

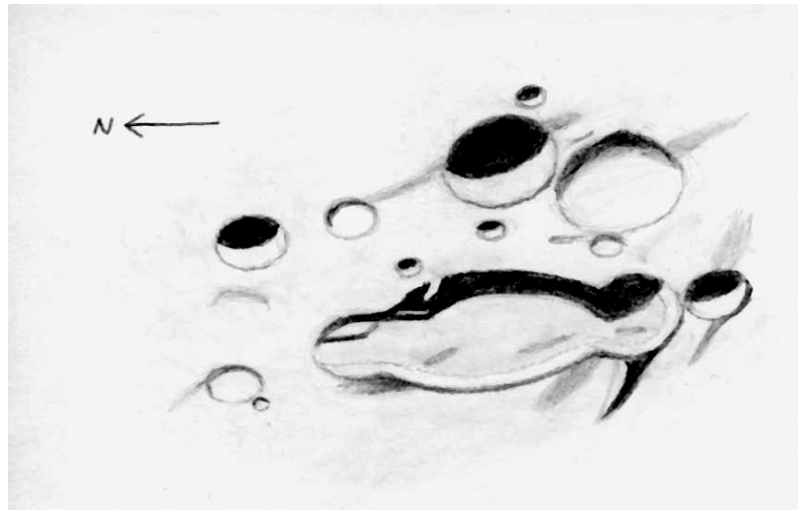


# THE LUNAR OBSERVER

RECENT BACK ISSUES: [http://www.zone-vx.com/tlo\\_back.html](http://www.zone-vx.com/tlo_back.html)

A PUBLICATION OF THE LUNAR SECTION OF THE A.L.P.O.  
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## FEATURE OF THE MONTH - AUGUST 2006



### RHEITA E

Sketch and text by Robert H. Hays, Jr. - Worth, Illinois, USA  
March 5, 200 - 01:15 to 01:45 UT  
15cm Newtonian - 170x - Seeing 7-8/10

I sketched this crater and vicinity on the evening of March 4, 2006 after observing two occultations. This feature is located amid a jumble of craters south of Mare Fecunditatis. This is an elongated crater that appears to be the result of at least three impacts. The north and south lobes are about the same size, but the southern lobe is definitely deeper. The central portion is about the size of the north and south lobes combined. There are some bits of shadow on the floor, but I saw no obvious hills or craters there. I have drawn the shadowing within and around Rheita E as I saw it. There is an obvious ridge extending westward from the south lobe. The crater Rheita F is adjacent to the south lobe of Rheita E, and has a strip of shadow parallel to the ridge from Rheita E. Rheita M is the large, shallow crater east of Rheita E's south end, and Rheita N is the small, shallow pit between them. Stevinus D is the slightly smaller, but deeper crater north of Rheita M. Stevinus H is the deep crater northeast of Rheita E, and Stevinus G is the shallow crater between D and H. A bit of curved shadow is just west of Stevinus H, and may be a remnant ghost ring. Reichenbach U is the shallow crater (with adjacent pit) north of Rheita E. I drew other strips of shadow and crater pits that are not shown or labeled on the LQ map.

## AN INVITATION TO JOIN THE A.L.P.O.

*The Lunar Observer* is a publication of the Association of Lunar and Planetary Observers that is available for access and participation by non-members free of charge, but there is more to the A.L.P.O. than a monthly lunar newsletter. If you are a non-member you are invited to join our organization for its many other advantages.

We have sections devoted to the observation of all types of bodies found in our solar system. Section coordinators collect and study members' observations, correspond with observers, encourage beginners, and contribute reports to our Journal at appropriate intervals.

Our quarterly journal, **The Strolling Astronomer**, contains the results of the many observing programs which we sponsor including the drawings and images produced by individual amateurs. Several copies of recent journals can be found on-line at: <http://www.justfun.org/djalpo/> Look for the issues marked FREE, they are not password protected. Additional information about the A.L.P.O. can be found at our website: <http://www.lpl.arizona.edu/alpo/> Spend a few minutes browsing the Section Pages to learn more about the fine work being done by your fellow amateur astronomers.

To learn more about membership in the A.L.P.O. go to: <http://www.lpl.arizona.edu/~rhill/alpo/member.html> which now also provides links so that you can enroll and pay your membership dues online.

## **LUNAR CALENDAR - AUGUST 2006 (UT)**

02 . . . . . 08:00 . . . . . Moon 4.6 Degrees SSW of Jupiter  
02 . . . . . 08:45 . . . . . First Quarter  
09 . . . . . 10:55 . . . . . Full Moon  
10 . . . . . 19:00 . . . . . Moon at Perigee (359,750 km - 223,538 miles)  
11 . . . . . 06:00 . . . . . Moon 0.4 Degrees SSW of Uranus  
16 . . . . . 01:52 . . . . . Last Quarter  
22 . . . . . 06:00 . . . . . Moon 2.9 Degrees NNE of Venus  
22 . . . . . 16:00 . . . . . Moon 2.4 Degrees NNE of Saturn  
22 . . . . . 23:00 . . . . . Moon 1.5 Degrees NNE of Mercury  
23 . . . . . 19:09 . . . . . New Moon (Start of Lunation 1035)  
25 . . . . . 13:00 . . . . . Moon 0.5 Degrees SSW of Mars  
26 . . . . . 02:00 . . . . . Moon at Apogee (406,269 km - 252,444 miles)  
29 . . . . . 22:00 . . . . . Moon 4.8 Degrees SSW of Jupiter  
31 . . . . . 22:56 . . . . . First Quarter

### **When submitting observations to the A.L.P.O. Lunar Section**

In addition to information specifically related to the observing program being addressed, the following data should always be included:

Name and location of observer  
Name of feature  
Date and time (UT) of observation  
Size and type of telescope used  
Orientation of image: (North/South - East/West)  
Seeing: 1 to 10 (1-Worst 10-Best)  
Transparency: 1 to 6  
Magnification (for sketches)  
Medium employed (for photos and electronic images)

# **A brief history of the Alpine Valley, with a new insight based on the observations of J.H.Schroeter.**

**By Nigel Longshaw - Chadderton, Lancashire, England**

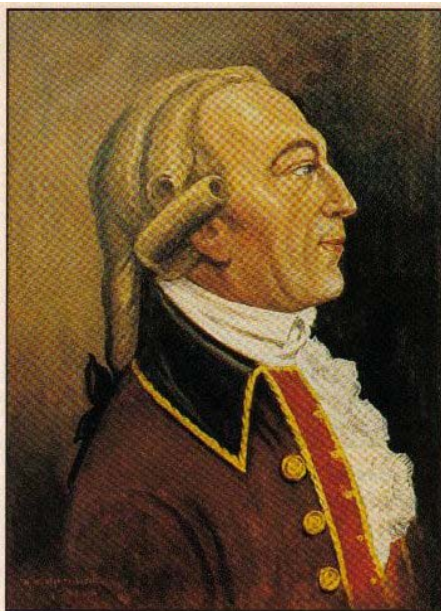
## **Introduction**

The form and features which make up the morphology of the Lunar Alpine Valley will be familiar to the majority of today's amateur astronomers, but this was not always the case.

