

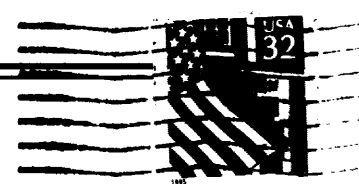
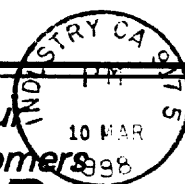
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# nightwatch

Newsletter of the Pomona Valley Amateur Astronomers

Amateur  
astronomers  
get better  
looking...



Janis Seaton

Volume 18 Number 3

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## President's Message

El Nino continues to take his revenge! Both our Botanic Garden "Star Show" and the "extra" Death Valley Star Party of February 20, 21 were rained out. There was no doubt in my mind as rain lashed our sliding glass door, and the run-off overwhelmed the tiny drains in the door guides to saturate the rug for a foot or more inside the door. That is not weather to go star-gazing!

Lacking the possibility of a Star Party, I took the opportunity to update our web site, something I hope and expect to do more frequently in the future. Visitors will find an updated report on the progress of our school telescopes, as well as an abbreviated report on the Christmas banquet. Visit us and give us some feedback!

At this writing (February 23rd), it isn't clear whether the February 28th Star Party will take place, or not. My hope and expectation is that the weather will clear by then, although it doesn't look particularly good, today. I'm looking forward to another visit to Yesterday Ranch, in order to learn more about the access problems we have had, recently. (Two new fence lines, as well as old car chassis blocking access roads, all designed to keep the vandals out). The bottom line is, we're counting on the repeated statements of Beverly and Freck Cross that we have an "open invitation." Let's hope the desert vandals who have been trashing the Cross's place will have found another form of amusement.

Meanwhile, the "New Site" committee, consisting of Joe Hillberg and Ron Hoekwater will welcome inputs from any member, regarding other sites that might prove acceptable. Of course, the ideal site is close in, with a dark sky, and free access. Let us know if you find it! If perfection is not forthcoming, then we will have to find the best compromise.

Give us your entry!

The winter constellations are in their glory, right now. Canis Major, Canis Minor, Orion, and Taurus are all marching across the Southern sky, with Auriga looking down from near the zenith. These are the stars I know best. M42 was my absolute first deep sky object. It is for me as many others, still the favorite. Somewhere back in the "Astronomy Picture of the Day" archives is a photo of M42 in the infrared, showing the whole thing is nothing more than one big rolling mass of hot gas and dust--we just don't see it all, because it's too far from the hot young stars to be heated into fluorescence. There's so much in the sky that we don't know! Join us in all our PVAA activities as we try to expand.

Patrick Nicholson

## PVAA Events Calendar

Month	Star Party	General Meeting	Board Meeting
March	28	13	6
April	25	10	3
May	23	8	1
June	20	12	5

## February Star Party

It's a few days before the February 28th Star Party. I had missed the last couple of meetings at Galileo Hall. With El Nino raising havoc up and down the state, I thought it wise to check the PVAA Hotline to see where everyone was supposed to meet. The message said the party was to be at Yesterday Ranch, with the usual caution to check before leaving for any last-minute changes. I called Bob Branch to confirm the location. He said he was not going out, but he did not know about other club members. Bob did warn me about possible wet conditions at the dry lake, advising me to arrive before dark, if I decided to go, to avoid getting stuck in mud after dark.

This was almost enough to scare me off, coupled with guilt over ignoring several long-delayed chores at home. Saturday arrived though, with the sun shining beautifully. My wife and I spent the first part of the day visiting a magnificent Chinese Jade Exhibit at the Bower's Museum in Santa Ana. We have been wanting to see this show and this was the last day before it returned to China. We returned home to Glendora about 2:45 p.m. and on a sudden impulse, I decided I should head for the desert. Perhaps, I rationalized, someone there could help me figure out how to use the split-field guider I bought in an effort to improve my astrophotography. Thirty minutes later, the Dodge van was loaded up with my 8" Celestron, sleeping bags and warm clothes, and I was off (my wife shaking her head in amused disbelief as I drove away).

