

# Nantucket: an Astronomical Island



**Dr. Vladimir Strelinski**  
**Maria Mitchell Association**  
**AAVSO Meeting, 10-17-08**





***“I never have forgotten [my father’s] calling me to the door in my eighth year and showing me the planet Saturn.”***

***William Mitchell***

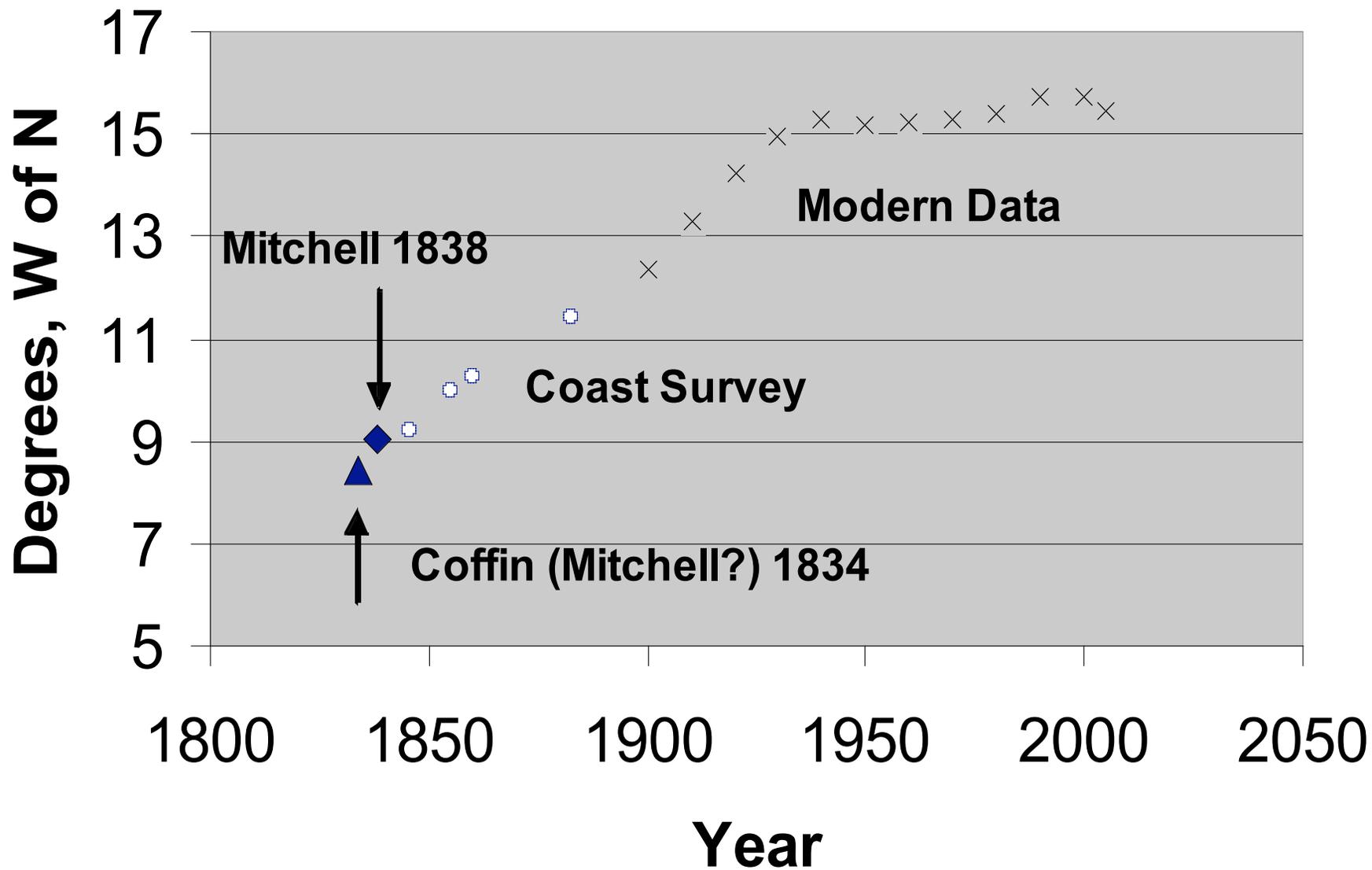
***(1791-1868)***

# Nantucket Mitchell Meridian Stones

1840

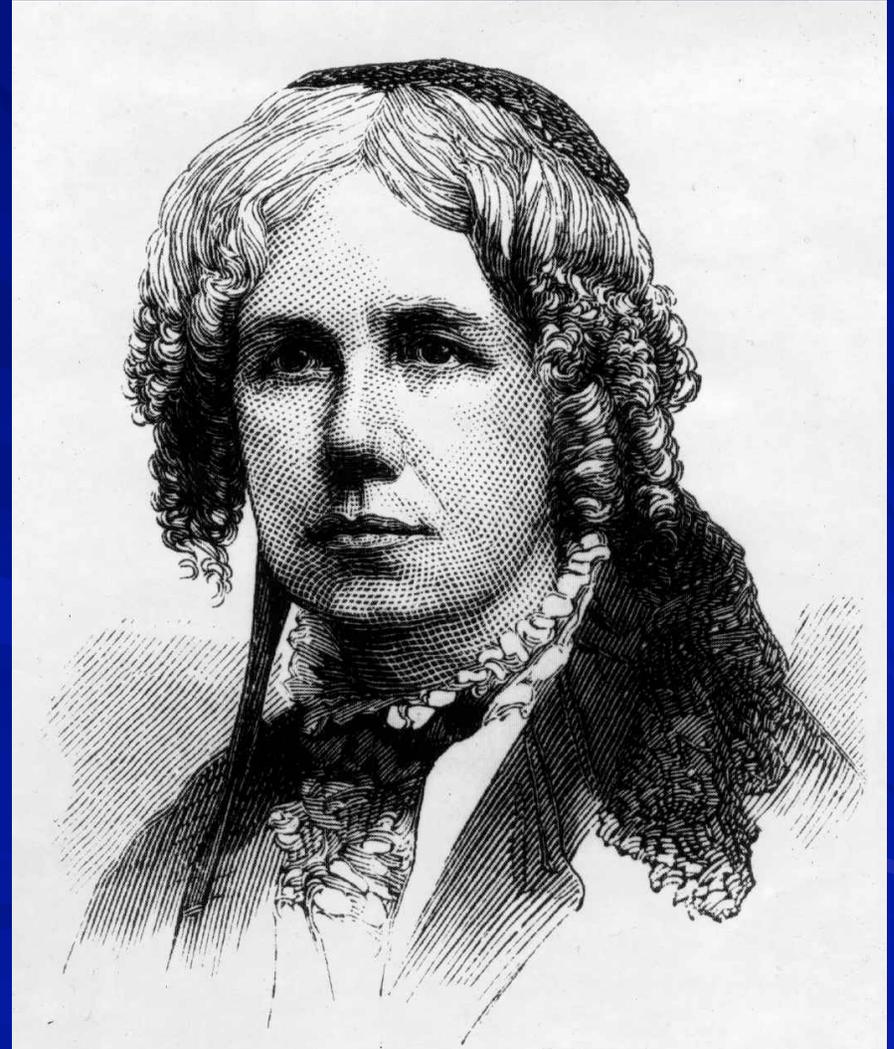


# Magnetic Declination on Nantucket

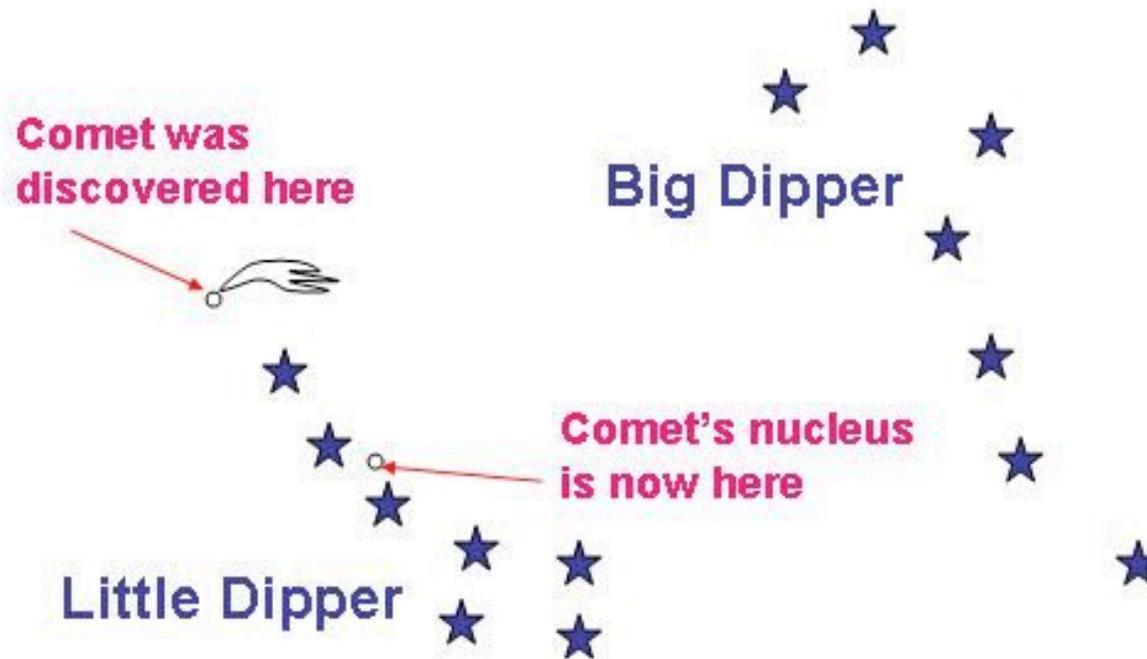