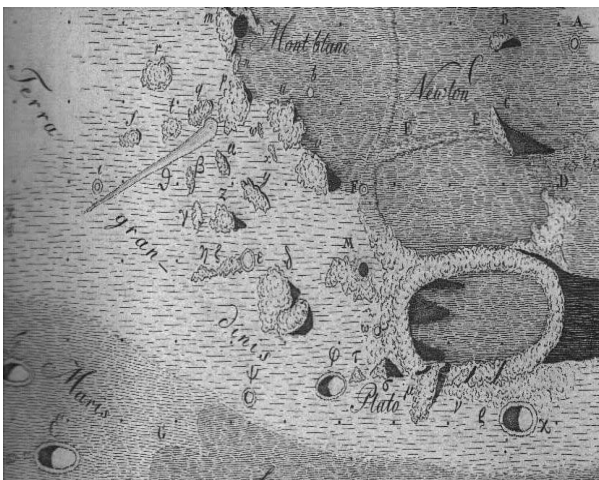
The valley was first delineated, in a recognizable form, by the Italian astronomer priest, Francesco Bianchini in 1727, and further depicted in a rather stylized form on Melchior a Briga's map of 1747.

As the years passed, and better quality instruments became available, scrutiny of the lunar surface became the mainstay of many dedicated and accomplished astronomers.

J.H.Schroeter compiled a drawing of the region around Plato, including the Alpine Valley, for plate XXI in volume 1 of his "Selenotopographische Fragmente" 1791.



**“The astronomer of Lilienthal”  
J.H.Schroeter (1745-1816)**



**The area around Plato  
and the Alpine Valley as depicted by  
Schroeter in volume 1 of  
“Selenotopographische Fragmente” 1791**

The maps of the Moon by J.Madler and W.Beer 1837, W.G.Lohrmann 1878 and others which followed depicted the valley in varying degrees of detail.

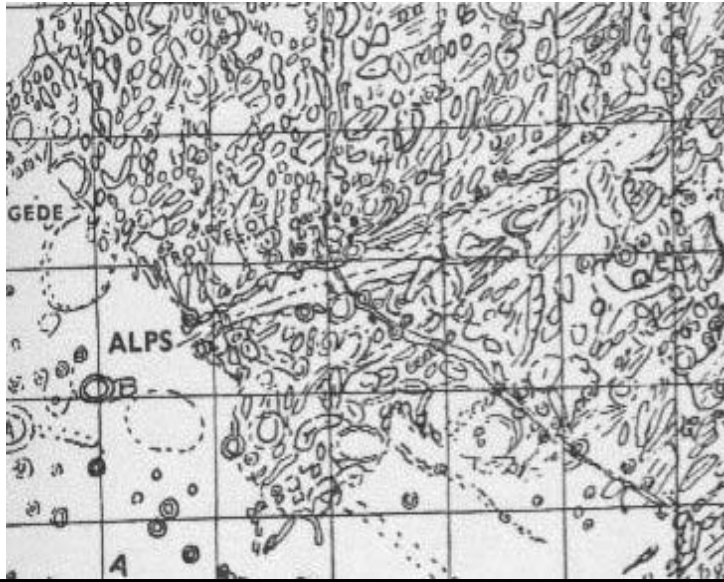
In their book “The Moon, considered as a Planet a World and a Satellite”, 1903 edition, J.Nasmyth and J.Carpenter found,” *when examined under favourable circumstances, with a magnifying power of from 200 to 300, it is seen to be a vast flat-bottomed valley bordered by gigantic mountains, some of which attain heights upwards of 10,000 feet*”. There is no mention of any features on the valley floor, even though the observations were probably made with either Nasmyth’s 20 inch reflector or the eight inch refractor he acquired from Cooke of York in 1860.

Edmund Neison’s monumental work “The Moon, and the condition and configuration of it’s surface” 1876, includes a complete description of the feature, in part of which Neison describes an “*immense valley-cleft*” where “*on all sides from the high plateau of the Alps, branch valleys and ravines open into the principal valley*”.

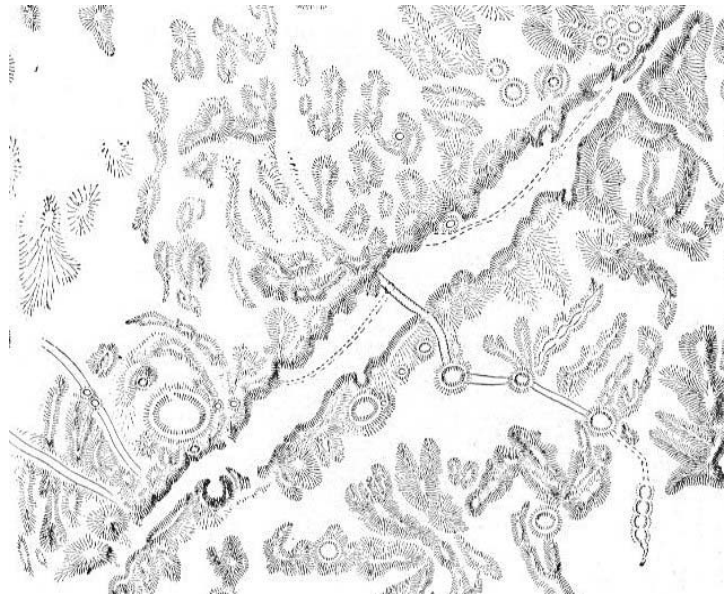
In his book “The Moon”, published in 1895, Gwyn Elger’s description is entitled “*The Great Alpine Valley*”. He describes the feature as “*a great wedge shaped depression cutting through the Alps*”. Further, he takes up T.W.Webb’s description of “*a grand amphitheatre*” which forms the “*bowl shaped*” Southern end of the valley. Elger takes us into the valley at the “*entrance*” to the “*amphitheatre*” and goes on to describe “*the outlook of an observer would be limited by some of the loftiest peaks of the Alps, whose banks form the boundary of the enclosure, through which however, by at least three narrow passes, he might perchance get a glimpse of the Mare Imbrium beyond*”.

