

Cornell Astronomical Society:

The Student Experience of Running an Observatory

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Our Club

The Cornell Astronomical Society (CAS) is an undergraduate student-run organization uniting a diverse group of people who all share an interest in astronomy. While some of us study physics or astronomy, the majority of our club members represent a diverse spectrum of majors both inside and outside of other STEM fields. We are rounded out by members of Cornell's Astronomy Department and local amateur astronomers.

Our primary activity as a club is to run the weekly public stargazing nights at Cornell's on-campus Fuertes Observatory. To prepare club members for this role, we hold training sessions in which we teach new members how to operate the observatory's 90+ year old refractor telescope along with various newer telescopes. We also show new members how to use star charts and navigate the night sky. The ultimate goal of these trainings is to have any one of us capable of operating Fuertes Observatory individually.

To complement stargazing, CAS hosts a lecture series that includes talks given by club members. We also hold astronomy celebrations and maintain a museum with astronomical instruments.



Figure 1 (left)
(a) CAS members close the observatory. The tarp can be seen covering the telescope.
(b) CAS members reading star charts during a Saturday training night. Red lights only!
(c) Group photo of CAS members on the ladder with the telescope Irv in the background.

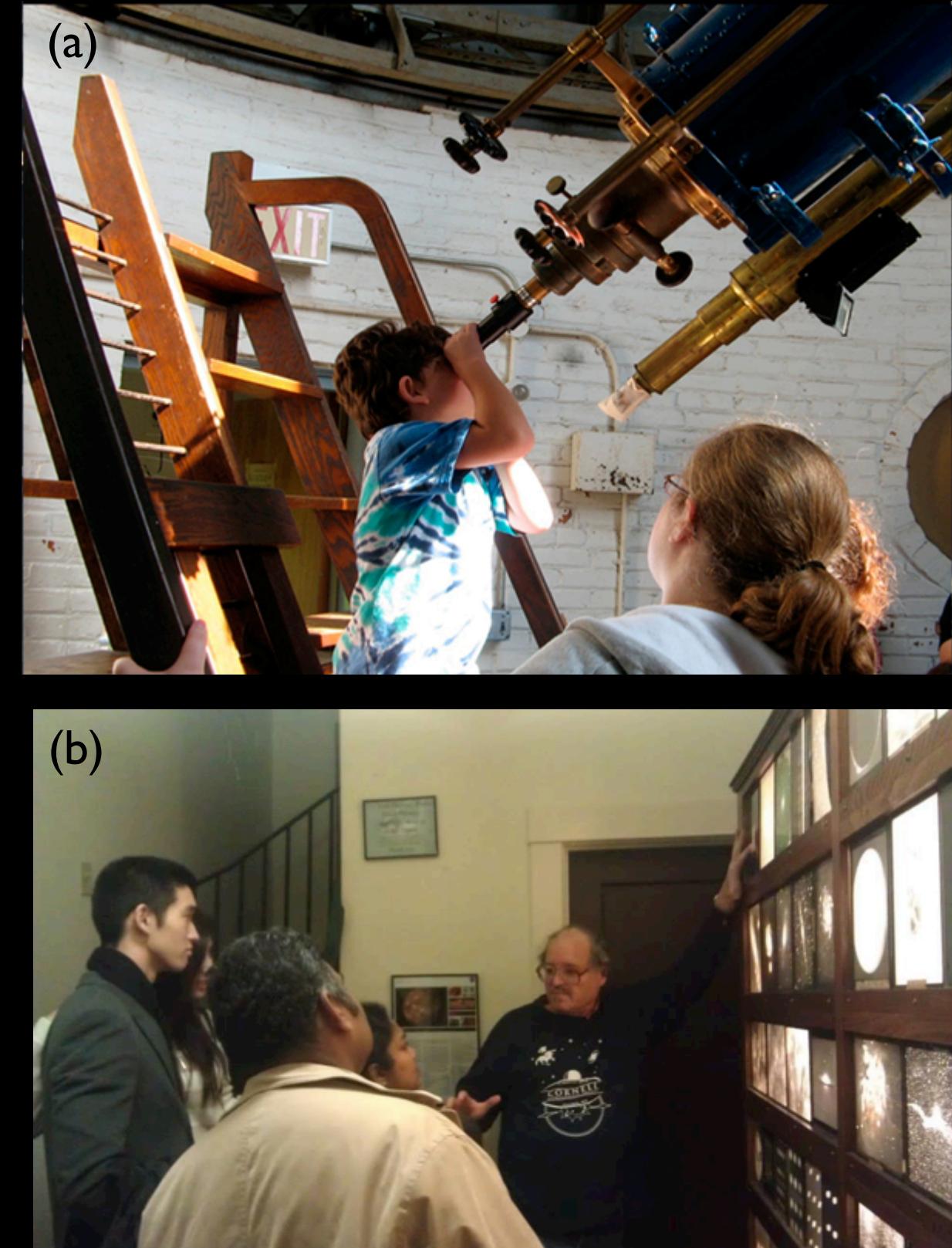


Figure 2 (right)
(a) A visitor uses the telescope during a solar viewing session.
(b) CAS member, Art, shows visitors the image wall of astronomical objects.

Public Stargazing Nights

CAS hosts weekly stargazing on every Friday night with clear skies. Over 2000 people attend yearly, including both members of the public from the Ithaca area as well as students and others from the Cornell community.

On a typical night, visitors are welcome to stay in the dome or go out on the deck. Inside the dome, visitors wait in line to get a look through 'Irv,' while CAS members move the telescope and explain what viewers are seeing. On the deck, visitors can use our newer 10-inch portable Dobsonian telescope ('Bob') or a set of binoculars, or just enjoy the outdoors, while CAS members also give tours of the night sky.



Figure 4 (above) – CAS members, Kevin (left) and Brecken (right), give public lectures as part of the weekly, rain-or-shine CAS lecture series.



Figure 5 (above) – Native American storytellers explain the origins behind the constellations in their culture.