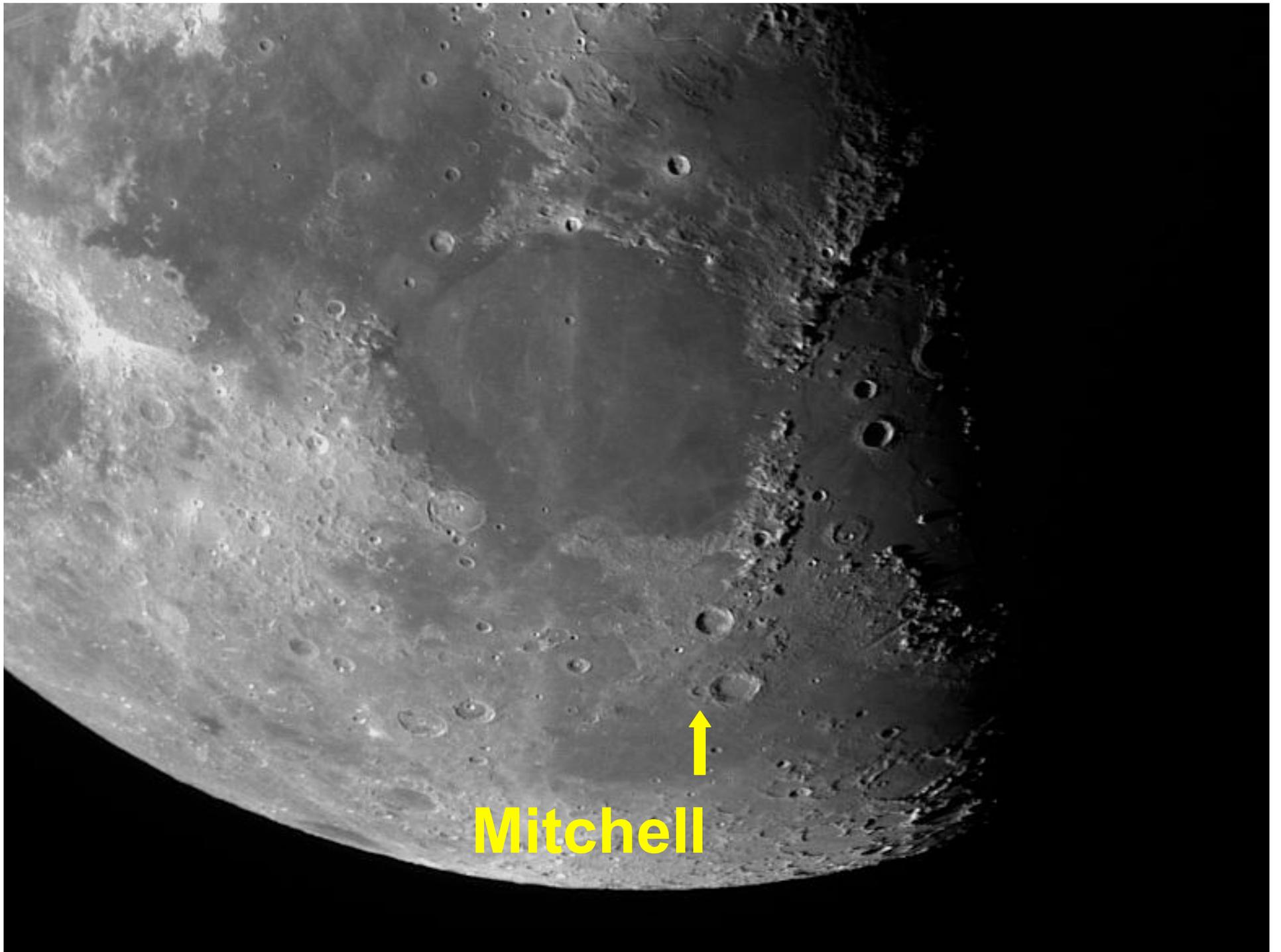
# Maria Mitchell, 1818-1889

- Discoverer of a *telescopic* comet
- Worked for Nautical Almanac
- First American woman professor of Astronomy (Vassar)
- First woman member of NAAS