Walter Goodacre, director of the B.A.A. Lunar Section for some 40 years, provided, as an appendix, a revision to the section relating to the Moon in T.W.Webb’s, “*Celestial objects for common telescopes*” Volume 1, which appeared as the sixth edition in 1917. In this revised section Goodacre states “*Prof. W.H.Pickering has found a delicate cleft running down the centre of the valley, visible only in the largest telescopes*”.

Describing the Alpine Valley in their 1955 book, “The Moon”, H.P.Wilkins and P.Moore also indicate that Prof. W.H.Pickering “*found a cleft running down the centre, and intersecting some minor pits*”. Wilkins goes further and says he has found that, “*Pickering’s cleft*” is “*nearer to the South than the North side of the valley*”. In his short paper entitled “The Alpine Valley” which appeared in the September 2004 issue of the A.L.P.O. publication “The Lunar Observer”, Rik Hill quotes from a letter he received from Patrick Moore in which he writes, “*shown here is a slender white line that runs almost the entire length of the Alpine Valley’s flat floor. This is the delicate rille discovered by W.H.Pickering in 1891 with a thirteen inch refractor in Peru*”. Richard Baum’s kind assistance in preparation of this paper has revealed the following passage which appeared in “Annals of the Astronomical Observatory of Harvard College, vol. XXXII Part 1 (1895)” and reads; “*the valley of the Alps can hardly be classed as a rill, although this was done by Schmidt. Along its bottom, however, lies a rather delicate rill, perfectly straight and uniform, which I have not seen previously described and which forms a pretty test for definition*”.



**The Alpine Valley as depicted by H.P. Wilkins in his “Moon Maps” published in 1960 by Faber and Faber.**



**Philip Fauth’s drawing of the Valley from “The Moon in Modern Astronomy” 1907.**

**A chance discovery.**

It is generally accepted that it was indeed Prof. Pickering who first observed the central “cleft” (what we now know as a rille) in the Alpine Valley, however this is not the end of the story and I would now like to take the reader back to the observations of J.H.Schroeter briefly mentioned earlier.

Using Newtonian reflectors of 4.75 and 6 inch diameters, optics by William Herschel, a 9.5 inch reflector, and a massive 19.25 inch aperture reflector, the latter being of rather poor optical quality and described as an “*unwieldy contraption*”, J.H.Schroeter published his observations of the Moon in two great works, “*Selenotopographische Fragmente*”, Volume 1 1791, and Volume 2 1802. I was fortunate recently to “discover” copies of these rare works in the library of my local astronomical society, (for a detailed account of these books and others discovered at the same time see the web site of the Manchester Astronomical Society, [www.manastro.co.uk](http://www.manastro.co.uk)). I have had the pleasure of examining Schroeter’s books in great detail, and was particularly interested in his drawing of the Alpine Valley, (which Schroeter designates with the Greek letter Theta) on *Table LXX figure 36* in volume II of his “*Selenotopographische Fragmente*”, indicating as it does a faint broken line along the valley floor, and extending into the “bowl shaped” Southern end of the valley.

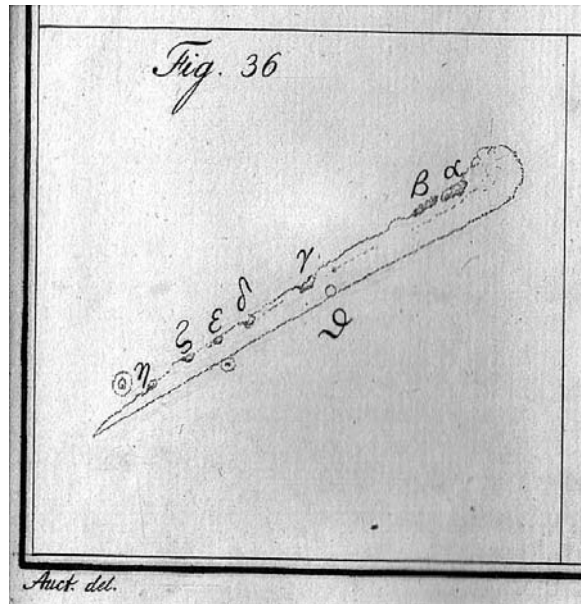
### **Schroeter’s observation of the Alpine Valley.**

Schroeter’s lengthy description which accompanies his drawing of the Alpine Valley (fig.36) is, in parts, difficult to interpret. Schroeter’s work was written in “a fantastically unreadable style” (according to the accomplished historian J.Ashbrook), “its pondering, rambling prose, was replete with undigested thoughts and redundancies”. However with the use of an on-line text translator, and liberal reference to a German dictionary, I have managed to pick out the salient points which I convey as follows:

The observation was made on 8<sup>th</sup> November 1796 using Schroeter’s 13 foot reflector (this would have been his nine and a half inch aperture reflector which was considered to have unusually high image definition, and was “crucial for the identification of small details on the surface of the Moon”). Schroeter says the area under observation on November 8<sup>th</sup> appeared, “*distinct, particularly the well know wedge form (Theta)*”. He goes on to say “*Mr. Harding (Schroeter’s assistant at the observatory) has noticed several mountainous inequalities on the South West illuminated slope*”. Which Schroeter confirmed and designated Alpha, Beta, Gamma, Delta, Epsilon, Zeta and Eta on fig. 36. He also mentions noting a small crater “*at the internal North Eastern slope of Theta*” and a similar feature outside the slope which he had not detected previously. Schroeter goes on to describe other similar valleys he had observed on the Moon, and had come to the conclusion these were not the creations of “Selenites” (creatures which Schroeter believed inhabited the Moon) but “*by nature are created*”.

