, visiting Tokyo from Ohtsu (near Kyoto) for business. Since this was the first meeting of the kind, nobody knew the other persons by sight. So, one volunteered to stand at the gate of a railroad station with a 20-inch slide rule held in front of him. Attendance was five persons. It began at around six o'clock. After a few jugs of beer and some food, each attendee produced his favorite slide rules and started to boast his gems.

Fig. 1: Satoru Kimura (left)

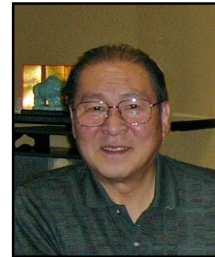


Fig. 1



Fig. 2



Fig. 3

showing off his Hemmi-160.

Bill Lise, who is resident in Japan, showed us a footage of a film made by Hemmi for the company's commemorative purposes which showed production processes at Hemmi. Satoru Kimura's favorite was a Hemmi 160, Inductive Statistics rule. This is a huge ten inch rule with the width of 47mm. One of the stators is almost two inches wide and has nomograms on both sides. Somewhat reluctant to say goodbye after first round of drink, we visited the second place and had more talk and drink.

Fig. 2: The second stop was at a Chinese restaurant. From left to right: Ryouta Saitou, Satoru Kimura, Atsushi Tomozawa, Hitoshi Nori and Bill Lise.

Another such meeting took place in March 2004 when Masayuki Takahashi came to Tokyo from Hokkaidou. This time only three members attended. Hitoshi Nori brought two Hemmi 20 inch rules (Nos.154 and 275) and Masayuki Takahashi brought from home a Hemmi 254WN-S? with green CIF scale. I am holding a Gauging rule which I purchased on eBay.

Fig. 3: Atsushi Tomozawa (left) and Masayuki Takahashi (right)

A Very Special Slide Rule

Prof. Karl Kleine, Germany

One of the big questions for any collector is the relation his / her significant other (the politically correct neutral description) relates to the collection, but even more the activities that go along with that. We all in the slide rule collector community know that this might encompass quite a lot, and often has, say interesting, if not strange aspects. Having lived for a long time as a bachelor, being married to my profession as a professor of computer science and spending much if not most of my time on that, my life changed four years ago, when I met a candidate s.o. and started to live with her. What about her reaction and response to my slide rules and my collecting activities?

The organizers of IM 2007 asked participants to bring along special slide rules, one offs, or samples which were made in very small quantities. Well, I brought one with me to Lelystad. It is not listed / shown in the proceedings, as this slide rule does not slide, and is of an extraordinary kind, and you can see it in the picture to the right (Fig. 1). My friend baked it for Christmas last year out of a particular kind of traditional dough for Xmas cakes. That I call a nice gesture, adding a very special item to my collection!

If you look closely, you can recognize the wedding ring on my hand holding the microphone. We married just a month before the IM and the trip to the Netherlands for the IM was actually part of our itinerary of our honeymoon journey. So much for a very special personal appreciation of slide rule collecting!



Fig. 1

A Slide Rule's 60th Anniversary

Clay Castleberry, Oroville, California

THAT WAS THEN AND THIS IS NOW

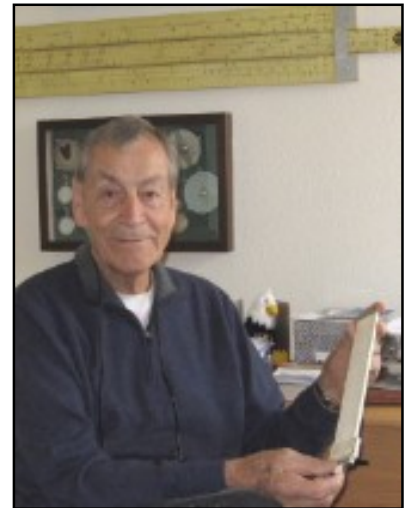
The slide rule in the pictures to the right is my first rule, a Keuffel and Esser 4081-3.

I purchased the slide rule in 1947 at the Oregon State College Bookstore for \$32.00, including the embossing of my name, and paid for by the US G.I. Bill.

Since the G.I. Bill was paying for it, I chose the more expensive Keuffel and Esser, rather than the other popular rule, the Pickett.

I was discharged from the Navy late, and started my civil engineering studies in January of 1947, and after a rigorous 3.5 years, I received my B.S. in Civil Engineering in 1950.

Pleasantly for me, this rule and about 20 others from my collection were on display in the civil engineering department at Oregon State University for 6 months during the same year as my 50th wedding anniversary.



Nine Old Nerds

Kate Matthews, Sonora, California



Ev'ry collector knows the tale
Of bones and logs and the sliding scale

Of Napier – a man of wit
And Henry Briggs, of whom much was writ

Of Oughtred's tussle with Delamaine
And Newton's other claim to fame

Soho, James Watt! Bravo, Amadee!
Making slide rules it seemed could pay

Roget added untold prowess,
But it took Bill Cox to really wow us.

His "Duplex" rule showed the way
And built the world we know today.

Local Oughtred Society Meetings

Ted Hume, San Angelo, Texas



Would you like to be able to meet with fellow Society
members to discuss mutual interests?

Small meetings can be held in areas or cities where
several OS members live nearby. Meetings of this type
are popular in the United Kingdom and Dutch slide rule
groups. They are often held at members' homes.
Attendees discuss their mutual interests and show some
of their favorite and unusual items.

OS members are invited and encouraged to organize
this type of meeting. All it takes is one member to
contact fellow members!

For help and additional information contact us at
osbulletin "at" zipnet.us

Special Interest Groups

Ted Hume, San Angelo, Texas



Would you like to be able to discuss your interests with other Oughtred Society members who share the same interests? These special interests might be specific slide rule types, or makers, or scales, or research subjects, or use of slide rules, etc.

Send us your name and list of interests or specialties and we will put you in contact with others who have the same interests. Emails can be sent to: [osbulletin "at" zipnet.us](mailto:osbulletin@zipnet.us)

These groups can provide excellent opportunity to make new acquaintances, learn, exchange information and accomplish valuable research.


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**The First Ever Oughtred
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Everyone is invited!**

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Planned Contents for The Journal of the Oughtred Society Volume 16, No. 2, 2007

Kate Matthews, Sonora, California



All articles listed are in the hands of our capable editors and are planned for publication in the upcoming issue. However, readers should recognize that because the actual final content may be different due to any number of factors.

- *Boardman Slide Rule Collection* by McCoy
- *Roman Numeral Arithmetic* by Kennedy
- *Recollections of a Pickett Industries Employee* by Boardman
- *Surveying Slide Rule* by Hughes
- *A Nystrom Slide Rule* by Schure
- *Edmund Wingate's Rule of 1640*
- *Leibnitz and his Logarithmic Calculating Cylinder* by Rudowski
- *Quarter Squares Revisited* by McFarland
- *Collecting, Preservation and Stewardship* by Van Poelje
- *Benford's Logarithmic Distribution of Digits* by van der Salm
- *More about Slide Chart Devices* by Wyman
- *A Summary of Gauging Practices Employed by English Excise Officers* by Wyman
- *Buying and Selling Slide Rules and Related Items on eBay* by Gotlib
- *IM 2007 – The Dutch Excel Again* by Wyman
- *The Oughtred Society Award*
- *Book Reviews*



The Oughtred Society Swap Sheet Online

Gary Flom, Stockbridge, Georgia



The swap sheet is located at www.oughtred.org.

