



Newsletter of the Pomona Valley Amateur Astronomers

Volume 32 Number 10

nightwatch

October 2012

President's Message

Tonight (Wednesday, Oct. 3) was the fifth anniversary of my first light with my first telescope. It's a fitting time to reflect on the hundreds of amazing things I've seen in the past five years--and to ponder all of the countless wonders I have yet to see.

A couple of months ago I made a list of my favorite observations of my observing career so far. Heading the list are the annular eclipse and the Venus transit from earlier this year. Other highlights include seeing the gegenschein at the All-Arizona Star Party in 2010, watching the crescent moon pass in front of the Pleiades from the Salton Sea, and tracking a comet as it moved against the background stars, with fellow PVAA member Steve Sittig up at the Webb Schools. These were all fantastic things to witness with my own eyes. Each one is engraved indelibly in my memory. Probably the most moving was seeing the little black dot of Venus crossing the face of the sun, and knowing that that tiny dot was a world, and not just any world, but a twin of Earth. It was a profound--and profoundly odd--experience.

I've learned a lot about observing itself in the past five years. I know my way around the sky pretty well. I know that if the night is sufficiently clear and if I'm fanatical about dark-adapting my eyes, I can see the Crab Nebula with 15x70 binoculars from my driveway. After buying and selling lots of telescopes, I've learned what telescope I have is way less important than how I use it--and mainly, just that I use it.

And most importantly, I've learned that I am a social stargazer. If there is a common thread that ties together all of my favorite observations, it's that they were shared with others--sometimes a whole crowd of people at a public outreach, and sometimes just one or two friends in the dead of night in the middle of nowhere. Oh, I've spent plenty of nights at the telescope alone, and those solo vigils are often how I get away

from it all. But the "Aha!" moment of discovery is reduced to a dim shadow if there's no-one there to share the "Aha!" with.

So it's fitting that tonight I went up Mount Baldy with a group of friends and spent the evening stargazing. Most of them are new to observing so I gave them a quick tour of some late summer and early autumn highlights. I didn't see any objects I hadn't seen before, but it would be a mistake to say that I didn't see anything I hadn't seen before. The way that the Wild Duck Cluster just resolves into a dense swarm of seemingly tiny stars at 120x, or the Galilean moons of Jupiter stacked in an almost perfectly vertical line just above the horizon, are sights that I will not soon forget. And even overly familiar objects take on new life when you see them for the first time through the eyes of another--something I first learned as a parent, and am learning again as a stargazer.

As I look to my next five years as an amateur astronomer, I am thinking about what's next. And that means not just whether or not I'll get a bigger, nicer telescope, or what observing projects I'll take on during that time--it also means who I'll share those observations with, and what we'll see together.

I can't wait.

Our speaker this month is JPL's Leo Bister, who has been intimately involved with both the Mars Exploration Rovers Spirit and Opportunity (still going strong after 8 years!) and the Mars Science Lab Curiosity. Leo will talk to us about Curiosity's mission, its goals and progress so far, and the latest news from the surface of Mars. Don't miss it!

Matt Wedel

**Pay club dues at the General Meeting
or by mail. \$30 individual / \$40 family.**

September General Meeting

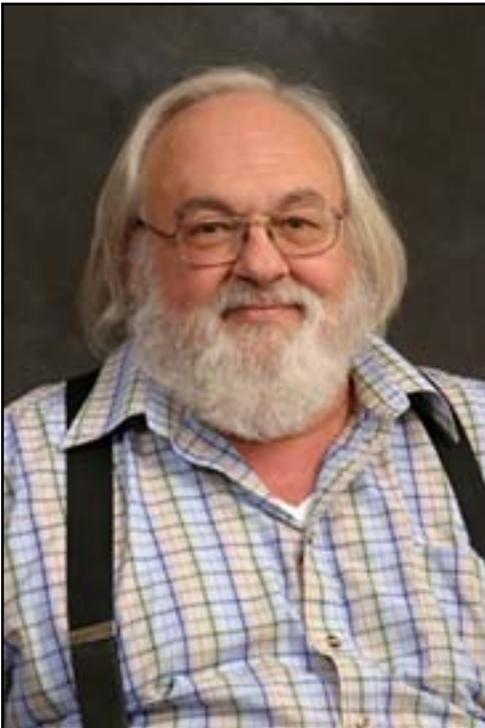
Those attending the September meeting were first greeted by a note on the door to our regular meeting room stating that the meeting is being held on the other side of the building.

We had our annual business meeting where we voted for the club's officers and board members. Everyone was re-elected, but the office of club secretary is open, as Bill Connelly has left the post. We also voted to move the annual dues payment from August to May. The reason for this is that our dues to the Astronomical League is due July 1st. It is hard to determine which members to include in the Astronomical League when our dues is due after theirs. This year's dues will be the same, \$30 for individuals, \$40 for families. Those renewing their membership next year in May will pay \$20 for individual and \$25 for family.

Lee Collins gave his presentation of "What's Up" centering on the region of the sky that holds Sagitta, Cygnus, Delphinus, Lyra & Aquila. He once again proved that no matter where you look, there is a lot to see, if you know what to look for.