Schroeter goes on to say that “*in addition to the confirmed observation*” he saw “*such a fine object, in and at the deep rille Theta*”. His reference to a “fine object” seems to indicate he was unsure of the nature of the feature he glimpsed, but was confident enough to depict something of it on his drawing of the valley.

It is unclear from the remainder of the text whether Schroeter continues to describe observations made on the same evening, or if he is referring to subsequent observing sessions. However he continues by suggesting that even under similar “*favorable circumstances*”, the observation of these features is dependant on whether “*the atmosphere is favoring it*”. Using his 10 foot Dolland, 13 and 27 foot reflectors “*under the best possible circumstances*” “*nothing of it came to appearance*”. Schroeter’s final comments will be familiar to anyone who has studied the Lunar surface in detail when he says “*without all reason one becomes taken into such traps, because such fine objects are again visible only sometimes after their discovery*”.

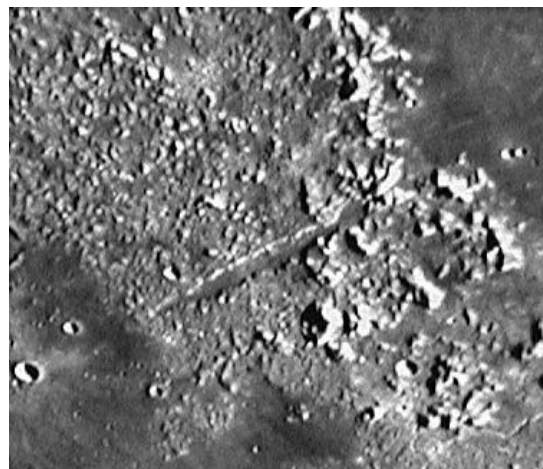


**Fig. 36 – J.H.Schroeter’s drawing of the Valley (Theta)  
 from Table LXX volume II of “Selenotopographische Fragmente” 1802.  
 Note the “broken line” between Delta & Gamma, again between Gamma & Beta and alongside  
 Beta and Alpha, extending into the “bowl” of the valley. (Schroeter seems to indicate, with  
 greater confidence, the sections of the rille which are formed by smaller coalesced craters).**

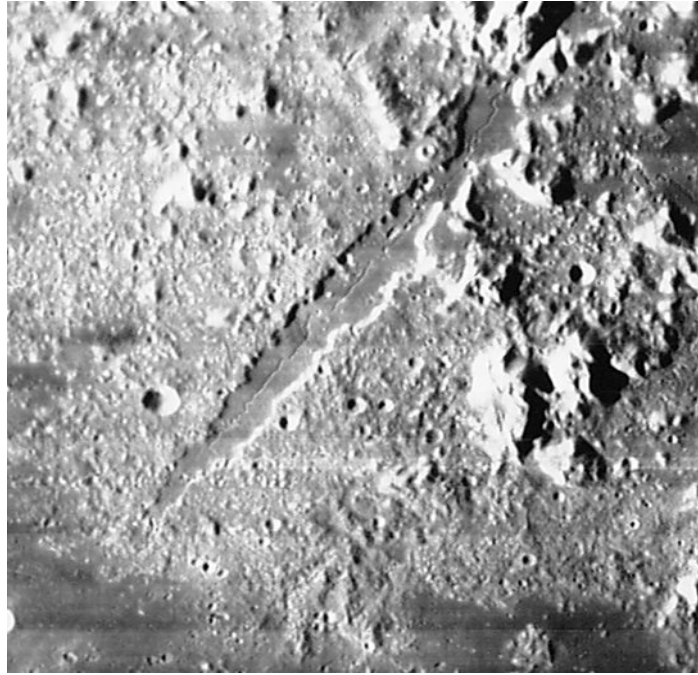
Schroeter’s depiction of a faint dashed line on the valley floor, and his written notes, seem to indicate he was aware of certain features at the limit of his perception. Examining the remainder of his drawings, in both volumes of his work, one cannot find similar features depicted in the same manor. There is an overwhelming feeling that, whilst Schroeter was trying to convey something of what he saw in the Alpine Valley, he was unsure of its true nature. The significance of positioning the feature in the drawing as he did, close to the center of the valley, allowing for error, poor draughtsmanship and inferior definition of the telescopes he used, means we can probably reconcile his depiction with the known rille. Whilst we cannot be unequivocal in these instances it is safe to say Schroeter had a significant insight into the finer details on the floor of the Alpine Valley sometime before 1802, some fifty six years before the birth of W.H.Pickering.

**Conclusion**

**Consolidated Lunar Atlas photo  
 number C2597 1966 Sept. 5<sup>th</sup>  
 Colongitude 155.6 degrees.**







**Extract of Lunar Orbiter medium resolution photo. Number IV-115-H3**



**General view of the Alpine Valley on 2005 June 14<sup>th</sup>  
with Meade ETX 125mm x209, 21:15-21:30 U.T.**

For today's amateurs with small to medium apertures the rille which runs along the floor of the Alpine Valley is one of the more difficult features of the Moon to observe successfully. Its detection requires a combination of excellent optics, steady seeing, visual acuity and favorable illumination. The prowess of J.H.Schroeter as a visual observer cannot be denied, and in this regard I feel he deserves greater recognition for his contributions to Selenology. I have tried, unsuccessfully, on several occasions to visually observe the central rille of the Alpine Valley; if someday I am fortunate to do so I am sure my thoughts will be first of J.H.Schroeter.

### **References.**

R.Hill "The Lunar Observer" Sept. 2004.

J.H.Schroeter "Selenotopographische Fragmente" Vol.1 1791 and Vol 2 1802.

E.Neison "The Moon, and the condition and configuration of its surface" 1876.

T.G.Elger "The Moon, a full description and map of its principal physical features" 1895

J.Nasmyth and J. Carpenter "The Moon considered as a planet, a world, and a satellite" 1903 edition.

P.Fauth "The Moon in Modern Astronomy" 1907.

H.P. Wilkins and P.Moore "The Moon" 1955.

H.P. Wilkins "Moon Maps" 1960

T.W.Webb "Celestial objects for common telescopes. Vol 1: The Solar System" Dover reprint of the 1917 edition.