- A comet, a crater on the Moon, and an asteroid are named after her



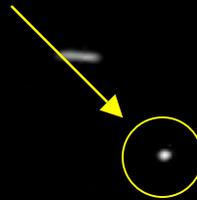
# Comet Mitchell 1847





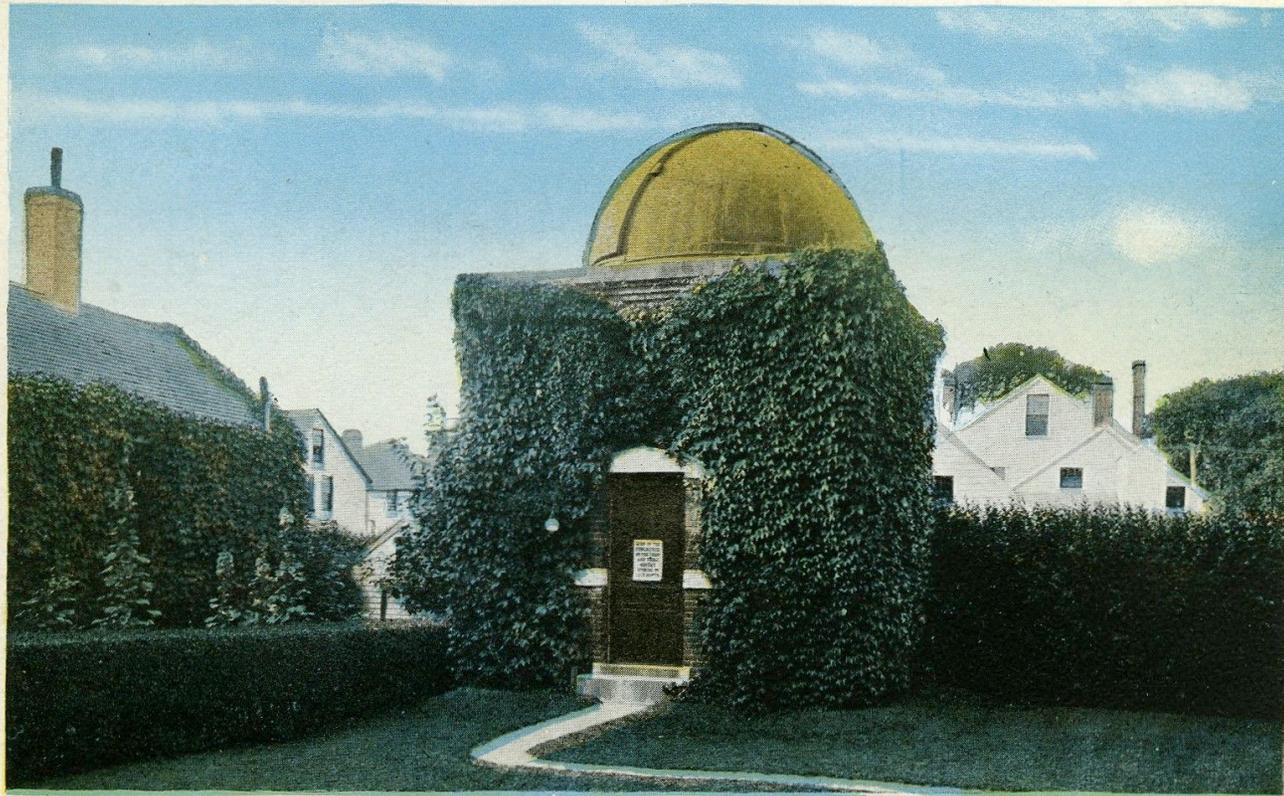
**Mitchell**

Asteroid 1455  
"Mitchella"



