

Cosmic Murmurs

We had a public observing night at Quail Hollow on October 21 with fair skies this time!

Craig Wandke will be speaking at our November 9 meeting on his experiences at space camp. At that meeting, we'll also nominate officers for our December election meeting, so it's important that everyone interested in the club's future attend.

Though the Main Street School October 6 observing night was foggy, Al Giadina and Dwight Elvie showed up anyway. There was actually a sizeable turnout, so Dwight gave a slide show for the students. We've rescheduled star parties there for December 8 and January 26 at teachers' requests, so come help out if you can.

Clear skies! Gary

November 9 Meeting
Craig's Talk on his journey through
Space Camp!

Two Days on the Moon

Craig D. Wandke

The beauty of the monuments and the wonder of all of the usual visitor sites in Washington D.C. thrilled and inspired me, but could not compare to the two days I spent at the National Air and Space Museum, the Library of Congress, and the National Space and Science Data Center in Greenbelt, Maryland.

I spent a day at the Space Museum thrilling to all the principal machines of the early space age—the Apollo 11 command module, as well as its Friendship 7 and Gemini 4 cousins, which stood silently on nearby pedestals. Particularly impressive was an actual Lunar Module, its gangly presence still as inspiring to me as it was on that day in 1969 when I looked at the moon through a muggy Honduran sky as a Peace Corps volunteer, with Neil's familiar words crackling over my little short wave radio. As I stood next to the Lunar Module, in the presence of a machine whose counterpart voyaged onto this new world over thirty years ago, my mind returned to those wonderful years of lunar exploration and the beginnings of my love affair with the moon. Looking towards the ceiling above the Lunar Module, I marveled at Lunar Orbiter, Surveyor, and Ranger, each a daring precursor to Neil's first step. I smiled to think that the following day I would be visiting the NSSDC, hopefully to study and touch lunar images taken with these instruments.

During my earlier visit to Arlington National Cemetery, I inquired about the location of Pete Conrad's grave, and went out and paid my respects to the gap-toothed, laughing Apollo 12 astronaut who was so kind to sign my moon globe and share a couple of minutes of levity with me during his visit to a Monterey art gallery in 1993.

Prior to leaving Monterey, I had written to Dr. David Williams, Principal Scientist at the Solar System Science Group at NSSDC, who very graciously told me to call him at Goddard upon my arrival and he would meet with me. When I told David that I specifically wanted to see Lunar Orbiter photographs, as well as Apollo images of the moon taken from the Service Module while in orbit, he took me over to another building to meet with Robert Tice, Manager of Goddard's Photo Archive. Bob led me into an adjacent and rather cluttered room with equipment, mailing tubes, canisters, and files from floor to ceiling. One enormous filing cabinet was labeled with Lunar Orbiter images. I could feel my heart pounding in my chest as I took out my laptop, into which I had scanned 772 key images of the moon from my personal collection and books at UCSC. Thanks to the miracle of the modern laptop, I was able to have these with me for reference as I examined Goddard's collection! Bob gave me a brief orientation to the contents of the room: "Orbiter stuff is over here in these drawers...Apollo stuff over there in those round canisters...let me know if you need anything!" He returned to his tiny office, and suddenly I was all alone with tens of thousands of pristine moon images!!! Since I had a fairly clear idea of what I wanted, it was not difficult for me to go to the specific drawers and retrieve the images. I stuck my trusty Hallwag moon map on the wall with some tape, to consult as reference in case,



in my excitement, I forgot the location of Mare Crisium or Sinus Iridum!!! For the next several hours I looked at images and consulted my laptop, noting image numbers and details for possible subsequent ordering.

At one point I leaned back on one of the file cabinets and just smiled all to myself...hey!...here I was in a room surrounded by, to borrow a phrase from Egyptologist Howard Carter, "...wonderful things, wonderful things!" The Orbiter images were huge transparencies (two by two feet) that I lovingly took out of big envelopes and examined with detail, cross-referencing pertinent images to my own collection. I was originally a bit disappointed that I would not be able to see actual paper positives for purchase right there, but the NSSDC's collection is available on a made-to-order basis. In the end, it was probably better for me, as I might have later regretted the expense incurred had I been able to write a check or surrender my credit card number!