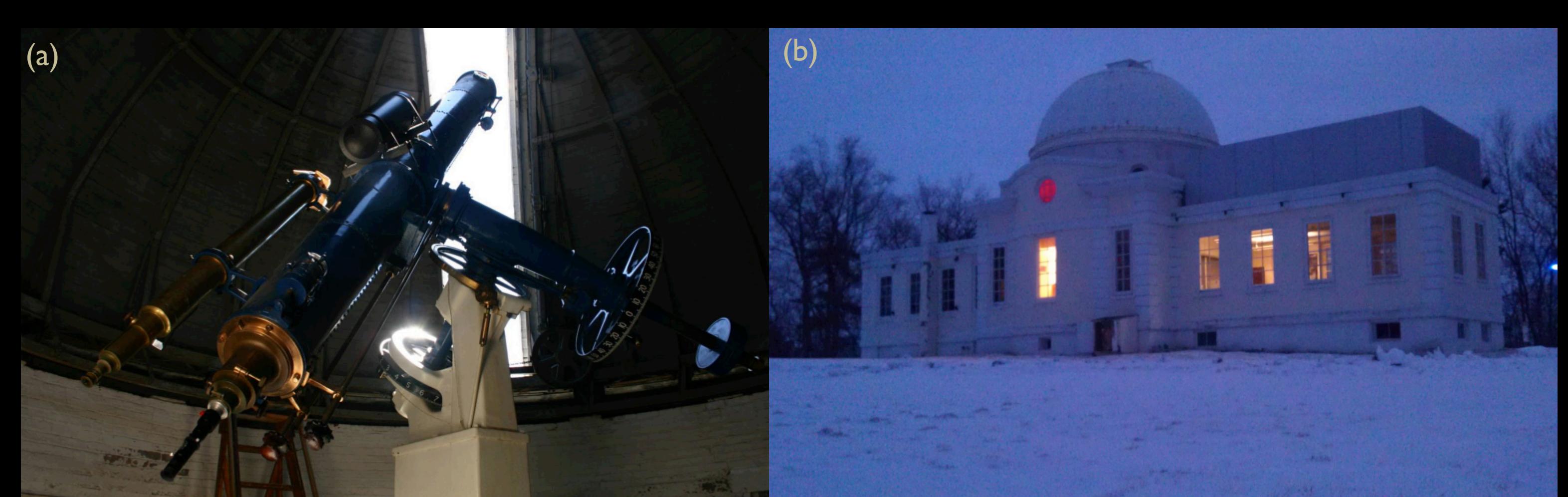
Lecture Series

As an 'opening act' to stargazing nights, CAS hosts a weekly public lecture series to teach both members of the club as well as other Cornell students and members of the general public about topics in astronomy. The lecture series gives interested CAS members the opportunity to become more familiar with a particular topic in astronomy and to practice public speaking. Past topics include 'Spectrometry,' 'Space Suits,' and 'The Death of Stars.' Outside of these lectures, we also show astronomy videos such as Carl Sagan's Cosmos and invite members of the Astronomy Department to give talks.

Events

Recent CAS events include:

- (1) Yuri's Night Celebration
- (2) Dinner with Prof. Alex Hayes
- (3) Trip to the off-campus Hartung-Boothroyd Observatory
- (4) See Figure 5.



Fuertes Observatory

CAS's home is Fuertes Observatory, which is located on-campus, but isolated just enough for dark skies. It houses the Irving Porter Church Memorial Telescope ('Irv'), a 12-inch refractor telescope constructed in 1922 by the Warner and Swasey Company that also built the larger refractors at the Lick and Yerkes observatories. Irv has an equatorial mount and is equipped with a clockdrive to offset for the Earth's rotation.

The current Fuertes Observatory – the fourth incarnation – is named for Estevan Fuertes, a professor of civil engineering who was responsible for Cornell's first observatories.

The observatory building has a classroom that we use for club meetings, the lecture series, and many other events. There is also a deck on the roof where visitors can get a better look at the darker night sky.