Our speaker for the night was Dr. Richard Olson of Harvey Mudd College. His presentation was on *Babylonian Astronomy and Astral Religion*. He went over everything from a "Sumerian Ritual Incantation Associated With Tooth Extraction" with he gave as a handout (translated into English). To the development of the calendar and eclipse prediction. The Babylonians put a lot of time and effort into astronomical studies. Many of the stars still have Arabic names today.

Gary Thompson



Dr. Richard Olson of Harvey Mudd College

Sumerian Ritual Incantation Associated With Tooth Extraction

After Anu had created Heaven,
 Heaven had created Earth,
 Earth had created the Rivers,
 The Rivers had created Canals,
 Canals had created the Marsh,
 And the Marsh had created the Worm,
 The Worm went weeping before Shamash,
 His tears flowing before Ea:
 "What will you give me for my food?
 What will you give me for my sucking?"
 "I shall give you the fig and the apricot."
 "Of what use to me are they to me,
 the ripe fig and apricot?
 Lift me up among the teeth
 And gums cause me to dwell!
 The blood of the tooth will I suck,
 And the gums I will gnaw its roots!"

Fix the pain and seize the foot.
 "Because thou hast said this, oh Worm!
 May Ea Smile.
 Then with the might of her hand
 remove you from this mouth."

How Does It Work?

As was discussed in the previous article, Barlows and focal reducers work in the same way but have the opposite effect. They both affect the “effective” focal length of the telescope. The Barlow makes it longer and the focal reducer makes it shorter.

A lens placed before the image will bring the image closer to the scope if it is a focal reducer. It will move the image further out if it is a Barlow. The diameter at the lens doesn’t change so the effect is to change the apparent F/no and the “effective” focal length.

The most common use for a focal reducer is for cameras. It is a positive lens and because it shortens the effective focal length, it gives a larger field of view and a smaller but brighter image. This shortens the exposure time required for the faint fuzzies.

However, a shorter focal length causes more curvature of the focal surface. We say “focal plane” but the image is always on a curved surface unless it has been corrected. Even when used on an F/10 scope the edge is somewhat out of focus and is noticeable when a single lens focal reducer is used. So more complex designs offer a field flattener as a part of the assembly.

A related device is TeleVue’s ParaCor (short for parabolic corrector.) It is a lens assembly designed to reduce coma (flatten the field). It is quite helpful in astrophotography and may also be desirable when using the wide field of view eye pieces available today.

A 0.5x, single lens, focal reducer produces an F/5 cone on an F/10 scope. When inserted into the beam it cuts the remaining focal distance in half. For that reason it is often attached to a nose piece on the camera.

When I use a focal reducer with my video camera the nose piece slides into the diagonal and then I focus. Often I want to look at an object with a wide field of view eye piece in order to center it for the narrow field of view camera. But I don’t want to change the scope focus to do so.

To swap out with an eye piece I use an extender on the eye piece and a “collar” to hold the eye piece in place. I place the extender in the diagonal and then slide the eye piece out to get a decent focus. Then I tighten the collar, I don’t change the scope focus. That allows me to swap back and forth with the camera.

On some scopes it’s a bother to go back and forth between 1.25 inch and 2 inch barrels. If you enjoy the available very wide FOV eye pieces available today and want low magnification, you will not find an eye piece much longer than about 20 mm with a 1.25 inch barrel. One trick is to use a focal reducer to get an effective 40 mm eye piece with the same nice wide field of view.

If you have a topic you would like me to discuss, please let me know at lcrowder@roadrunner.com.

Ken Crowder

Club Events Calendar

- October 5 - General Meeting**
- October 13-Star Party–Salton Sea**
- October 23 – Ontario Library Main Branch 7 – 9pm**
- October 25 - Board Meeting, 6:15**

- November 2 - General Meeting**
- November 10 - Star Party - Anza-Borrego Desert State Park**
- November 30 - Board Meeting, 6:15**

- December 7 – PVAA Holiday Party**
- December 14 – Evergreen Elementary School Star Party**
- December 27 – Board Meeting, 6:15**

- January 12 - Star Party – Cottonwood Springs, Joshua Tree**
- January 17 - Board Meeting, 6:15**
- January 25 - General Meeting**

- February 9 - Star Party – Mecca Beach, Salton Sea**
- February 21 - Board Meeting, 6:15**
- March 1 - General Meeting**

- March 9 - Star Party**
- March 14 - Board Meeting, 6:15**
- March 22 - General Meeting**

- April 6 - Star Party**
- April 18 - Board Meeting, 6:15**
- April 26 - General Meeting**

- May 9 - Board Meeting, 6:15**
- May 14 – Ontario Library Main Branch 7 – 9 PM**
- May 17 – General Meeting**
- May 22-27 - RTMC**

PVAA Officers and Board

Officers

- PresidentMathew Wedel909-767-9851
- Vice President ..Joe Hillberg.....909/949-3650
- SecretaryBill Connelly.....714/329-4080
- TreasurerGary Thompson.....909/935-5509
- VP FacilitiesJeff Felton.....

Board

- Lee Collins (2014).....626/852-9442
- Ron Hoekwater (2014).....909/391-1943
- Jim Bridgewater (2014).....909/599-7123
- Karl Rijkse (2013).....

Directors

- Membership ..Gary Thompson.....909/935-5509
- Publicity.....Laura Jaoui.....
- Outreach.....Jeff Schroeder.....818/298-3965
- ProgramsRon Hoekwater.....909/391-1943
- NightwatchJohn Stover.....909/988-9747