After three hours of pouring over Lunar Orbiter images, I became aware of my growling stomach, so I went rushed down the hall and bolted down a sandwich and drink from a machine and quickly returned to my duties.

I asked Bob to let me see the Apollo film canisters, and he took out a huge roll of 5" x 5" film

The Observer

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Two Days on the Moon (continued)

that was labeled boldly, "Apollo 15, NASA-MSC, Frames 001-679, Part 1 of 5, August 1971: HEAD." As he hefted the roll onto a viewing table with two rollers on either end, I could hardly contain my excitement. Memories of meeting Apollo 15's Jim Irwin in San Diego in 1972 and Al Worden at Moffet Field in 1994 rushed through my mind as Bob made final adjustments on the viewing table and I leaned over excitedly, turning the right handle as the images traveled over the fluorescent lights in front of me. Huge and crystal-clear, they took my breath away with the purity of their presence, and, in my excitement, I had to be careful to accurately note the full number of each image I would consider ordering, since a mistake in one digit would mean the wrong image.

Most impressive were the sequential shots, covering hundreds of images, made during trans-lunar injection and lunar approach, each image taken from outside the service module, showing a moon that grew progressively larger in each subsequent frame. [How could anybody doubt we ever went to the moon!] The images of the Hadley region where Apollo 15 eventually landed were spectacular and breath-taking in their clarity, tonality, depth, and detail. Mesmerized by seeing so many photographs of my favorite and most mystical area of the moon, I painfully realized I had a limited time with each roll, and I still had two more full missions, of perhaps five rolls each, to examine.

At the end of the day, Bob began to get ready to go home, and I was careful not to impose on his time any longer. With my head swimming with the wonder of the day, I headed out of the building and back onto the Metro for my return trip to the city.

I stopped by the Library of Congress and procured a Photo-ID Reading Card (anyone can get one with proper ID!), which allowed me into the Main Reading Room and Science Building. I was literally speechless at the grandeur and the glory of the atmosphere of learning and academia that surrounded me, from the leather, brass, marble, and mahogany everywhere, to the hushed staff who moved about with a palpable sense of restraint and dignity, under the huge, gilded cupola that towered over us.

I sat down at one of the computer terminals and entered "SEARCH FOR: Moon" and was greeted with "Display first 10,000 items? Y/N" YES!! YES!!!! YES!!!!!! And the second 10,000, too!!! I found two intriguing books on Lunar Orbiters I and II which appeared to be internal McDonnell-Douglas reports, so I asked the librarian to bring those to me...just to say I had researched the moon in the Library of Congress! The books turned out to contain a lot of technical specifications on Lunar Orbiter with few images, but it was fun going through the process of retrieving them.

As the 9:30pm closing time approached, I went out the side door of the library and into the balmy night air; the white dome of the Capitol gleamed surreal in the distance, but I was present neither in time nor space, for my mind was still in that cramped room back at Goddard, or floating outside of the service module over the lunar Apennines so long ago, retrieving those precious canisters.

Club Calendar

November

November 9, Thursday

7:00 p.m. Business meeting
7:30 p.m. General meeting
8:00 p.m. "The Rigors of Space Camp" Craig Wandke.

November 18, Saturday, Sunset

"Splendor of Saturn" Observing night, Bonny Doon Airport. Coordinator: Volunteer needed.

November 25, Saturday, Sunset

"Journey to Jupiter" Observing night, Bonny Doon Airport. Coordinator: Volunteer needed.

December

December 8, Friday

Main Street School Observing Night, Aptos

Coordinator: Al Giadina.

December 14, Thursday

Holiday Potluck & Officer Elections

7:00 p.m. Business meeting

7:30 p.m. General meeting

December 17, Saturday, Sunset

Observing night, Bonny Doon Airport. Coordinator: Volunteer needed.

January

January 26, Friday

Main Street School Observing Night, Aptos

Coordinator: Al Giadina.

Observing Nights

For information on meetings, and observing nights, call the **SCAC Telephone Message Center at 335-2423 or any club officer.** Dress Arctic Blizzard Style. Beginners are most welcome. You don't need a telescope to attend. Members are always glad to share a view of the universe.