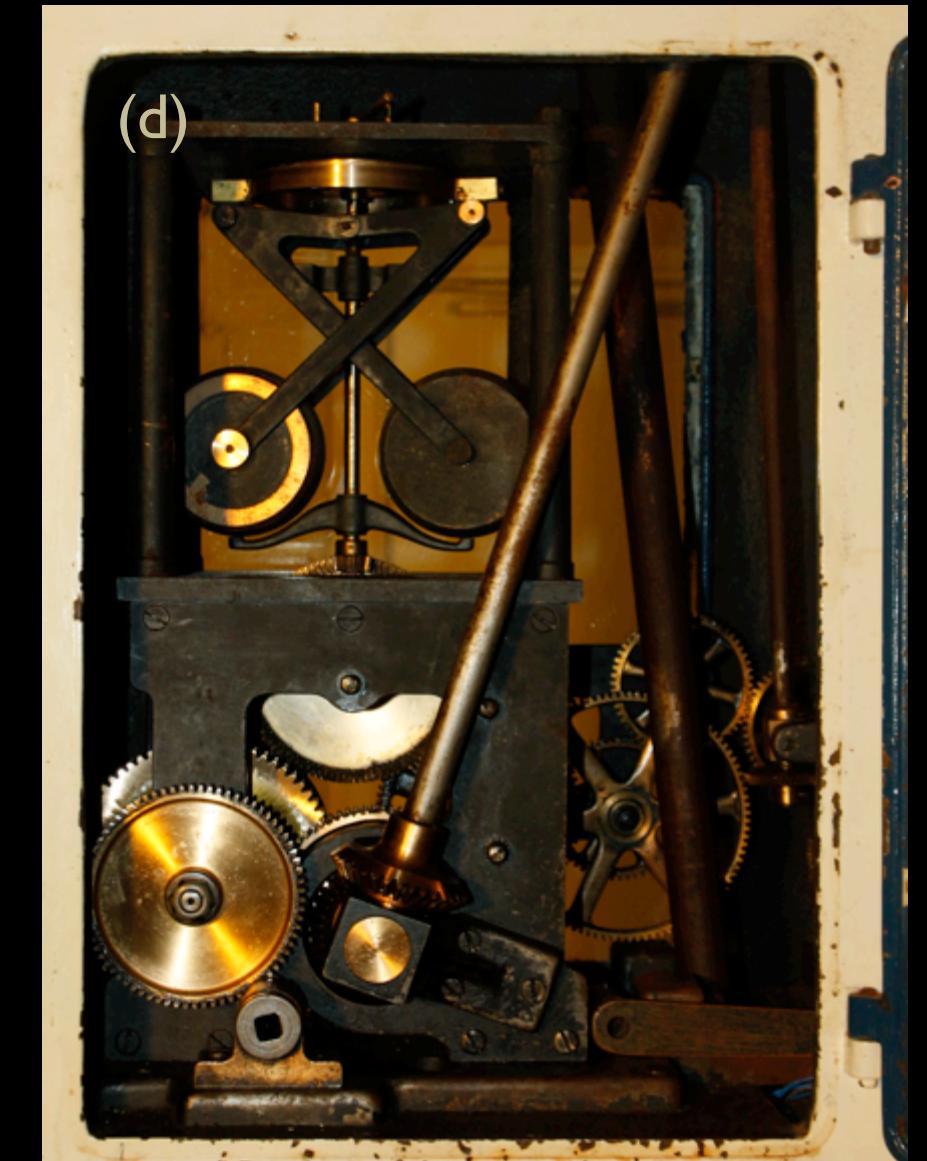
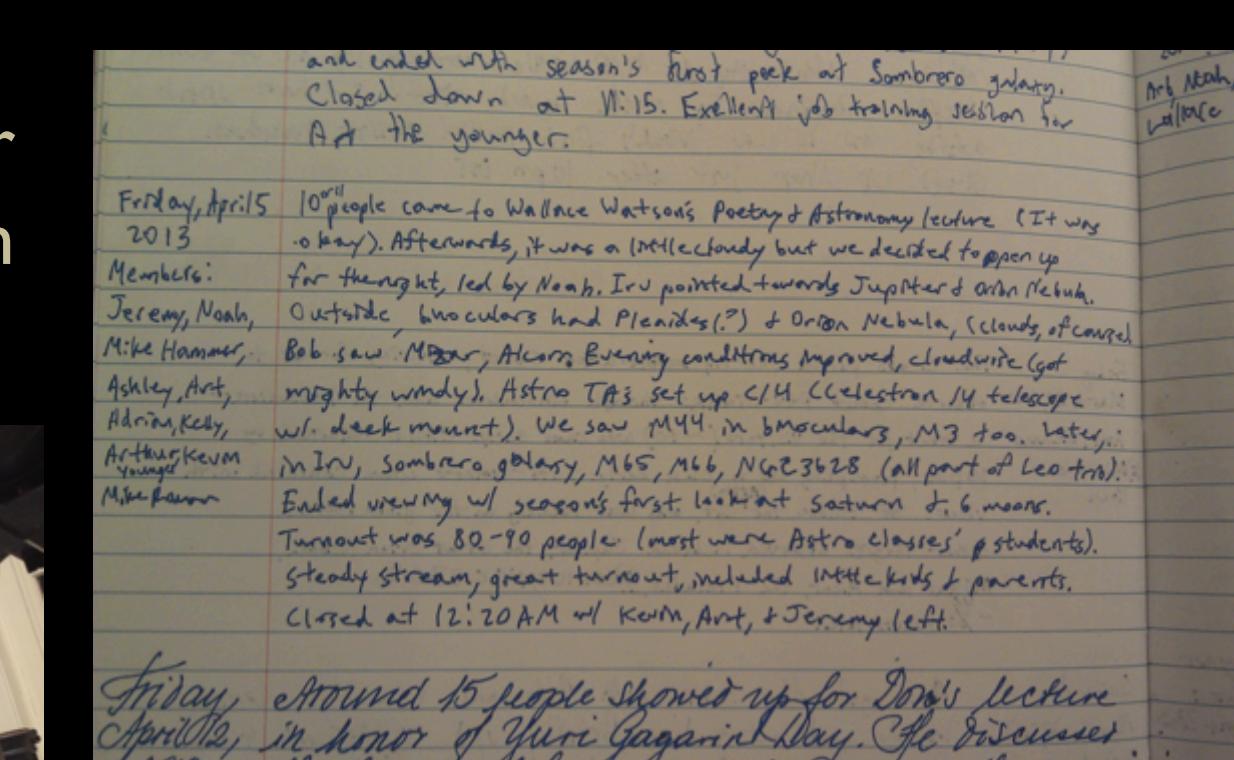
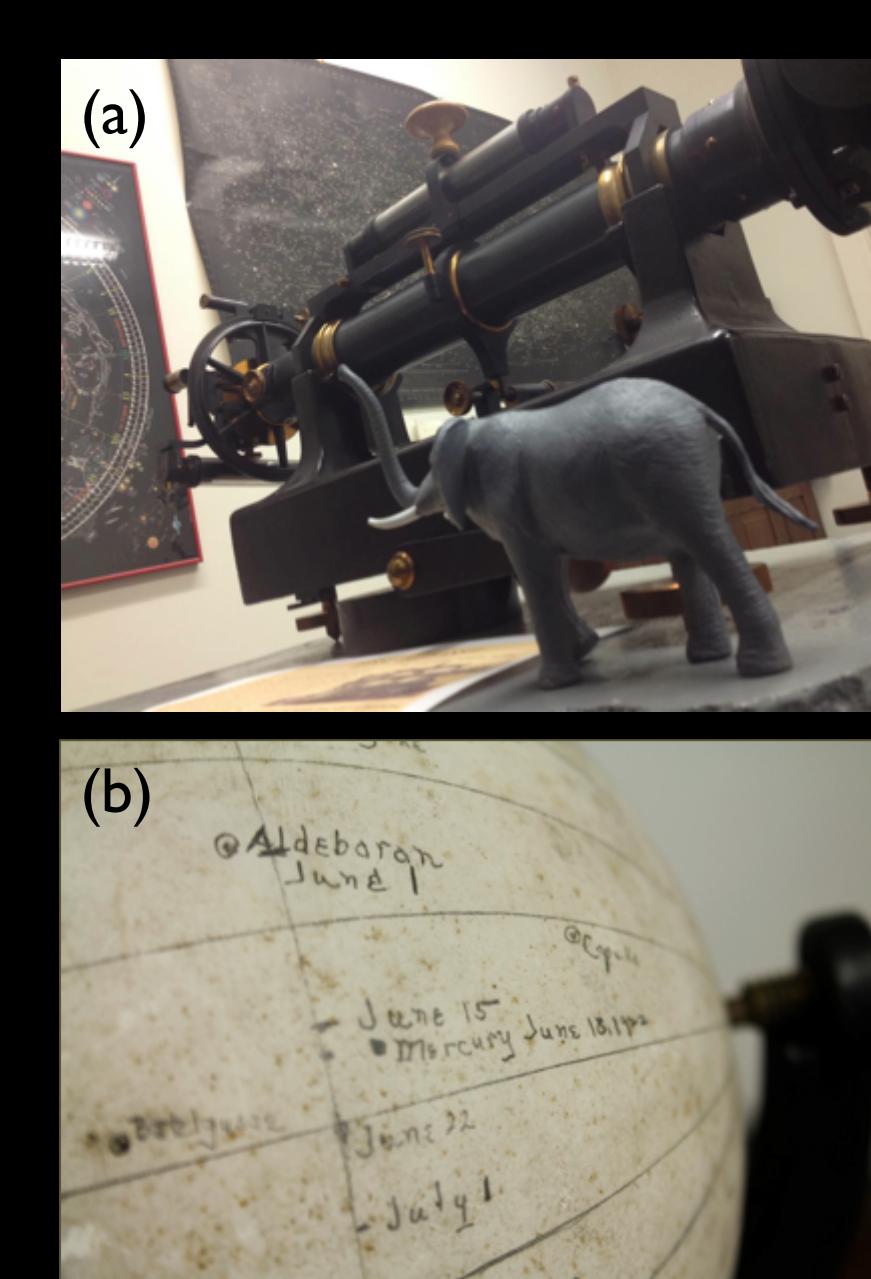


Figure 6 (right)
Log entries are kept for any day or night in which Fuertes is in use.



Museum

Fuertes once housed a transit room with instruments for monitoring the positions of stars. We recently remodeled this room to showcase these old instruments for the public to see.

Figure 7 (above)
(a) Transit instrument in the museum, with description card.
(b) Sphere, dated 1922, being used to track the positions of the planet Mercury and the orange giant star Aldebaran.