The trip out was uneventful. I made a stop just outside Barstow for a quick drive-through meal and something to drink. Racing the sun, I arrived at Yesterday Ranch right at dusk. The spring was flooded, but there was plenty of dry ground. It was very quiet . . . I was the only one here! Thinking other club members surely would show up, I set up the scope and proceeded to change into some warmer clothes when I was startled by the sudden appearance of a dog and its owner.

"Did I spook you?," he asked. "I didn't see you come up," I said. "You weren't supposed to," he replied. He wanted to know who I was and what I was doing as he looked over my car. When I informed him about the star party being scheduled here, he said he had received a letter from PVAA, stating that they were no longer going to meet at the site 'because of concerns about recent acts of vandalism.' He said I was welcome to spend the night though, and left, wishing me a good night. The dog hung around awhile longer.

And a beautiful night it was, too. The sky was perfectly clear. There was not a bit of wind. A thin sliver of new moon hung above the western horizon. Orion and his dogs dominated the south with the Gemini twins directly overhead. I mounted my camera to the telescope using my new guider but, I didn't have enough hands and eyes to hold the cable release, track a guide star with the remote control,

and watch the second hand on my watch at the same time. There's got to be a trick to all this! I managed one shot of M42 in Orion's belt.

I got out my copy of the *Great Messier Marathon Handbook* and set about exploring the galaxies around Ursa Major. I managed to find M81 and M82. But I could not locate M101/M102, M51 or M106. Giving up, I switched to Leo rising out of the east. I was able to find M105, M65 and M66. By this time, it was nearly midnight and I was having trouble seeing. It took a while for me to realize the culprit was dew settling over everything. I decided the better part of valor was to pack up and head for a warm bed back home.

Bob Marvos

### PVAA 24 HR. Hotline...

Get the latest news on the star party, club meetings, special events and astronomy happenings.

call 909/985-1684

Visit or website at:

<http://www.cyberg8t.com/patrick/PVAA.htm>

## PVAA Officers and Board

### Officers

President.....	Patrick Nicholson.....	909/626-1528
Vice President...	Joe Hillberg.....	909/985-5617
Secretary.....	Janis Seaton .....	909/899-2197
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Membership....	Jack Gardner.....	909/626-2665
Programs.....	Roy Schmidt.....	909/980-1867

Internet address:

<http://www.cyberg8t.com/patrick/PVAA.htm>

## February General Meeting

### Announcements:

A star party is scheduled for February 20 and 21 in Death Valley, weather permitting. Contact Joe Hillberg for final go/no-go information. On the 28<sup>th</sup>, we will hold our regular star party at Yesterday Ranch.

We have been having problems getting in to Yesterday Ranch. Mr. Cross, the owner, has constructed some interior fencing on his property due to vandalism in the area. Although we have a key to the padlock on his gate, we no longer can enter through the front entrance due to the additional fencing.

We are now looking for an alternate regular star party site. Joe Hillberg and Ron Hoekwater will coordinate the search, and solicit ideas from club members. We will be checking out a site Dean Davidson suggested which is not far from Yesterday Ranch. Please contact Joe or Ron if you have other suggestions.

The event scheduled for February 7<sup>th</sup> at the Rancho Santa Ana Botanic Garden was canceled due to inclement weather. It will probably be rescheduled sometime in the summer.

We have been invited to bring telescopes to Chaffey College on Thursday, March 26<sup>th</sup> from 5:00 to 7:00 p.m. This is the day before the new moon, so we will have to find other objects to show the public.

See Jack Gardner if you didn't get your member badge. There are still a few badges which remain unclaimed.

Please submit articles for *nightwatch*. We could really use a few additional writers. If you go to a star party, write an article for publication and submit it to our editor, Mike McFadden. The same goes for photographs for the web site. Patrick Nicholson can always use additional photographs so that the presentation changes from time to time.

Owen Robbin reported on the January 23-24 star party at Death Valley. He took CCD pictures of the Horsehead Nebula which came out pretty good. Previously he had only been able to see it through Ron Hoekwater's 22-inch telescope.

Owen went on to say he has been thinking about our club coordinating an annual public star party at Death Valley, along the lines of the annual Grand Canyon star party. He is willing to contact the Park Service to see if they would cooperate with us.