This is the marketplace for buying and selling slide rules through The Oughtred Society web site. In addition, many people place listings seeking information for research or personal interest.

Starting a few months ago, we opened the swap sheet such that non-members may also post listings as well as participate in transactions.

Placing a listing, as well as transacting, is free of charge. A listing will post for 4 months, and you may renew your posting at that time, just let me know.

The swap sheet is updated on the first Sunday, every other month. We would like to see more activity in the swap sheet. It used to be much more active.

Please send listings to me at any time. They will post with the next update.

This is a great place to sell or buy slide rules, as the participants are quite knowledgeable about slide rules, and all transactions have been a pleasant experience.

The equivalent of a hundred percent positive feedback!
swapsheet "at" oughtred.org

Promotion of the Oughtred Society on Individual Websites

The Editors

Do you have a website? Promote the Oughtred Society by placing an announcement on the home page of your site. This activity has been started by a few website owners.



The suggested announcement is : "Interested in Slide Rules? Join The Oughtred Society. International organization dedicated to the preservation and history of slide rules and other calculating instruments. www.oughtred.org"

See these sites :

Dick Lyons' [Otis King site](#)

Jay Francis' [The Slide Rule Guy](#)

Paul Ross' [The Slide Rule Trading Co.](#)

Mike Konshak's [International Slide Rule Museum](#)

International Slide Rule Group -- Recent Discussion Highlights

Jerry McKenna, Randall, Minnesota



1. Zero tolerance for slider solution
(There were several threads here including one on a student's rule.)

The reference marker for scale-center is difficult to see, but there is one at each end of the rule. The router's collet (not required here anyhow) is removed to achieve the proper angle for the cutter attachment. The



camera distortion makes the ruler look really long, but it's actually only about 10.5" (See photo at left.)

--Tim

The problem with printers depends on the direction you print the scales. If the scale runs in the direction that the paper moves through the printer, then you will get inaccuracies due to variations in paper feeding speed (due to slippage). If the scale runs perpendicular to that (i.e. across the page), it should be as accurate as the precision of the printer allows.

--Stefan Vorkoetter

Centering the spindle seems to be the most difficult task in making a circular slide rule (the slight errors on a few of my Concise rules relate to marginally off-centre spindles). CD packs and spindles seem to offer a precision solution, if scales can be centered precisely enough when printing onto disks. Alternatively, I wonder if the scales could be printed

onto other media,
which might then be
more easily
positioned precisely
on the CD
--Cyril Catt

2. Lubricating Faber-
Castell 2/83N and
other plastic body
rules

(The consensus is to
use some product
with silicone oil in
it.)

“ First step is
ALWAYS to clean
all surfaces.
Finally, spray some
Pledge (furniture
polish) on a soft
cloth, and wipe all
the sliding surfaces.
This works MUCH
better than any
heavy lubricant ,
like silicone grease.”
-- Walter Shawlee 2

(Author's note :
Pledge contains
silicone oil. Faber-
Castell's
instructions
recommend
Vaseline or silicone
oil ... and they spell
it silicon oil.)

“I read in one of
Pickett's instruction
books to use
silicone. They said it
gets into the metal.
I tried it and it
works much better
than any grease I
have tried. I used a

silicone penetrating
oil.”

-- KKayser

"I believe that the
polish works better
in some cases - my
Deci-Lon and Doric
like this better."

-- Ray Johnson

I use Vaseline just
for the cleaning
part. I put some on
the slide and then
insert it back in the
rule and work it
back and forth
several times. Then
remove the slide
and with a rag, wipe
off the grey junk
from the slide and
inside the grooves
of the stators.

Repeat this until
there is no more
grey that rubs off.

-- Gary Flom

Editor's Note : To view The
International Slide Rule
Group's complete
discussions, see *www.tech.
groups.yahoo.com/group/
sliderule*

Promotion of the Oughtred Society in eBay Auctions

The Editors, Earth

Do you ever sell on eBay? Promote the Oughtred Society by placing a notice in your auction description ...as does OS member Ron Knapp ... [baja_ron](#) on eBay.

He displays the OS logo plus *"Interested in Slide Rules? Join The Oughtred Society. International organization dedicated to the preservation and history of slide rules and other calculating instruments. www.oughtred.org"*



Write to us at *osbulletin "at" zipnet.us* and we will send you a copy of the OS logo and this message, ready for you to place into your auction!

Quotations, Facts and Fun Things

Ted Hume, San Angelo, Texas

Experience is what enables you to recognize a mistake when you make it again.

Franklin P. Jones



25 = per cent of your bones which are in your feet

It does not do to leave a live dragon out of your calculations if you live near him.

J. R. R. Tolkien

10 million = people who have the same birthday as you

The most exciting phrase to hear in science, the one that heralds new discoveries, is not 'Eureka!' but 'That's funny...'

Isaac Asimov

10 = per cent of all human beings ever born who are alive at this very moment

Advice for the day: If you have a lot of tension and you

get a headache, do what it says on the aspirin bottle:
"Take two aspirin" and "Keep away from children."
Author Unknown

43.7 = per cent of all statistics which are made
up on the spot

Fun Math Trick ---

1. Cut a coin in half (a bolt cutter works well for this, or a hacksaw.) Keep it with 3 other coins in your pocket.
2. Ask someone to select a number between 1 and 10 (or between 1 and 20, or 1 and 100, if they are quick at mental math) and not tell you what it is.
3. Tell them to double the number.
4. Then add 7.
5. Then divide by 2.
6. Then subtract the original number.
7. Now say, "What would you say if I told you I had the same number of coins in my closed hand as the last number you calculated?"
8. (The answer to their calculations is $3\frac{1}{2}$, no matter what number they selected to start. It is $\frac{1}{2}$ of the 7 they added. If you tell them to add 5, the answer will be $2\frac{1}{2}$, etc.)
9. Very few will believe you have $3\frac{1}{2}$ coins in your hand ! When you drop them on the table, your friends will be quite surprised!
10. (If you use this trick to win bets, our commission is 25%!)
11. Those of you who are algebra fans can easily write the equation for this trick and see how it works.

You are invited to contribute your favorite quotations, facts and fun things. Send them to *osbulletin "at" zipnet.us*

Suggestion Box / Questions & Answers / Letters to the Editor

The Editors

The Suggestion Box is now open. We constantly strive for improvement and invite your comments, suggestions, questions, feedback and participation. Whether or not this Bulletin continues will be based upon feedback from the readers. If there is little to no feedback, then the Bulletin may be discontinued, so please let us know your what you think, good or bad. Emails can be sent to *osbulletin "at" zipnet.us*




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Sellers' Corner

Walter Shawlee 2, Kelowna, BC, Canada
[The Slide Rule Universe](#)

Everybody's Wish List.....and Reviving the Dead

You have no doubt wondered just what people ask for when they call us at Sphere Research, looking for a slide rule. Aside from those of us that collect rules (and are therefore beyond therapeutic help), there are certainly some recurrent themes and requests from the “non-professional” slide rule aficionados out there. After initially being amazed that we have no complex and frustrating voice mail system, and that they can just call and talk to someone (because in fact, their call is actually important to us), here's what they have to say:



- 1. I want to find the rule I had in school.** This is a very common request, and often is for a Post Versalog, K+E 4081-3 style, or Pickett log log style rule. However, we get just as many requests for very low end models, such as a Post 1447 or K+E 4053-3, because that's what they happened to have used in school. Longing trumps all other issues for this person, and only just the right rule will do the trick.