E.A.Whitaker "Mapping and naming the Moon" 1999.

On Line versions of Lunar Orbiter and Consolidated Lunar Atlases.

Finally my thanks go to Richard Baum for his personal correspondence and encouragement even in the most difficult of circumstances.....Nigel Longshaw.

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# **A Tale of Brothers and Craters:** **The story behind the renaming of Crater Pickering,** **Messier A, and of the Pickering brothers** **By Mardi Clark - Tacoma, Washington, USA**

The lunar craters Pickering and Messier A have an interesting and rather uniquely interwoven history. Observers may notice that lunar cartography prior to the mid 1960's listed Messier's companion crater as Pickering, or Wm. Pickering. This official designation was later reversed after this crater pair was recognized as oblique impacts and determined to be physically related. And so, as a result, crater Pickering was re-named back to Messier A to better reflect their physical relationship during the IAU meeting of 1964. At the same meeting they christened another crater near Horrocks (see image for location) in continued honor of William Pickering; Henry Pickering was first officially added as a co-honoree at this time as well. The crater Pickering was originally named in honor of William H. Pickering during the 1935 meeting of the IAU, an especial honor as we shall later see.



**Pickering Crater's present location**

William Henry Pickering and his older brother Edward Charles Pickering were both notable American astronomers and both were associated with Harvard University virtually their entire professional lives. Both began their careers as instructors in the Physics department at MIT and both were later directors of Harvard Observatory facilities; Edward served as the Director of the principle observatory for over four decades and younger brother William served as the director of several Harvard substation observatories; one in Jamaica, another near Mt. Wilson and another, Boyden Station in Peru. Both were widely esteemed astronomers in their time and both contributed greatly to the science and were widely recognized, contemporaneously, through many awards and honors awarded internationally.



**Edward, MIT archives**



**William, unattributed**

One of the truly foresightful actions Henry Pickering is considered responsible for on Harvard's behalf were his utilization and acceptance of women's efforts on the Harvard Observatory department staff at a time when little acceptance or opportunity for women otherwise existed within the field of astronomy. His efforts in mentoring women of his acquaintance he considered promising were widely known at the time--one started out as a maid in his home, Williamina Fleming, who discovered of the Horse Head nebula in 1888! Henry's open-mindedness towards the potential of womankind continued to pay off handsomely--as the accomplishments of other members of "Pickering's Harem" (as they were often lightheartedly called) such as Henrietta Swan Leavitt, Annie Jump Cannon and Antonia Maury can amply attest. An amusing old photo of the enlightened Harvard Observatory staff whooping it up in 1929 is shown below:



**Harvard Observatory archives**

A less kind fate, which we will try to rectify here, is threatening Henry's younger brother's reputation and place in history, William Pickering. Unfortunately, thanks to oddly misleading & inaccurate accounts of William Pickering's life, character and accomplishments widely circulating on the internet as fact <http://physics.ccri.edu/keefe/WHPickering.htm> (Example) , added to a distant-in-time third-hand account that alleged Pickering "died a bitter man" and unappreciated by his peers (Sheehan, The Planet Mars) the younger Pickering's reputation is being unjustly tarnished. That such accounts benefit primarily from a lack of appreciation for the times in which this man lived and worked, and rely overly on the arrogance of hindsight in assailing Pickering's ideas as well as misinformation, is self-evident. Such disparaging characterizations as these upon Pickering constitute a tragic defamation of one of America's most notable astronomers and lunar observers.

In point of fact, William Pickering was so well thought of by Harvard that upon his retirement he was awarded Professor Emeritus status and also allowed unfettered & private use of the observatory he established on Harvard's behalf in Jamaica, until the end of his life. William Pickering had many notable accomplishments to his credit: An avid photographer, he created the first useable and complete large photographic atlas of the Moon using the 12" 135foot focal length telescope at Harvard's Jamaica observatory. All areas of the near face of the Moon were covered using five angles of illumination, a technique presaging Kuiper's seminal Consolidated Atlas of the Moon of the early 1960's and Henry Hatfield's famous atlas for amateurs which came out a few years later. William Pickering discovered Phoebe, a moon of Saturn and presaged the existence of both Pluto and Kuiper Belt objects generally long before they were discovered to actually exist. He played a pivotal role in encouraging his brother, as Director of Harvard Observatory, to embark upon assembling the most ambitious and extensive set of stellar photographic plates in existence beginning in the late 19th century (The Harvard College Observatory plate collection). William assembled and headed up the photographic team which began this task in the 1880's, laying the groundwork for a collection of now historic plates that number over half a million. William also helped Percival Lowell select the site on which Lowell observatory was later established and also was the first to suggest Mt. Wilson as the site for the observatory of that name, having earlier established a yet another Harvard substation observing facility nearby. He was the one of the first of the few individuals in history to be accorded the honor of having a lunar crater named for him while still living, awarded by his peers in the IAU in 1935, three years before his death. With these facts in mind it becomes very difficult to credit Sheehan's assertions that "Most professional astronomers paid little attention to Pickering and he died, a bitter man...".

Far from being a 'crackpot' as some internet gadflies allege, he in fact professionally disassociated himself from Percival Lowell when the latter eventually became infatuated with the idea of intelligent, rather than primitive forms of life on Mars (an idea not wholly dismissed to this day). Pickering's ideas relevant to primitive forms of life upon the Moon as an explanation for anomalous changes in albedo within certain lunar craters as the lunar day progressed may seem outlandish today-- but it should be remembered that as late as the 1960's the possibility of lunar life forms was still taken seriously enough by science to result in establishment of the extensive decontamination and quarantine protocols the first returning Apollo crews were put through upon return from the Moon. Pickering is often derided these enlightened days for his idea that there might possibly be a form of animal life extant upon the Moon-- Pickering's migrating Moon bugs. But when we look at his actual papers on the subject, he sounds less the lunatic and more a typical early 20th century scientist instead, inevitably tied to the not-so-advanced state of biological understanding of his day in an attempt to formulate hypotheses to explain anomalous observations of changing lunar albedo:

"A few words may now be said on the chief objection that has been raised to the theory that these changes are due to vegetation, namely the lack of water on the Moon. While it is true that water cannot exist in the free state under a pressure that is less than 4.6 millimetres, and while it is also true that no such pressure apparently exists upon the Moon's surface, still there is nothing to prevent water occurring

beneath the surface of the ground, retained by the capillary action of the soil. It has been shown by Cameron that water can be extracted by dry soil from a membrane against a calculated osmotic pressure of 36 atmospheres, or about 500 pounds per square inch. Since on the Earth plants can live on moisture which they have in turn extracted from such a soil, there seems no difficulty in understanding how they could live on the Moon, in a soil which could thus retain considerable moisture in spite of the low atmospheric pressure. Indeed, if it were possible to conceive of an organism which could absorb oxygen directly from vegetation, and store it during the lunar night, there is no reason why animal life should be impossible upon the Moon." --Annals of the Harvard College Observatory Vol. LIII No. IV 1905.