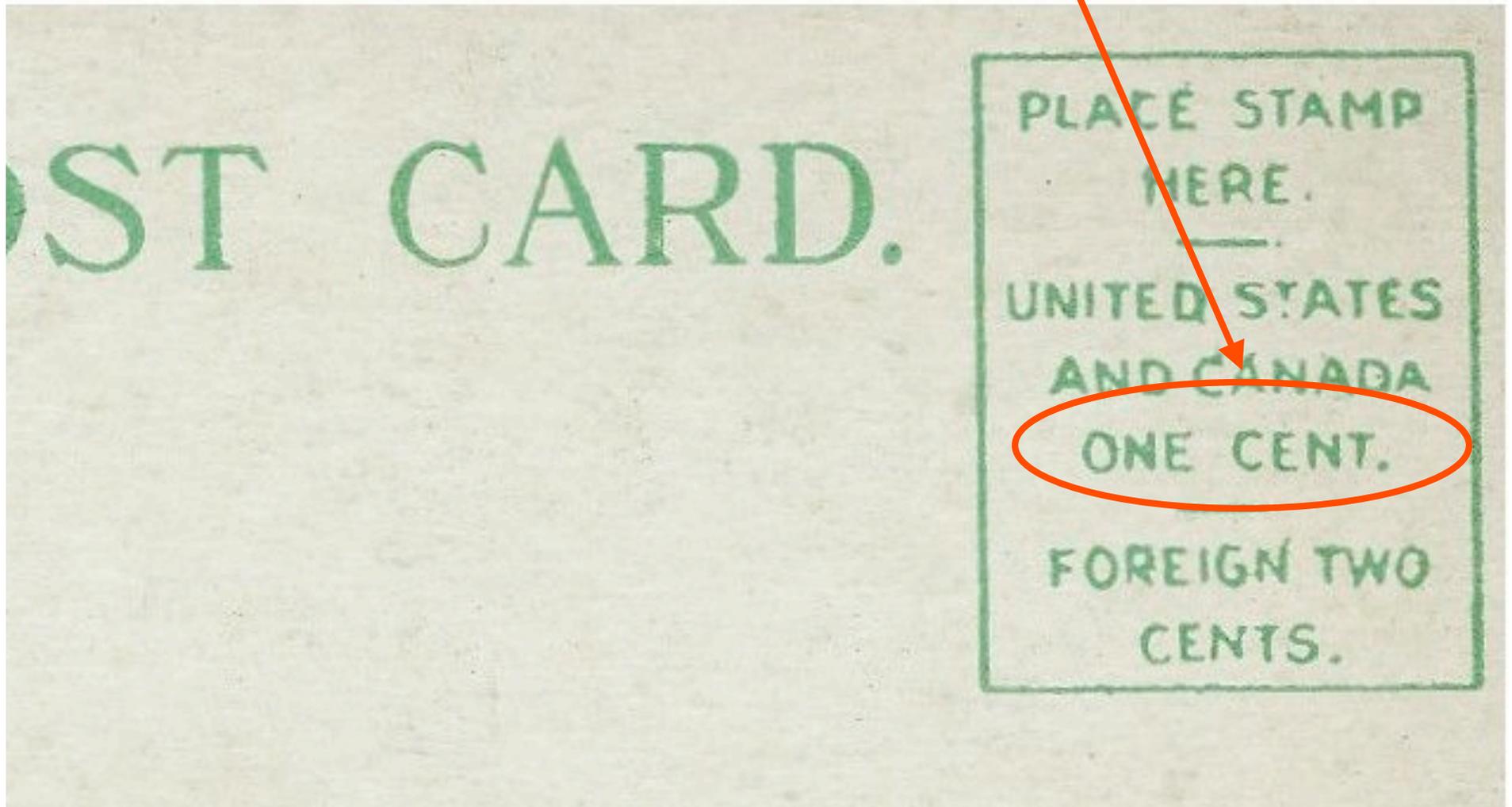
***An old***

***postcard...***



**THE OBSERVATORY AT BIRTHPLACE OF MARIA MITCHELL, NANTUCKET, MASS.**

Another way to check that it was... long, long ago...