- 2. I want to get something to**



help my kids with their math, nothing they've tried seems to be working in school. This request comes to us from both parents and teachers, and really highlights the poor success kids are having when math agendas highlight set theory and bounding, and forgets all about calculating, exponents and estimating. You will be pleased to know that those who follow up with us later report good results when using even a simple rule as a teaching aid. Rules for this category are generally simple, and favorites have been the Pickett N902T (which carries its own manual on the rule body), and some Faber Castell rules like the 52/80 that can also do addition and subtraction.



- 3. I just found your site, and I want a slide rule!** This person is so excited by the idea that they can even get a slide rule today, they run all over the site, looking at every rule, and then get so confused, they can't make up their minds. Once the heat has died down, and we have answered all 347 of their questions, they generally buy something very simple.
- 4. I can finally afford it, and I want the rule I could never have when I was in school.** These people have really thought about what they like and dislike, and are now ready to experiment with rules that weren't common or available when they were in school. There's no predicting what this person will buy, but it tends to be a more elegant and sophisticated rule, and often an import for the change of style and different features.

Meanwhile, what can YOU do with that unhappy rule in your collection that just

doesn't look very good? It may be a type that you really enjoy, and just wish was in much better shape. Well, first of all, don't be afraid to clean it, since single makers told you to do so in their manual. Like any fine tool, it should be cleaned and adjusted for proper operation, simply because that is a firm requirement for the smooth and orderly operation of the universe, if for no other reason. Dirt is not really an antique "patina" that needs to be preserved for historical purposes.

My favorite weapons for restoring a rule are a scotch brite pad, a soft cloth, Windex, and several small straight screwdrivers (and a set of allen keys if I'm working on a K+E that requires it). I find Pledge (the spray furniture polish) is the ideal lubricant for guides and edges, and it also restores any exposed wood to a beautiful finish. You can see some very detailed restoration info at this page on our site: <http://www.sphere.bc.ca/test/clean.html>.

What to do about broken parts? There is no simple answer here, as the stocks of spare parts are almost gone from everybody's stashes. I will often buy up bad rules on ebay to strip for parts, especially K+E and Dietzgen parts, which are wickedly hard to find, and prone to damage. There are some very sad looking rules out there that find their best and final moments as organ donors for a better rule. I have a few parts left (especially spare windows for the Pickett N3/N4/N16 rules), which you can find here: <http://www.sphere.bc.ca/test/exchange.html>.

Restoring old cases is not always successful, but you will find some very good tips on our site at the restoration link above. If nothing works, you can try to scour ebay for a usable case of the same type, or you might want to consider one of our new custom cases. I went crazy for years trying to restore cases with pen marks, initials, dymo tape, decals,

cartoons, girlfriend's phone numbers, and exam answers all over them. One day I just decided my life could be put to better use, and had new cases made by Seamcraft in the US, you can see all the details about them here: <http://www.sphere.bc.ca/test/cases.html>. The design is very flexible, and fits a huge range of rules, while providing a fully padded cushion case.

All for now,
Walter
walter2 "at" sphere.bc.ca
[The Slide Rule Universe](#)

The 'Other' Seller's Corner

Dick Rose, Columbus, Ohio
[Vintage Instruments](#)

You Do What for a Living????...How I Got Started

People are always incredulous when I tell them that I deal in slide rules -- that is, if they know what a slide rule is. Once past that issue, the inevitable question is: "How did you get into that?!?!" The question is particularly pertinent if the questioner knew me in my corporate and consulting days, when I was involved in marketing, marketing research, strategic planning, and organizational development.

Well, it all started with a mental health break while I was working on a consulting assignment. Tired of working on the computer, I decided to play a bit and went to eBay. While browsing there, I saw a Post Versalog that had sold for \$30. "Interesting," I thought.

I also took breaks from work by going to flea markets and antique shows. About a week after seeing the Versalog on eBay, I saw one at a flea market, for a dollar. "This might be fun," I thought, and bought it. I went home and put the slide rule on eBay. A week later, it sold, for \$30. It was fun.

After that, I looked for slide rules more purposefully and found some here and there. And I sold a few



more. This was all for entertainment, since consulting provided a much better income (and still would, if I were in the mood).

Eventually I had put together a list of several hundred slide rules that I had accumulated. For some reason, I can't remember why, Andrew Davie (the great father of online slide rule collecting and communication) asked me to send him a list of what I had. He then published the list on the Slide Rule Forum, and suddenly I was, accidentally, in the slide rule business. (Andrew, if you remember this differently, please comment.)

My list had no prices since it was really only an inventory list, so I started quoting prices on specific items when asked. And later, I decided to continue not putting prices on the list, mainly because it was a pain to change them when needed, which seemed to be often.

Around this time, I met Sandy, who was to become my wife not long thereafter. (I know a good thing when I find it.) There was only one problem. My younger son, Brian, was shortly going to be entering high school, and I wanted to stay with him until he graduated. And he and his mother, with whom I shared joint custody, lived in Kalamazoo, Michigan, as did I. But Sandy lived in Columbus, Ohio and had a business and many connections there.

A friend asked how we would manage all of that if we were to get married. I had to think fast, and, on the spot, I said, "Easy. For the next five years we will alternate between Kalamazoo and Columbus every two weeks, and Brian can live with us while we are in Kalamazoo. All we have to do is maintain our two houses, drive 300 miles every two weeks, and figure out how to earn a living while doing that." It sounded so simple. (We were younger then.)

So we had it all figured out, except for the earning a living part. Sandy is a hardwoods lumber broker, and we worked out how she could operate in two cities. My consulting was a bit more of a problem, unless I wanted to be traveling constantly, which I didn't. So I decided to make Vintage Instruments into a real business, with a web site, and began seriously searching for items to sell.

Walter Shawlee and I shared some large purchases, and I had helped him (only a little bit) when he

decided to add slide rules to his electronics instruments web site. So I had a web site built. (Walter built his own. He's far more talented in that area than am I.)

I had previously collected drafting tools and musical wind instruments so decided to add those, as well as mechanical calculators, planimeters, and other related items, to the Vintage Instruments business. I used the more general Vintage Instruments name to cover all of the instrument categories.

This all started in the late 1990's, and here we are about ten years later. By the way, here is Columbus. We moved here full time when Brian graduated from high school. He is now a senior in mechanical engineering at Carnegie Mellon University. Smart fellow.