William Pickering was, in fact, one of turn-of-the-century America's pre-eminent astronomers, respected & oft honored by the various professional societies of his peers during his lifetime, and recipient of many coveted professional honors throughout his lifetime. He further often acted as an especial professional friend to amateur astronomer's worldwide. He and his brother can thus be seen to be quite deserving of the honor represented by their little 15kilometer namesake crater on the Moon, regardless of it's current or past position!.

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--Information on William Pickering was based on the notices of the Royal Astronomical Society and the obituary written by Leon Campbell of Harvard Observatory at the time of William Pickering's death as published by the Astronomical Society of the Pacific. Information on Henry Pickering was obtained from the same publications.

<http://articles.adsabs.harvard.edu/full/seri/MNRAS/0099/0000329.000.html>

<http://articles.adsabs.harvard.edu/full/seri/PASP./0050/0000122.000.html>

<http://articles.adsabs.harvard.edu/full/seri/MNRAS/0080/0000362.000.html>

<http://articles.adsabs.harvard.edu/full/seri/PASP./0031/0000074.000.html>

Further fascinating biographical information on the accomplishments of the Pickering brothers (and photos and information on the women of Harvard Observatory) can be found at this address:

[http://home.earthlink.net/~astro-app/horsehead/B33-19thC\\_4.htm](http://home.earthlink.net/~astro-app/horsehead/B33-19thC_4.htm)

Further information on the accomplishments of the women of "Pickering's Harem" can be found here:

<http://cfa-www.harvard.edu/~jshaw/pick.html>

## **CALL FOR OBSERVATIONS - FOCUS ON: ATLAS & HERCULES**

*Focus on* is a bi-monthly series of articles which includes observations received for a specific feature or class of features. The subject for the September 2006 edition will be Atlas & Hercules. Observations of all kinds (electronic or film based images, sketches, etc.) are welcomed and invited. Keep in mind that observations do not have to be recent ones, so search your files and/or add this fascinating crater to your observing list and send your favorites to one of the addresses shown in the banner on Page One.

**Deadline for inclusion in the Atlas & Hercules article is Aug. 20, 2006**

# **LUNAR TOPOGRAPHICAL STUDIES**

Acting Coordinator - William M. Dembowski, FRAS

[dembowski@zone-vx.com](mailto:dembowski@zone-vx.com)

## **OBSERVATIONS RECEIVED**

WAYNE BAILEY - SEWELL, NEW JERSEY, USA

Digital images of Plato, Atlas & Hercules, Mosaic of Last Quarter

MICHAEL BOSCHAT - HALIFAX, NOVA SCOTIA, CANADA

Digital image of Atlas & Hercules

ED CRANDALL - WINSTON-SALEM, NORTH CAROLINA, USA\

Digital images of Atlas, Atlas & Hercules

HOWARD ESKILDSEN - OCALA, FLORIDA, USA

Digital images of Atlas & Hercules (2), Schickard to Phocylides

ALEXANDROS FILOTHODOROS - SAMOS, GREECE

Digital image of Northwest Qudrant

ACHILLE GIORDANO - NAPLES, ITALY

Digital image of Werner & Aliacensis

PETER GREGO - REDNAL, BIRMINGHAM, ENGLAND

Sketches of Atlas & Hercules (2), Rabbi Levi & Zagut

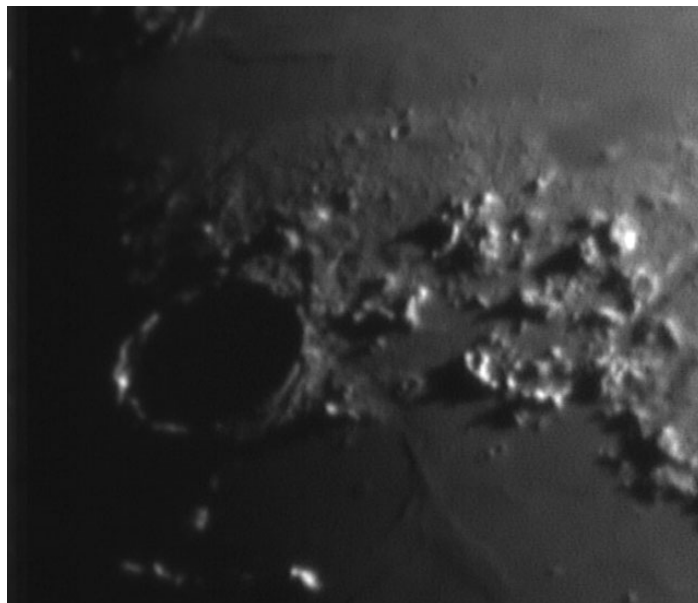
MIKE MATTEI - LITTLETON, MASSACHUSETTS, USA

Digital image of Palus Epidemiarium

ALEXANDER VANDENBOHEDE - GHENT, BELGIUM

Digital images of Mare Nectaris, Gutenberg to Maskelyne, Sabine to Menelaus, Aristoteles and Eudoxus, Fracastorius, Piccolomini, Messier Twins, Sinus Iridum, Lansberg & south, Mare Frigoris and north, Plato & Alpine Valley, Copernicus and west, Kies to Capuanus

## **RECENT TOPOGRAPHICAL OBSERVATIONS**



### **PLATO & ENVIRONS**

**Digital image by Wayne Bailey - Sewell, New Jersey, USA**

**July 4, 2006 - 02:51-02:55 UT**

**11 inch f/10 SCT - IR72 Filter - Philips Toucam**

#### **Observing Notes:**

The bright spot on the west wall of Plato caught my attention. It was much more spectacular visually than it appears on the image. Also the region extending from the southeast wall of Plato to the wrinkle past Pico C, looks more like a buried crater than on other pictures I've seen (Mons Pico and parts of Montes Teneriffe combined with the wrinkle and shadows near Plato's wall seem to trace a circular rim). The circular pattern seems to disappear in images with higher sun angles though, and a quick look through several atlases didn't turn up any mention of a buried crater. My guess is that the impression of circularity is highly dependant on the shadows from the Alps combining with the arc of the wrinkle.