### Speaker:

Our past president, Bob Branch, gave a book review on a book by Max Casper, *Kepler: 1571-1630*. Accordingly to Bob, the book covers the historical period very thoroughly, explaining how then-current events such as the 30 Year War, the Reformation, and the work of other scientists and

astronomers influenced Kepler's work. Kepler, although a mathematician and an astronomer, also worked as an astrologer, in keeping with the custom of the time. Bob related several interesting facts about Mr. Kepler's life, including the fact that his mother was in jail for several years while on trial for witchcraft.

Janis Seaton

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## Book Review

### *Longitude* by Dava Sobel

Dava Sobel wrote *Longitude* first as an article or review of a "Longitude Symposium" sponsored by Harvard University, then expanded it into a book, at the suggestion of publisher George Gibson. That history explains the origins of both the strengths and weaknesses of the book. *Longitude* (1995, Walker Publishing) is a short, easy-to-read book of only 175 pages; I finished it in part of one day. That is its strength: concise, clear, non-technical, and easy-to-read—in a word, its a popularization. For those of a more technical or scientific turn of mind, it is a bit shallow and unsatisfying. I much prefer an earlier book: *Revolution in Time* by David S. Landes, 1983, Harvard University Press. My reasons will become clear.

*Longitude* focuses almost completely on the conflict between John Harrison, inventor of the Harrison Chronometer, and the reverent Nevil Maskelyne, known to history as "the seaman's astronomer". The cause of the conflict, at bottom, was money: Parliament had established in 1714 a prize of 20,000 pounds (over a million dollars in today's money) to the person who would develop a solution to the "Longitude Problem" capable of finding longitude to an accuracy of 1/2 degree. That problem comes down to a time-keeping problem: to know how far east or west you are from the "prime meridian", you have to know the time both "here" (where you are) and "there" (the prime meridian). The difference in hours x 15 is the number of degrees east or west. (That is because 360 degrees divided by 24 hours is 15).

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The "Longitude Problem" existed because nobody up to that time had designed a clock that would be accurate on an unstable ship, with vibration and serious variations in temperature.

Unfortunately for Harrison, a series of Astronomers Royal, ending with the infamous Nevil Maskelyne, were pushing their astronomical method for establishing the time--or the longitude. This method depended on the mariner making accurate measurements of the angle between the sun and the moon, and the angle of each to the horizon, then consulting a series of tables to make corrections that varied over an eighteen-year cycle. Knowing the difficulties inherent in accurate observing from a moving deck, the frequency of fog or other weather conditions--even the absence of the moon from the sky during daylight hours--one would not expect that method to get much of a hearing. Except for one thing: the Astronomer Royal was a member of the Longitude Board, whose job was to consider the proposed solutions. The term "Conflict of Interest" had not yet been invented.

Harrison, though, had two problems of his own: (1) He was a perfectionist, and (2) He had limited ability in the field of verbal communication, either spoken or written. As a result, when he finished his first clock designed to compete for the prize (his Harrison No. 1 or H-1), in 1736, his clock actually performed sufficiently well to earn the big prize. Harrison, however, had perceived several shortcomings in his clock, and proposed, instead, that the Board advance him 500 pounds to develop an improved model. This pattern persisted through H-2 and H-3. By the time H-4 was completed, Nevil Maskelyne had made enough progress on his lunar method to be a serious challenger. Meanwhile, successive modifications to the Longitude Act kept adding more requirements and conditions. In sum, it was not until King George III came to Harrison's defense and demanded an additional trial that the accuracy of his chronometer was finally proven. The result was that Parliament awarded him 8750 pounds--as a benefice for the work he had done. The actual Longitude Prize was never awarded.

Considering that *Longitude* is the story of Harrison's chronometers, I was disappointed that his massive H-1 (72 pounds without its case) is shown only in a much-reduced photograph on the front cover, and H-4, his small masterpiece, is shown in close-up of 1/4 of one side in the frontispiece. There are no other illustrations. Neither are there any specific details as to how Harrison was able to defeat the forces of magnetism, temperature, and vibration, to achieve the phenomenal accuracy. For the pictures and the details, see *Revolution in Time*. You'll learn more about springs and escapements, jewels, and anti-friction bearings than you ever cared to know. But then, those details were not required for the story Dava Sobel set out to tell. To understand the drama of the long conflict over "the Longitude problem", her book is a simple and satisfactory answer.

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