Being a part the slide rule community has had several interesting side benefits, not the least of which is that many of you have become my good friends. In fact, when Sandy and I married in early 2000, John Mosand (from Norway) and Gerhard Benedict and family (from Vienna) attended the wedding in Columbus. I had met both online, through their slide rule interests. And several of you have visited us here at home. One of the reasons that I love this business is the chance it has given me to meet so many interesting people.

And I hope to meet more of you, in person, at the February 23, Oughtred Society meeting in Las Vegas. Ted Hume suggested that it would be a good place for the two of us and our wives, Rose and Sandy, to finally get together. We will be there. How about you?

So, in summary, I got into the slide rule business because one day I needed a break while working and then I needed a way to manage a rather nomadic life. Strange, but true. And it has been a great time, thanks to you all.

See you in Vegas.

Dick Rose,
[Vintage Instruments](#)

Displaying a Collection

Clay Castleberry, Oroville, California

The shadow box is the ideal way to show off one's collection of slide rules, or a part of it.

Bare rules hanging on the wall have a tendency to get dusty, and at least here in California, fall off the wall during earthquakes.

Glass cases are also ideal for display, if one has the space and the blessing of a partner for such expenditures.

The photos of the shadow boxes and the glass cases give good examples of best ways to show off your proud possessions.

Benefit from my experience in finding moderate prices for well made shadow boxes.

My first one (Fig. 1) is the 13 by 23 inch box with the fine collection of circular rules. I had hinted that it was what I would like as a Christmas Gift, from my wife of many happy Christmases. She had it custom made at a picture framing house for a sum that neither of us would like to disclose. It displays well but, changes displays badly, in that the backing must come off completely with each display change.

Later, I found the shadow box, (Fig. 2) which is now displaying a square and a round Gilson Atlas slide rule, at an antique shop for the grand sum of seven bucks. It is hinged with a hasp for securing it closed. It displays well and changes displays easily, by simply opening the hinged top.

Since our experience with the custom made shadow box, I have found reasonable priced shadow boxes, in the same picture framing studio, where we got our custom made box, and at stores such as Crate and Barrel. They are also reasonably available on EBAY, complete with other items that can be replaced with your favorite rules.



Fig. 1



Fig. 2

A display that is dust free helps make a happy home.

Favorite Items

Nathan Zeldes,
Jerusalem, Israel

There are many items in my collection that I like... but if I had to choose, I'd say I have a soft spot for the homemade ones: items made or improvised by someone for their own use, or made and sold by them in small quantities; expressions of individual creativity so unlike the mass produced output of the IBM's and Samsungs of today, or the K&E's and Hemmis of yesteryear.

I have only a few such items, naturally; it



Fig. 1

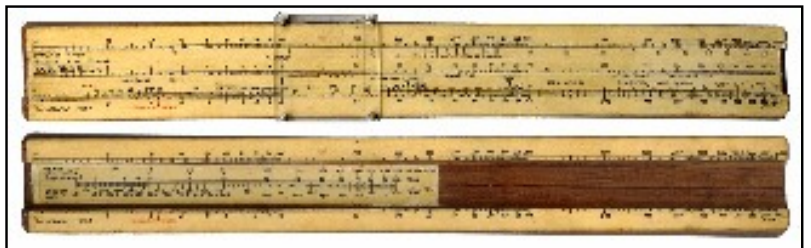


Fig. 2

calls for special serendipity to come across one in some flea market or online. The best without question is the mysterious hydrological slide rule I bought on eBay, because it caught my fancy the moment I saw its photo (Fig. 1).

This device is a roughly finished wooden slide rule covered with cellophane-coated paper scales. The scales are all meticulously drawn by hand in India Ink, and I mean meticulously: some of the lettering is incredibly small and precise. The rule was clearly made entirely by hand, but the attention to detail is exquisitely professional.

At first I had no idea what this item is all about. The scales (Fig. 2) have labels like rainfall, discharge index, run-off, impervious coefficients... it was obviously aimed at a specific profession, but what that profession was had remained a mystery. My eBay seller told me he had bought it in Holland from a guy who conjectured that it may have to do with crop spraying; for my part, I suspected rainwater management of some sort. And there the riddle remained for some time, until I discovered that Ron Manley, an experienced collector, is a Hydrologist! I sent him a

photo and he identified the rule's purpose as urban drainage design. The "impervious coefficients" are used to calculate what proportion of a drainage area is impermeable; hence labels such as "open spaces" and "residential-house density", which refer to different types of urban development. The sub-scale (5, 6,...,14) refers to the number of houses per acre, so, for example, 10 houses per acre is equivalent to having 0.38 of the drainage area impermeable. The scales of Gradient and Velocity are used for sewer design; other scales

calculate the water runoff for different conditions of rainstorm.

This is truly a unique calculating instrument; Ron had seen nothing like it before.

Some hydrologist in the pre-electronic age of computation had designed a solution to his profession's specific computing needs. I doubt I'll ever find out why he went to all this trouble – did he build this tool for his own use? or perhaps this is a prototype he had built, in preparation for a commercial product that never came to be?

Whatever his motive, his handiwork marks him as a person of knowledge, skill and the ability to

improvise –
in other
words, a
quintessential
engineer. I
know I
would have
enjoyed
meeting this
guy, but it is
unlikely this
will ever
happen: I
have no idea
who he was.
It is a
common
attribute of
homemade
devices that
they don't
carry a
maker's
name or
logo; after
all, their only
user knows
all too well
who had
built them!

Still, even if
he will
remain
anonymous,
I am
honored that
his one-of-a-
kind product
rests in my
collection.

A Cabinet of Slide Rules

Otto E van Poelje, The Netherlands

Storage and display of one's collection is an enduring topic of discussions and disagreements among collectors. In this contribution I would like to show here my own solution to the problem. Because a problem it was, some 15 years ago when the collection had grown to over 200 items. We, as a family, decided that all my slide rule boxes – then scattered over several rooms - should be replaced by one single cabinet. This new repository was to meet a number of requirements – hopefully not too conflicting. It must have both a display area and a logical storage system with easy access, it should be able to contain some 500 slide rules, and it had to look nice.

A nice and almost antique dining room cabinet was found as starting base of the project. The top part of the cabinet, once used to display the nicer sets of porcelain or crystal, is now the showcase for cherished slide rules with special applications or designs. Behind both doors of the lower cupboard, the original single shelves have been replaced by a system of drawers that was specially designed to fit most slide rules, up to mid-size (25 cm scales). The four drawers between the two doors are used for other calculating instruments like mechanical and electronic calculators, dividers for use on Gunter rules, spare parts and incomplete rules for cannibalistic use, and redundant rules for swapping.

Display (See Fig. 1)

Behind the glass doors of the top part of the cabinet are not only displayed the highlights of the collection, the “conversation pieces”, but also the specimens that use all three dimensions of space, as opposed to regular, flat slide rules. The granite desktop on the lower cupboard is an ideal parking space for “items under study”: an invitation to get on with the job.



Fig. 1



Fig. 2



Fig. 3

Drawers (See Fig. 2)

Each drawer was made of a square frame of three wooden 1 by 1 cm sticks and a wooden front to hold brass knob and label holder, all this glued to a plywood bottom. The inner dimensions of a drawer are 44 by 44 cm.