**Mary Whitney**  
*First MMA President*



**Annie J. Cannon –**  
*Creator of the MMA  
Astronomy  
Department  
(1906)*



# **Maria's 5" Clark**

**Donated to MMA**

**by William Rollins (1906)**



**Margaret Harwood,  
1<sup>st</sup> MMO Director (1916-1957)**



# The 7.5" Cooke-Clark Telescope



# Eros in January 1931

(Margaret Harwood, 1931)

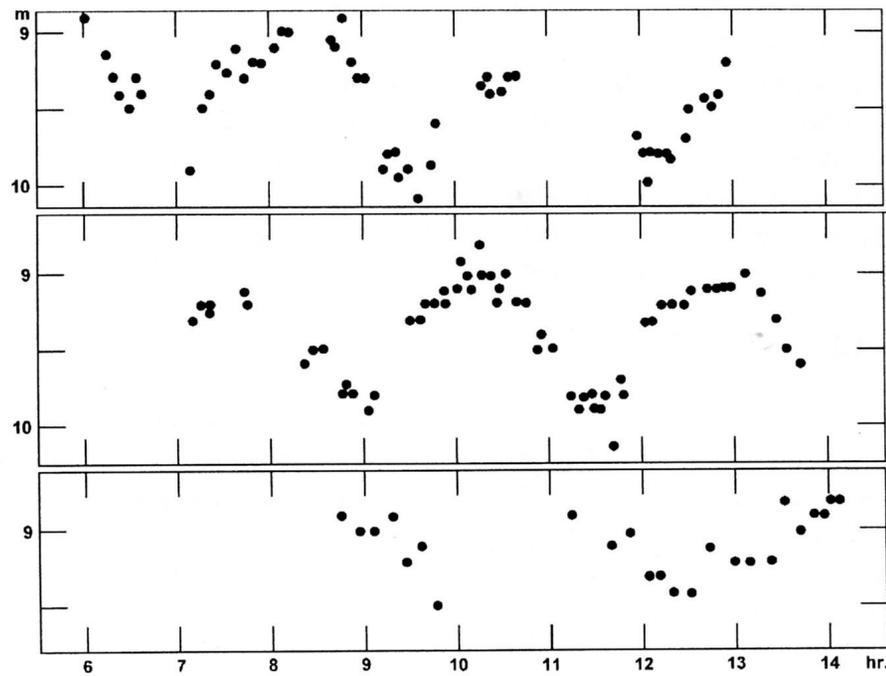
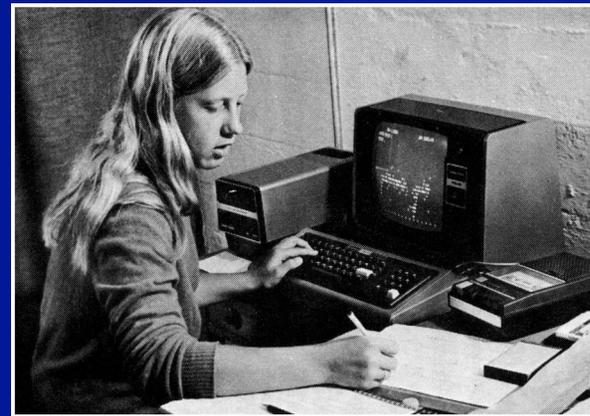
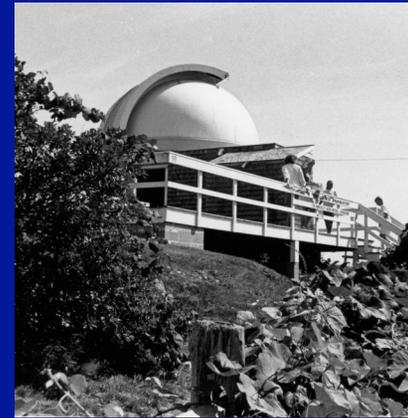


Figure 5. Margaret Harwood's observations of apparent photographic magnitudes of Eros in 1931. Top, January 10/11; middle, January 13/14; and bottom, January 21/22. Ordinate markers at 0.5 mag. intervals; abscissae at one hour intervals.