#### **Comments by the Editor:**

This observation is somewhat unusual in that it consists of both a digital image and associated observing notes. (See also Howard Eskildsen's observation of Northern Mare Crisium in last month's TLO.) Although lunar drawings are usually accompanied by such notes, digital images are seldom received with more than their technical information even though both media are enhanced by the observer's impressions at the time they were made. Though certainly not mandatory, imagers are encouraged to also provide their visual interpretations of areas they are observing.



## RECENT TOPOGRAPHICAL OBSERVATIONS

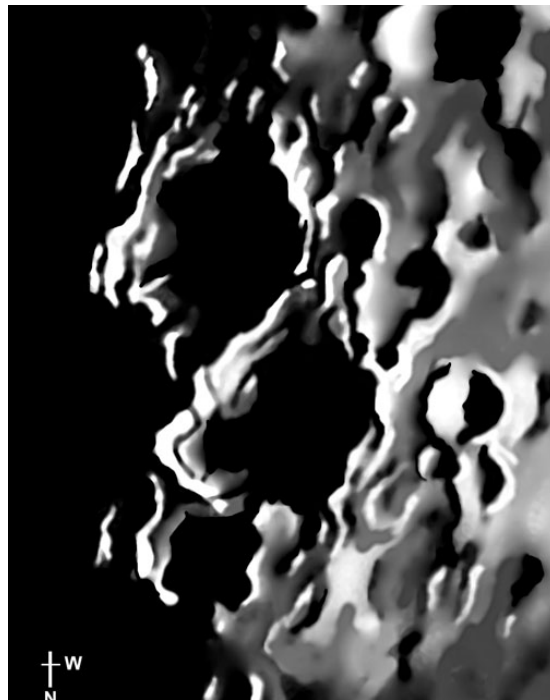


### WERNER & ALIACENSIS

Digital image by Achille Giordano - Naples, Italy

July 17, 2006 - 02:49 UT - Seeing 7/10

ETX125 Maksutov - 2x Barlow - Philips Toucam

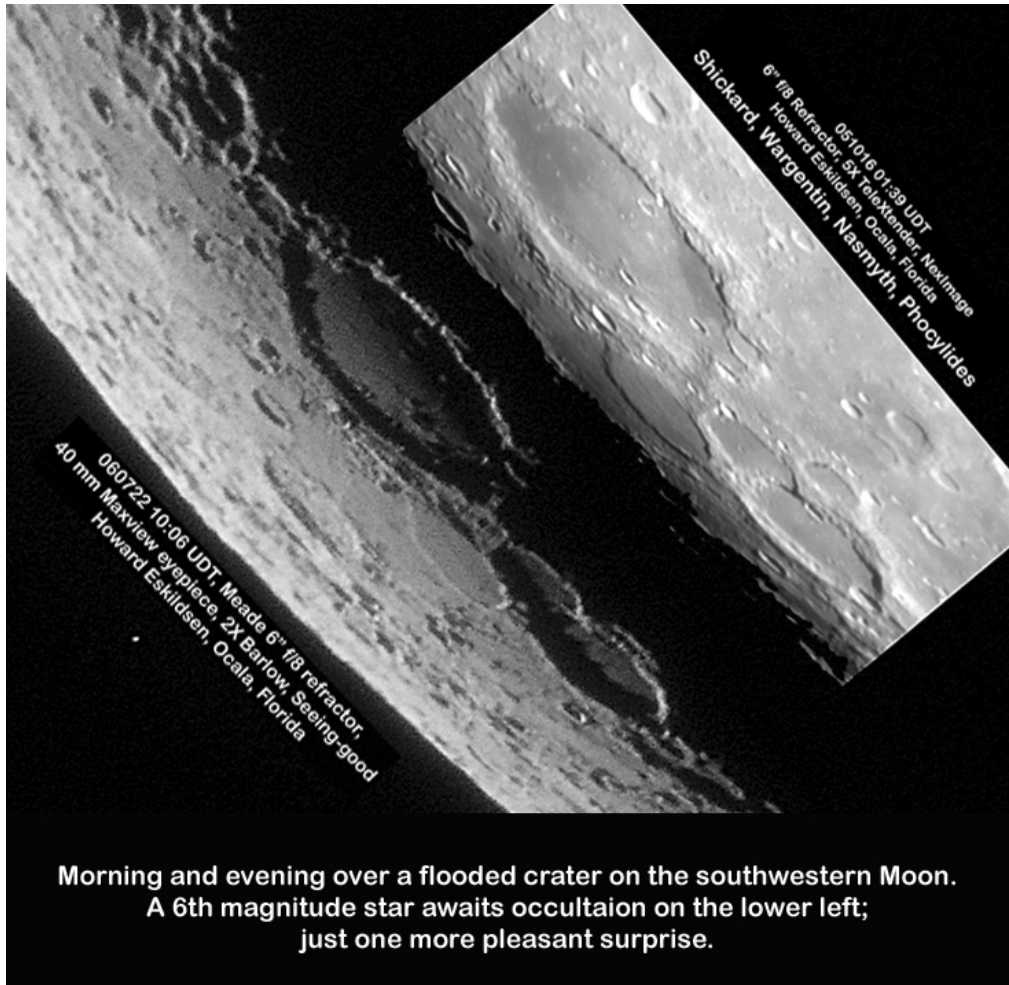


### ZAGUT & RABBI LEVI

Electronic (PDA) Sketch by Peter Grego - Rednal, Birmingham, UK

127mm Mak-Cass - 270x - Seeing AII

## RECENT TOPOGRAPHICAL OBSERVATIONS



### PALUS EPIDEMIARIUM

Digital image by Michael Mattei - Littleton, Massachusetts, USA

July 6, 2006 - 01:30 UT - Seeing: Poor, w/haze

14 inch f/10 SCT - Philips Toucam - 90 sec. run

## RECENT TOPOGRAPHICAL OBSERVATIONS



### LANSBERG & SOUTH

**Digital image by Alexander Vandenbohede - Ghent, Belgium  
June 6, 2006 - 20:30 UT - 20cm f/15 Refractor**



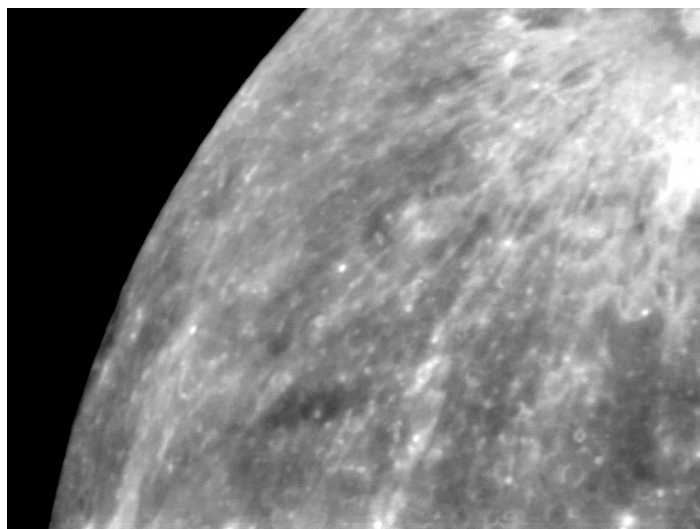
### COPERNICUS & WEST

**Digital image by Alexander Vandenbohede - Ghent, Belgium  
June 6, 2006 - 20:30 UT - 20cm f/15 Refractor**

## **BRIGHT LUNAR RAYS PROJECT**

Coordinator - William M. Dembowski, FRAS

This month we welcome a new astronomical organization to the Bright Lunar Rays Project, the Greek Observational Astronomy Lab (G.O.A.L.). Below is their first contribution to the project; we hope to see many more.



### **RAYS & NUMEROUS BRIGHT SPOTS IN THE NORTHWEST QUADRANT**

Digital image by Alexandros Filothodoros - Samos, Greece

May 13, 2006 - 22:32:50 UT

90mm Mak-Cass - AtikIR-cut Filter - NexImage camera

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### **RECENT RAY OBSERVATION**



### **TYCHO**

Digital image by  
Wayne Bailey

Sewell, New Jersey, USA

April 11, 2006 - 02:46 UT

11 inch F/10 SCT

Schuler IR72 Filter

Philips Toucam

# **LUNAR TRANSIENT PHENOMENA**

Coordinator – Dr. Anthony Cook – [acc@cs.nott.ac.uk](mailto:acc@cs.nott.ac.uk)  
Assistant Coordinator – David O. Darling - [DOD121252@aol.com](mailto:DOD121252@aol.com)

## **LTP NEWSLETTER - AUGUST 2006**

Dr. Anthony Cook - Coordinator

Observations for June were received from: Geoff Burt (Society for Popular Astronomy, UK), Clive Brook (Plymouth, UK) and Gerald North (UK). A combination of the Moon's low altitude and vacations seem to be taking their usual toll on observations at this time of the year. On 2006 June 5th Geoff Burt, a member of the Society for Popular Astronomy (UK), made a sketch of Copernicus at 21:30UT and noted an unusual white spot in the shadow, 2/3 of the way from the central peaks to the north rim. It did not seem to change in appearance during the sketch. An image by Brendan Shaw taken on 2005 Dec 10 at 17:44UT also shows a white spot, but much near the rim - in this instance it is just some highland emerging through the shadow. It is possible that the spot that Geoff Burt draw is similar in origin, but the displacement from the rim is more than in the Shaw image. Could this be due to the difficulty in portraying details inside the crater in a drawing? Whatever the explanation, if you have an image of Copernicus under similar illumination, please let me know as this could prove helpful in verifying the theory.