The usable height between two drawer bottoms is 2.7 cm. These sizes were based on extremes of length and case height of the monster Faber-Castell Novo Duplex. Of course the larger desk-sized rules, and especially the 2-foot Gunters, have a place outside the cabinet. Storage of cases and boxes can be done in many ways: slide rule in the case, slide rule on top of the case (maybe with a rubber binder), slide rule next to the case or slide rule without the case (cases stored separately).

Personally I like to see the faces of my slide rules as soon as I pull out a drawer, so the first option is not for me. Only nice or rare cases are allowed to join a slide rule in my drawer, I don't want the wasted space of double height drawers, so option 2 is also not for me. The result is that only a few cases are stored in drawers, and the remainder has found a separate place, only linked to its slide rules by data base numbers.

All drawers are sliding along –again- 1 by 1 cm wood sticks which are affixed to the inner walls behind the doors. Drawers can be pulled out of the cabinet, to allow studying one or more drawers at leisure on a worktable. In total 48 drawers are available behind the two doors of the lower cupboard, providing a storage area of more than 9 m².

Arrangement (See Fig. 3)

In principle the drawers are organized and labeled alphabetically on brand name, from ALRO to Wolters-Noordhoff (Dutch brands both). Some brands need more than one drawer, like the six ones for Faber-Castell. But when there is not enough of a brand to fill a drawer, a “country” drawer has been created to hold more brands from that country. So at the



Fig. 4

lower right end of the cupboard there is a sequence of labels ... UK – Unique – USA ..., although K&E and Thornton have their separate drawers too.

Dynamic Collection Control (See Fig. 4)
Slide rules are laid out loose in the drawers, mostly in rows but sometimes at right angles to fill up unused space. This loose arrangement is a perfect fit to my dynamic collection control, because my collecting focus has changed considerably over the last 10 years. The most shocking aspect of my cabinet is discovered by visitors when I tell them that the collection is not allowed to grow out of the cabinet. That means a maximum collection size of about 500 items - which has been reached by now. When I acquire a new item, an existing piece in my collection may have to go. Right! I hope you will read more about such things in my article “on Collecting ...” in the upcoming Journal of the Oughtred Society.

Mystery of the Homemade Rules?

John Hunt Snr, United Kingdom

The first scan (Fig. 1) is a couple of slide rules that came into my possession two or three years ago. For me, they are an enigma.

The scales are paper pasted on wood. (Please see Fig. 2.) The stock and sliders are birch/pine and quick growing mahogany. Only one of the sliders has a tongue and groove. The cursors look like bashed-out coke or bean cans. The only thing, looking vaguely professional, are the scales. They have been laid out and drafted by a person with calligraphic training.

Hotchpotch of wood cobbled



Fig. 1



together to make the rules. (Please see Fig. 3.) On one of the rules, upper right, is an illegible name. Capt. C. J New?????

The subsequent scan (Fig. 4) compares scales with a typical Graphical Table from the Vietnam era. Range, Drift, Elevation, C (the change in elevation) are similar – obviously, my home-made rules are in fact crude Graphical Firing Tables.

But who would make a home made Graphical Table, given that the pukkah article could be picked up for peanuts? Anybody in an official position would almost certainly obtain one as part of the kit. I would guess that the War Department bought the mass produced product for little more than one dollar, if that – beaver board with varnished paper scales – not even the trailing edge of technology!

My contention is that my homemade rules were proto-types of the official Graphical Firing Tables that were mass produced and sent to campaigns from North Africa to Vietnam.

In November 1940, National Guard, Captain Abbott Harrington Burns was assigned to a Fire Direction Centre team in Fort Sill, Oklahoma. In response to the torture of solving complex equations with logarithmic and look-up tables he experimented with a homemade paper/cardboard slide rule. Most of his brother officers ridiculed the idea, but one major, George V. Keyser, saw possibilities with Burns's Graphical Firing Table. Working as a team they resolved the GFT problems and adapted it to compute time delays/powder charges and ranges for the 75mm and, subsequently, for the 105mm howitzer.

Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6

This was the easy part – much harder was the acceptance by the Army Council of their invention. The red tape was all enveloping and a depressed Burns was ready to give up. Keyser was not so intimidated, treading on well polished superior shoes he eventually sold the idea to the War Department.

Fig. 5 shows Brigadier General Desmond J. Balmer, Sill's Field Artillery School Commandant, with Captain Burns - with the official GFT.

But, in the meantime, while the War Department was dithering, several officers in Fort Sill copied the GFT and found that they could dispense with 76 pages of fine type firing tables. And they could do it twenty times faster with less errors and even less hassle.

Somebody in Sill collared an expert draftsman bought him/her a beer and twisted his/her arm to draft the scales. The paper scales were distributed to forward looking officers, fed up with log tables, who cobbled up their own GFT with bits of wood and crude cursors. Young officers took them to Guadalcanal, Tunisia, Attu and Sicily before the War Department caught up with them in Italy and distributed the official GFT housed in a handsome leather case. All this is my supposition – correct me if you have contra knowledge or any other ideas.

The last photo (Fig. 6) is from the Signal Corps, near Sessa, Italy, taken on the 5th May, 1944. M/Sgt Rogers at the Horizontal Control Operators Firing Chart and Major Jackson is on the 'phone. Spot the official GFT!

Burns ended up with the rank of Lt. Colonel and Keyser was the Brigadier commanding the 74th Field Artillery in Mississippi.

Buying and Selling Slide Rules and Related Items on eBay -- Experiences from Ten Years of Collecting

Louis J. Gotlib, West Chester, Pennsylvania



Over the past decade, the hobby of slide rule collecting has changed dramatically as a result of eBay, in the United States and elsewhere. The best thing about buying and selling via eBay is the diverse assortment of materials one can buy or sell in dealings with fellow hobbyists around the world. Since most, though not all, slide rules are relatively inexpensive (less than \$50 for most items on eBay) there is little motivation for dishonesty in any form, as there is little to be gained, and in an environment where reputation (feedback score) is critical, there is much to be lost.

The one possible downside to eBay's popularity is that our Oughtred Society meetings seem to have fewer items available for sale or trade. I do not know if this is the direct result of eBay sales of 400 to 500 items per week or more due to the nature of who is able to attend our meetings.

I have been involved with the hobby of slide rule collecting for over a decade and have been an active eBay buyer and seller for just about that long. My purchases have ranged from items that cost a few dollars to over one hundred dollars (though rarely much over that). As such, my comments will not necessarily apply to the high end of our hobby, although I do pay attention to those sales. My selling experience comes from selling of duplicates of some of my own items and from dealing with the collection of the late Aaron Lerner, wherein I sold several hundred items, most of which sold for between \$25 and \$150, which puts them in the "typical range" for eBay items and for what I think most collectors are looking to pay.