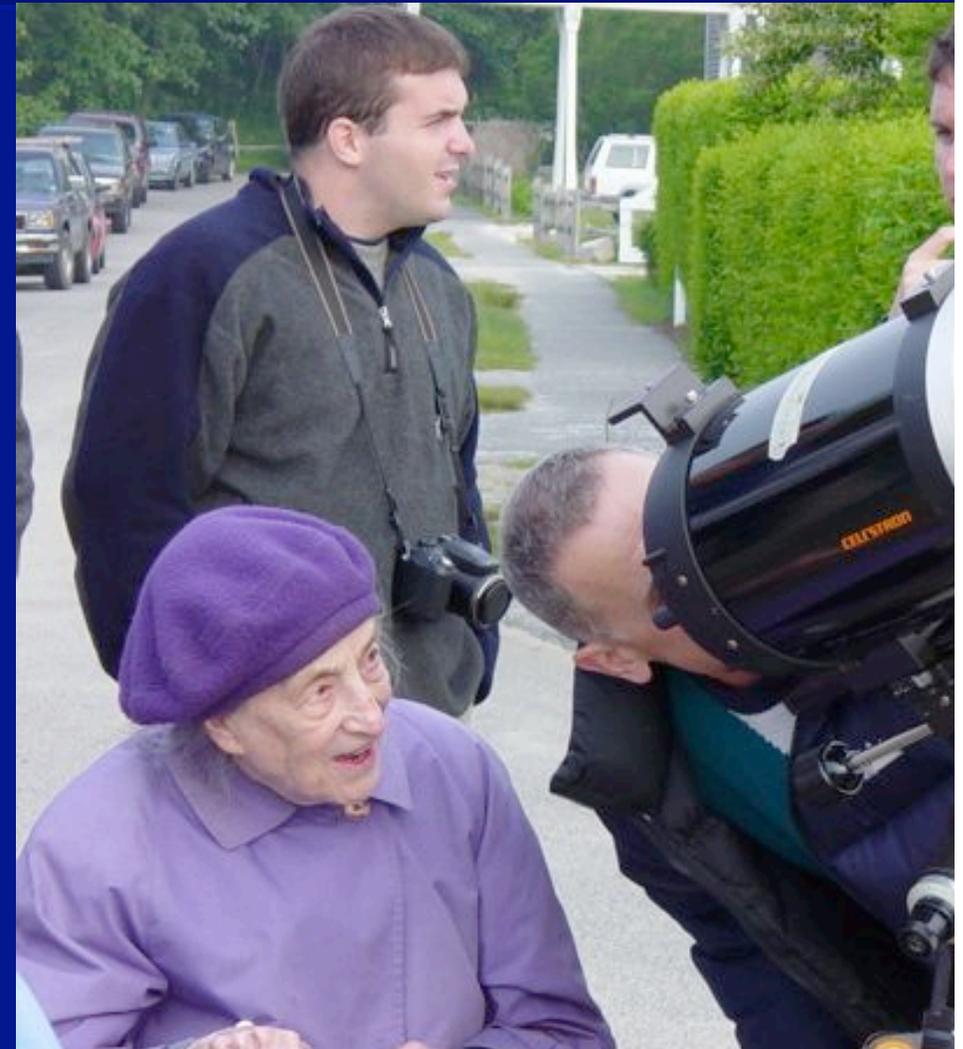
# Eros from NEAR, 2001



**Dr. Dorrit Hoffleit (1907-2007)**  
***2<sup>nd</sup> MMO Director (1957-78)***



# Transit of Venus Nantucket, June 7, 2004



# Emilia (Lee) Belserene

## 3<sup>rd</sup> MMO Director (1978-91)



FREDERICK CLOW

*Dr. Lee Belserene displays the medal given to Maria Mitchell by the King of Denmark.*



FREDERICK LUCAS

**1988**

*...to finish!*

# The triplet ("portrait") Cooke lens



The photograph accompanying this report shows Paul returning the refurbished cell to the telescope. The tube and pier had been prepared for this event with a new coat of paint by two former summer assistants, John Briggs and Wendy Whiting. The new arrangement of the lens elements produced a slightly longer focal length and it was necessary to provide a sensitive way to measure changes in the focal setting. Al Bornemann worked out the method and his brother-in-law, Peter Zumbusch, carried out the needed machine work.



*Paul Valleli of Optical Sciences and Technology, Inc. returning the Cooke lens to the photographic telescope after adjusting it.*

**Dr. Eileen Friel**  
*4<sup>th</sup> MMO Director (1991-96)*



# MMO as I found it in 1997...



# Making it accessible to the public (Russian style)...



# All plates scanned in 2000-02

Scanner  
AgfaScan T5000



Sorting 8000+  
CDs...