On 8th June, Clive Brook telephoned me to say that he thought that Aristarchus was shining exceptionally brightly at 20:30-20:45UT. I talked to him on my mobile whilst I dragged my Dobsonian outside to have a quick look. Obviously this is not a good thing to do as my scope had not cooled down, so seeing was very poor, but nevertheless I could confirm that Aristarchus was looking quite bright. However could this be that it was simply the crater emerging from the morning terminator and the slope of one of its walls was reflecting the sunlight well? In these situations, during a phone call such as this, there is often little time to observe myself as it is important to activate other observers immediately. Therefore I telephoned a limited alert to Brendan Shaw and Gerald North, sent a text message to Italian UAI and GLR groups, and emailed David Darling. Unfortunately it was not possible to alert everybody in the short observing window as Clive phoned me back at 21:01UT and said that the effect had already faded! The Moon was too low for Brendan Shaw, and Gerald North was just able to get it low above the horizon (20:57-21:48 UT, 216mm reflector, x93, seeing V), although of course by this time the effect had gone. Gerald emailed his observation and although noting that Aristarchus was bright, he supports my theory and Clive now considers this a possibility too. In future apart from the usual telephone alert system I plan to utilize an automated robotic observatory (See Fig 1) at the University of Nottingham to make rapid response observations using a filterwheel /CCD camera system.



**Fig. 1 - University of Nottingham  
Robotic stand at the Cavendish Laboratories  
June 2006**



**Fig 2 - BAA Exhibition Meeting – Lunar Section**

Finally it was nice to meet so many interested lunar observers at this year's BAA Exhibition meeting in Cambridge, England in June (see Fig 2). I talked with several members who were fascinated by the latest theories on LTP – just have to hope that this translates into extra observations!

Further predictions, including the more numerous illumination only events can be found on the following web site: <http://www.lpl.arizona.edu/~rhill/alpo/lunarstuff/ltp.html>. For members who do not have access to the internet, please drop me a line and I will post predictions to you. If you would like to join the LTP telephone alert team, please let me know your phone No. and how late you wish to be contacted. If in the unlikely event you see a LTP, please give me a call on my cell phone: +44 (0)798 505 5681 and I will alert other observers. Note when telephoning from outside the UK you must not use the (0). When phoning from within the UK please do not use the +44!

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