Selling hints:

Photos and accurate descriptions are crucial. eBay allows one free photo with each listing and it can be

tempting to only use that one on an item likely to sell for only ten or twenty dollars. I recommend spending the extra money (about \$0.15 per photo) and including an overall photo (showing the slide rule, case and box, manuals, etc.), followed by shots of the front and back at both ends. (Editor's note: There are many free sources on the web for photo storage, including photobucket.com.) Make sure your photo shows the cursor (and be very clear about any damage to the cursor- especially with older K & E models). This may mean you spend a dollar to list an item that will likely sell for a nominal amount, but I am convinced that a good set of photos will bring in extra bidders, get a higher price and will also let other bidders know that you handle all items in a professional manner (and the more expensive your items are the more important that reputation is).

My experience has been that timing your sales to end on a Sunday evening at about 9:00 Eastern Time allows bidders across the entire United States to be more likely to be online at closing time. I try to avoid having items end on holiday weekends as there will be fewer people online at the end of the auction. I have no "proof" of this but at least it seems logical. eBay lets you create the listing and set a scheduled start time which is very convenient. It does cost \$0.10 for this feature but the convenience is worth it.

Make sure your description is accurate and includes any flaws, no matter how minor you think they may be. It is better in the long run for you to err on the side of caution and get a slightly lower price than to gloss over something that will lead to an unhappy buyer.

I strongly recommend setting up a PayPal account for accepting payments. It is true that it will cost about 3% of each sale price and the shipping costs but you will have almost no personal checks to worry about, no issues with currency exchange and payments will be in your account promptly. You can have PayPal electronically send money from your account to a checking account of your choice at no charge and you will also be able to use your PayPal balance to pay for your own eBay purchases with vendors who accept PayPal. Between PayPal and eBay fees you will be spending about 8-12% of the sale price of each item, but this will make transactions smoother.

Do not try to make a profit on shipping costs, but don't lose money either. The Postal Service provides free Priority Mail boxes that will fit most slide rules and you can use newspaper as packing material for most items. I

like to wrap items in a clean sheet of newsprint first as this minimizes any chance of ink rubbing from the newspaper onto a slide rule. My usual approach (shipping from the east coast) is to determine the weight the packed item will have, look up the cost of shipping to the west coast (or go to a self-service scale at the post office and enter any west coast zip code). I then put in a shipping cost of the Postal Service price rounded up to the next dollar. I find that this way I cover my costs but don't take advantage of people. I do not have a "handling" charge as this is just padding the price. Sometimes I misjudge and lose a dollar or two on the shipping but in the long run I come out pretty close to even. I offer and recommend insurance, based on Postal Service rates if requested but don't require it. I use the same approach with tracking.

Overseas shipping can be a bit trickier. I have found many inconsistencies between the USPS web site and their own offices. Despite recent efforts to clearly define a package vs. a letter I have gotten surprises at the post office when I went to mail a box. Sometimes I have taken a loss of as much as \$10 on the item (once I quote a shipping price to the winning bidder I feel I should honor it). On a few other occasions I have found that I charged much too much (the postal clerk decided that box could be a letter!) and what I usually do is refund the difference back to the buyer via his or her PayPal account.

If a buyer is unhappy with a purchase, try as hard as you can to work things out. Accurate descriptions and clear photos usually keep problems from happening but should an item be damaged on the way and there is the chance it was poorly packed, try to reach a compromise with the buyer. In my sales of over 400 items I have had two buyers who were not happy. In one case the item was fine but I wrote the zip code wrong so the item was late. All I could do was apologize to the buyer. In the other case I was selling a folding rule from an estate and since I was outside my area of expertise my description failed to point out a flaw that mattered a great deal to the buyer. When told of the problem I simply asked the buyer what would make him happy. He asked that I refund \$25 of the \$50 final price, which I did immediately via PayPal. I really have no idea if that was fair or not but it was his area of expertise and it seemed reasonable.

Make sure you leave feedback promptly for buyers who pay promptly. For new eBayers, being able to establish a good feedback rating is very important. For established

buyers it may be slightly less critical but it is still helpful. It takes just a few seconds to put “positive feedback” and short phrase such as “very prompt payment, thanks.”

Buying Hints:

My first rule is buy things that I want to have in my collection. Thanks to Rod Lovett’s great site (<http://sliderules.lovett.com>), it is fairly easy to find what a reasonable price for most items should be. The site is limited by the key words in the title so it is not perfect but by researching selling prices for a model, one can get a good estimate to a reasonable range. Since most sellers overestimate the quality of a slide rule, one must be a bit cautious. I will hardly ever bid on an item that has no pictures (though I will ask the seller for some) as that leaves too much to chance. If you think you are interested in an item, place it in your watch list and ask the seller detailed and specific questions. Make sure you give him or her a few days to get back to you.

Don’t buy an item because you think it will be something you can resell at a profit. It might well be, but on eBay there are no certainties. If you want it, place a serious bid and watch it closely.

I do not use “sniping” services although many people do and they find them very valuable and worth any fees. My feeling is that if I want something I will know what I am willing to pay for it and I will enter that bid. If I am outbid, another will likely come up soon (there are about 400-450 slide rules on ebay at any one time in the United States alone.) You can easily get “sucked in” and bid more than you really intended on an item. As much fun as this hobby is, it is just a hobby after all.

There are a few other things that will keep me from bidding on an item. I will not bid on an item if I think the shipping costs are unreasonable. This can be difficult to judge for items from overseas but within the United States it is quite easy. Sometimes I will ask the seller if his listed shipping cost is correct or if another method might be available at lower cost. I have seen many people ask a \$14 shipping fee for a slide rule that weighs a few ounces and can go in a (free) Priority Mail box for less than half that amount.

In summary, eBay has given us a chance to add to our collections in ways were not available in the past. I find that, as is the case with most dealings, communication and honesty go a long way. Bid with enthusiasm when

you want something, but know what you are willing to pay and stick to it. If you are unhappy with a transaction, communicate with the other person. He or she may not even know you were unhappy and while most collectors are bright people, few are psychic.

Non-Collectors' Corner

Ted Hume, San Angelo, Texas



What does one do if he or she no longer collects slide rules or other instruments, but remains interested in them?

I am one of those people, who once collected and researched Post slide rules very seriously. This led to collaboration with Paul Ross to compile the Post Slide Rule Archive, which can be seen at Walter Shawlee's website Slide Rule Universe, <http://www.sphere.bc.ca/test/sruniverse.html>

I once had 150 Versalogs, plus another 100 Post rules. My collection now consists of 6 slide rules ... a small handful of favorite Posts.

What do I do?

For several years I have been active in the Oughtred Society, doing work on various projects and activities ...

- Compiled and edited The Oughtred Society Slide Rule Reference Manual, published by the OS in 2005, which was the idea of OS member Walter Shawlee. Graphic design and typesetting was done by OS member Bob Koppany.
- Served as editor for Joe Soper's book on his years with K&E, published by the Oughtred Society in 2007. Graphic design and typesetting was done by OS member Bob Koppany.
- Started the Oughtred Society Slide Rule Learning Kit project, which was ably finished and brought to market in 2007 by OS member Joe Bento.
- Started The Oughtred Society Bulletin in September 2007, a quarterly Email newsletter, which was the idea of OS board member Otto van Poelje in The Netherlands. OS member Ron Knapp is now its lead co-editor.
- Worked with Jim Cerny to redesign the Oughtred Society's website. OS member Mike Konshak is

now its webmaster.

(See www.oughtred.org for details of all the above items.)