**The New  
17" Telescope  
is working!**



# Loines Observatory, 2007



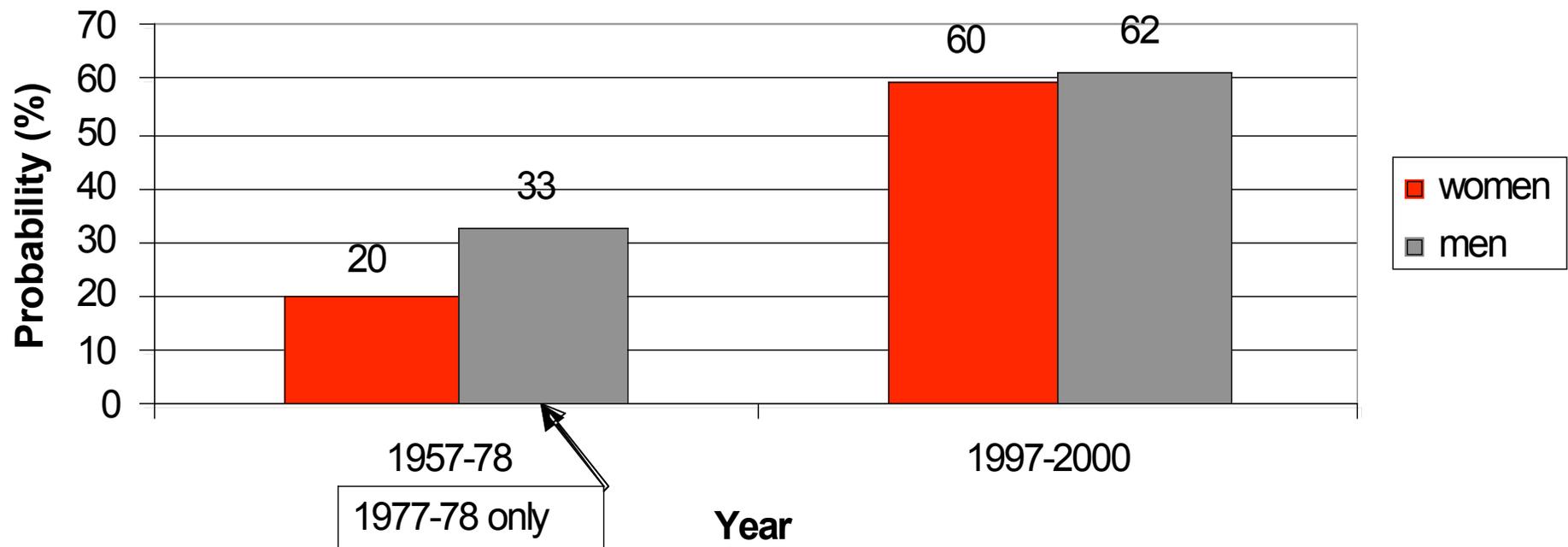
# The New 24" Telescope (recommended by Dr. Henden!)



# Observing & Educational Trips



**Probability for a MMA/REU Astronomy student  
to become a PhD  
(averaged over the indicated periods of time)**

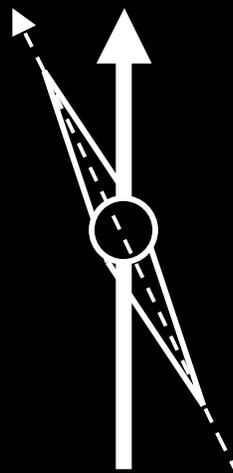


# MMO - for the most under-represented folks in Astronomy...



**Magnetic North**

**True North**



## **William Mitchell's 1840 Meridian Line...**

...behind you is determined by this (Northern) Meridian Stone and the Southern Stone, located 289.2 feet up Fair Street. W. Mitchell (1791-1869), Cashier of the Pacific Bank, astronomer and surveyor, the father of America's first woman astronomer Maria Mitchell (1818-1889), erected these Stones in 1840 to improve the accuracy of surveying and mapping of Nantucket. The exact North-South line allowed for monitoring the (varying) angle between the magnetic and true North. This "Town's Meridian Line" is one of the earliest of this kind in the country. It preceded the mandatory creation of similar constructs in the counties of Massachusetts and other states by three decades.

**Nantucket Maria Mitchell Association**

**Nantucket Pacific Bank**