- Serve as a member of the Oughtred Society Award Committee, created and chaired by OS board member Otto van Poelje of The Netherlands.
- Attend Oughtred Society meetings, primarily the Annual Meeting in June in Mountain View, California. For these meetings I buy a few items for display and sale in the auction.
- Helping organize the new Oughtred Society Winter Meeting in Las Vegas, Feb. 23, 2008. Gary Flom's idea to have an OS meeting in a vacation location appears that it may result in the largest OS meeting ever held. It will be a different type of meeting for the Society. Non-OS members are invited to attend. Cost is only \$35. It will be less formal than other OS meetings. We encourage you to attend! See www.oughtred.org for details.
- Communicate frequently with slide rule enthusiast friends around the world.
- Occasionally buy an item or two to resell via the Oughtred Society Swap Sheet or eBay.

One does not need to be an active collector in order to contribute and benefit from Oughtred Society membership and participation in the world of slide rules and other calculating instruments!



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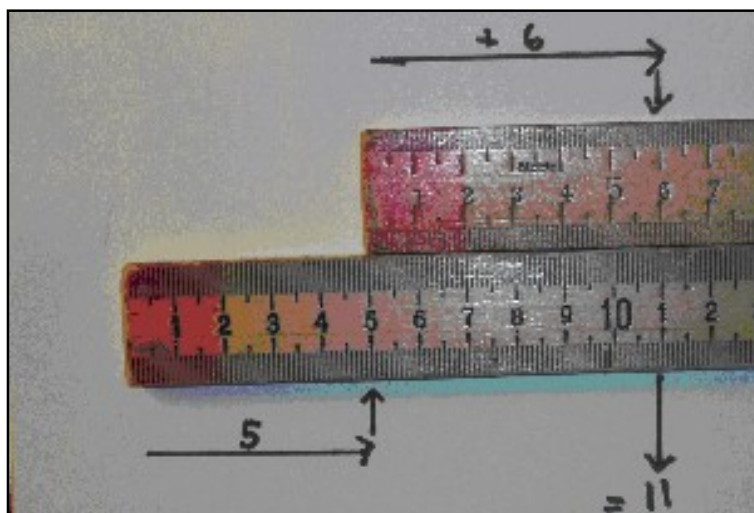
Getting Hooked on Slide Rules – a Classroom Update

Dagmar Rutzen, Des
Plaines, Illinois



Each new school year presents new students and new challenges. Of course I wanted again to introduce this group of students to the use of the slide rule. Not one of my students had ever heard of a slide rule. Since I wanted them to be successful right away, I decided to take a different approach in my introduction as to how a slide rule works on a very basic level.

Each student was given two half

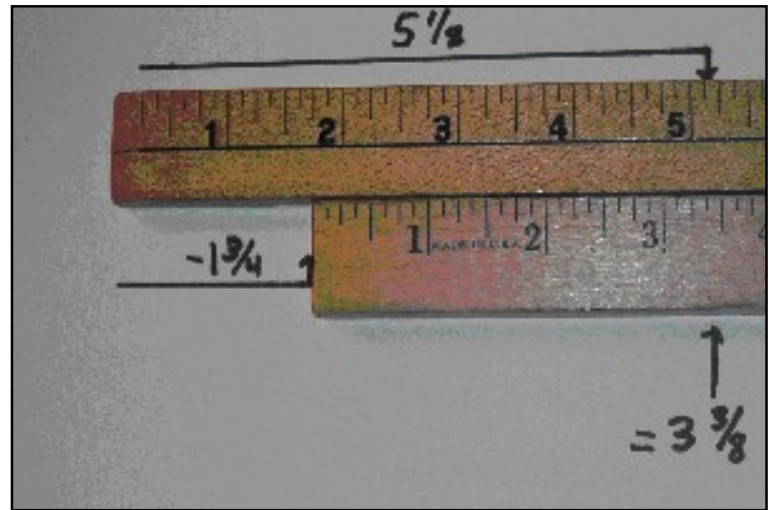




meter sticks where one side was in inches and the other side was in centimeters. I colored the first couple of centimeters of each half meter stick with a red marker. This way I was able to see at a glance if everyone was on the correct side.

I explained to my students that if we had two identical scales that have even increments, we could add and subtract with our two rulers. We started out with the metric side up on our rulers and laid them next to each other in such a way that both were lying flat on the table and the zero ends matched.

The students were asked to slide the left end of the top ruler to the 5 cm mark of the bottom ruler. It was then explained to them that we now could add 5 to any other number on the top ruler and would find our sum directly



below that number on the bottom ruler. We used whole number addends first. The kids caught on quickly and thought it was fun. I told them since they were so good; we now would do the same thing, but use decimals in our addends. The metric side of the rulers lended itself very nicely to this task. They were a little leery at first, but soon got into the spirit of things when they realized how easy it was to do.

The students groaned when I told them we were now going to do their favorite thing and add mixed numbers together. Most of my 7th graders are not fond of fractions or decimals. We used the inches side of the rulers to work with the mixed numbers. It did not take long for them to be able to find the sums of the problems I gave them. They were delighted to not have to find

common
denominators.

Since the students were so successful with the addition problems, they were eager to do subtraction problems, even with decimals and fractions. To do the subtraction problems, we moved the zero end of the lower ruler to the first number that we wanted to subtract on the upper ruler.

My students were very excited with this simple exercise and are looking forward to using the real slide rules.

Oughtred Society member Dagmar Rutzen teaches seventh grade science at Algonquin Middle School, Des Plaines, Illinois. Her original article appeared in the Journal of the Oughtred Society, Vol. 14, No 1, Spring 2004, page 14.

Slide Rules for Air Navigation and Flight Logistics at IM 2007

Prof. Karl Kleine, Germany



At the very successful IM 2007 at Lelystad and Enkhuisen, about which you can read more in Tom Wyman's article in this bulletin, I had the pleasure to attend a couple of presentations about slide rules for navigating and planning a trip, both by ship and plane. The location suited perfectly, if you consider history: The places of the conference were an old harbour town (Enkhuisen) and the middle of the former Zuiderzee (Lelystad), the former arm of the North Sea then extending from the northwest coast of the Netherlands to the port of Amsterdam. This was right on the route of the Dutch merchant ships, connecting Amsterdam with all the European harbors and with the Dutch colonies, in particular those in south-east Asia. International trade gave the Netherlands their famous "golden century". Navigation and logistics are thus natural subjects for a meeting of slide rule collectors in the Netherlands.

Many things changed: The Zuiderzee was closed off from the North Sea in 1932, and much of it was further closed off by dikes and pumped dry, resulting in new land under sea level, the polders. Lelystad is a new town, just incorporated in the 1960's, and now the capital of the new Dutch province Flewoland. Rotterdam is not only the main Dutch harbor today, it is the largest harbor in Europe. Last but not least, ships have been replaced by airplanes not only for passenger traffic, but also for many types of cargo. Schiphol International Airport near Amsterdam is one of the largest and busiest airports of Europe. Things have changed, but navigation and logistics remain key issues.

We had lectures about sea navigation at former IMs, for instance about Gunter rules. This year's IM programme featured a number of lectures on "going up" and finding your way with an airplane. First to mention are two very lively and enlightening talks by Ronald van Riet about dead reckoning computers in general and about Knemeyer's "Dreieckrechner" in particular. An airplane pilot has to tackle two tasks: first, he must steer a course such that the actual course over ground matches his intentions, thereby counteracting the wind forces and the resultant drift; second, he has to calculate time and distances from the effective speed over ground which he can achieve with his airplane, where he can only read

wind speeds. Today, GPS and electronic devices can take care of all that. Before, there were a number of ingenious devices, mostly circular slide rules, often combined with another instrument for calculating the wind triangle by graphical means. Ron traced back their history from the earliest specimen to the ubiquitous E6B and AVIAT models and its variants. This is much too much to write about here, but Ron did not only give a wonderful talk, but also wrote a fine piece of documentation for the conference proceedings, with lots of illustrations. The same holds for a particular series of dead reckoning computers, the "Dreiecksrechner" by Knemeyer and their descendants, the ARISTO AVIAT models, all manufactured by Dennert & Pape.

Siegfried Knemeyer and his life were an enigma for a long time, and many facets of his life and work will most probably remain so. Huib Ottens was able to shed some light on Knemeyer's life and career, depicting a compulsive pilot, an aircraft visionary and a gifted engineer. Knemeyer's personality is difficult, to say the least; he did engage with the Nazi regime just in order to realize his visions of airplanes and flying. This eventually led him to the position as head of technical development of the German Ministry for Aviation in 1943. He was responsible for some of the most advanced designs of these days. His famous "Dreiecksrechner" was a relatively early work, done already before and in 1936. After WWII Knemeyer went to the USA and became a consultant for the US Air Force.

The third speaker to mention is Robert Bargl. Whereas the former two are a slide rule collector and an aviation hobby historian, Mr. Bargl was a flight engineer at Lufthansa, with a long career starting in the fifties with transatlantic flights (you remember the Lockheed Super Constellation?), progressing to the jet era, finally the Boeing 747 models, and ending as Lufthansa's chief flight engineer. He devised a family of special slide rules for fuel management. The oil crisis of the 1970's hit the aviation industry hard. From 1970 to 1981 the fuel prices rose by 1600%! As a reaction Robert Bargl designed the special circular slide rule and had it fabricated for Lufthansa by Riehle. This slide rule actually saved Lufthansa 180 million Deutschmarks in the three years from 1983 to 1985! Now, this is a figure to remember when you talk about the value of a slide rule. Mr. Bargl illustrated the use of the rule by a sample flight from San Francisco to Frankfurt, demonstrating

the economic issues of such a trip: effects of flight altitude, optimum and legal altitudes, and what ground control can do to you in missing economical goals, the phases of ascent, cruise and descent, and where and how you can save fuel. It was most instructive, and gave the audience a totally different view from the usual view of a flight as an aircraft passenger. By now you will have guessed it: Mr. Bargl's "B747 performance calculator" circular slide rule is now on board of every Lufthansa Jumbo Jet lifting off, along with a modern version of the AVIAT (you never know when you might need that).

These four presentations of aircraft slide rules were complemented by two more general ones about navigation issues, a talk by Otto van Poelje about time-speed-distance calculators, a task universally popping up in navigation, and a talk of personal recollections by Peter Soole about his professional life at Blundell Harling on slide rules and navigational instruments. Alex Green could not come to read his paper about his work with slide rules in WWII, which you can find in the proceedings (you might also check JOS, vol 9 no 1, spring 2000); IJzebrand Schuitema provided some personal recollections about Alex Green instead.

It was a great pleasure to listen to these presentations and watch the exquisite slide shows with many pictures of the items discussed, in particular to Ronald van Riet and Robert Bargl, two real aviators sharing their enthusiasm and experience with the IM audience.

You should definitely get the proceedings! Please see the announcement of the CDROM by Otto van Poelje in this bulletin. Otherwise look at www.rekeninialen.org. The CD not only contains the proceedings as a PDF file, but also the presentations, and lots of pictures.

Slide Rule Loan Program

Mike Konshak, Louisville, Colorado

If you are an educator, or know an educator, wishing to give your students a hands-on experience with actual slide rules, Mike Konshak's International Slide Rule Museum will supply quantities of up to 25 used slide rules for temporary use, free of charge, courtesy of several collectors. Requests on school letterheads must be received in order for the slide rules to be shipped. The school will be responsible for postage and safe return of the slide rules in the time period requested.



Contact Mike Konshak : Evenings: 303-673-9853, Days: 303-272-4175, Cell: 303-921-8709, or email: *curator "at" sliderulemuseum.com*

If you are a collector who wishes to participate in this program by furnishing slide rules for loan, please let us know. We are looking for more international contacts. We currently have slide rules in the USA and Australia available for loan.

New Slide Rule Book: K+E Salisbury Products Division Slide Rules

Editors

The new book *K&E Salisbury Products Division Slide Rules* by Joe Soper is now available from The Oughtred Society, printed in 2007.

Joe's 29 years with K+E, including those as manager of the Salisbury Products Plant, provides us a unique opportunity to learn from his experiences.

This book is a story told by Joe Soper as if he were



sitting in your living room talking with you. The story is packed with human interest while providing many fascinating details of slide rule production at the Salisbury plant. There is something for everybody. How plastic slide rules were made by K&E is the main theme but along the way there are many details about how the scales were laid out, how the molding masters were made and many other production details. The bizarre story of the Analon is finally told by someone who was there. How K&E managed the design and introduction of a new major slide rule (the Deci-Lon) is told. The book contains details of K&E history which have not been written before.

Even if you are not a K&E enthusiast, this book will provide much valuable information and answers to many of your questions.

Size : 8½" X 11". 145 pages. Soft cover. Contains 102 photos, many in color. Price : \$39.00 plus shipping. Visit www.oughtred.org to order.

Slide Rule Tips, Tricks, Shortcuts and Clever Methods

Gary Flom, Stockbridge, Georgia



Finding the three cube roots of 8.

We know the real cube root is 2, but what are the two complex cube roots of 8?

Think of an equilateral triangle (T) centered at the origin with one vertex of T at the point (2,0) . If we compute the coordinates of the other two vertices, we will be finding the two complex cube roots of 8.

Let's find the " top left " vertex of T . Call this point Cr1.

If you sketch this, you can see that you form a 30-60-90 triangle with the vertices as : the origin, Cr1, and the point where T intersects the (negative) "x" axis.

To get the x coordinate of Cr1, solve : $x / 2 = \cos 60$ degrees.

We find $x = 1$. Since Cr1 is in the quadrant where x is

neg
(and y is pos) , we write this as : -1.

To get the y coordinate of Cr1, solve : $y / 2 = \sin 60$
degrees.

We find $y = 1.73$.

Now, we may write a complex cube root of 8 using this x
and y,
with the y being the imaginary part of the root.

That is :

cb rt of 8 = $-1 + 1.73i$.

And by symmetry, which is apparent
by our graph, the other complex cb rt of 8 is :

$-1 - 1.73i$ since the other vertex of T has the
coordinates $(-1, -1.73)$