Attendance is "at your own risk."

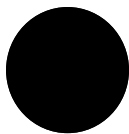
The *Observer* encourages its readers to submit letters, manuscripts, observations, and photographs. All submissions become property of SCAC and may be edited without notice.

Send all material to Gary Staas, gstaas@pdfdream.com, or mail to 2929 Granite Creek Road, Scotts Valley, CA 95066. Publication deadline is the third Saturday of each month.

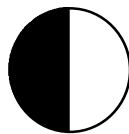
Celestial Calendar

November, 2000

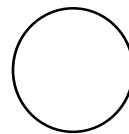
Richard Stanton



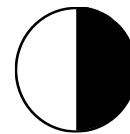
November 25
15:11



November 3
23:27



November 11
13:15



November 18
07:24

Lunar Phases:

	Date	Rise	Trans	Set
FQ 23:27 PST	03	12:59	18:04	23:12
FM 13:15 PST	11	17:22	00:21	06:19
LQ 07:24 PST	18	00:13	06:14	13:14
NM 15:11 PST	25	06:33	11:52	17:05

Nearer Planets:

					R. A.	Dec.
Mercury	07	05:20	10:53	16:25	13:54.1	-09:50
1.05 A.U.	17	05:12	10:40	16:07	14:18.7	-11:27
Mag. 1.8	27	05:43	10:54	16:05	15:12.0	-16:24

Venus

1.11 A.U.	07	09:52	14:31	19:09	17:29.4	-25:07
Mag. 4.6	17	10:07	14:44	19:22	18:22.5	-25:31
	27	10:16	14:57	19:39	19:14.9	-24:41

Mars

2.17 A.U.	07	03:04	09:09	15:14	12:09.4	+00:24
Mag. +1.3	17	02:55	08:52	14:49	12:31.9	-02:01
	27	02:46	08:35	14:25	12:54.4	-04:21

Jupiter

4.06 A.U.	07	18:12	01:29	08:42	04:29.1	+20:50
Mag. 2.9	17	17:29	00:45	07:56	04:23.8	+20:39
	27	16:44	23:55	07:11	04:18.2	+20:27

Saturn

8.13 A.U.	07	17:43	00:47	07:48	03:47.2	+17:34
Mag. +0.5	17	17:01	00:05	07:05	03:43.9	+17:23
	27	16:19	23:18	06:21	03:40.6	+17:13

SOL Star Type G2V Intelligent Life in System?

Hours of Darkness

10:38	07	06:39	11:51	17:03	14:51.0	-16:24
10:54	17	06:50	12:53	16:55	15:31.7	-19:05
11:06	27	07:00	11:56	16:51	16:13.8	-21:12

Astronomical Twilight:

		Begin	End
JD 2, 451, 855	07	05:10	18:32
865	17	05:20	18:26
875	27	05:29	18:22

Sidereal Time:

Transit Right	07	00:00	=	02:59
Ascension at	17	00:00	=	03:39
Local Midnight	27	00:00	=	04:18

Darkest Saturday Night: 25-Nov-2000

Sunset	16:51	Twilight End	18:23
Moon Set	17:04	Dawn Begin	05:27
Hours Dark	11:04		

Santa Cruz Astronomy Club

Membership Enrollment Form

Name(s)

Address

City, State, Zip

Telephone

May your telephone be included on a membership list available to active members only?

Yes _____ No _____

New Member _____ Membership Renewal _____

Membership Category:

Patron \$55 or more _____ Contributing \$31-54 _____

Sustaining \$16-30 _____ Family & Individual \$15 _____

Do you own a telescope? Yes _____ No _____

If yes, what kind? _____

Optional: To help the club better serve its membership, we would appreciate your completing the questions below.

Is this your first astronomy club?

Yes _____ No _____ (My last club was) _____

Your primary interests:

Learning astronomy basics _____

Learning the constellations _____

Learning equipment options _____

Learning observing techniques _____

Astrophotography _____

Telescope making _____

Group Observing Expeditions _____

Attending Club Lectures _____

Observer Subscription only _____

Other _____

Would you describe yourself as :

Novice _____ Intermediate _____ Advanced _____

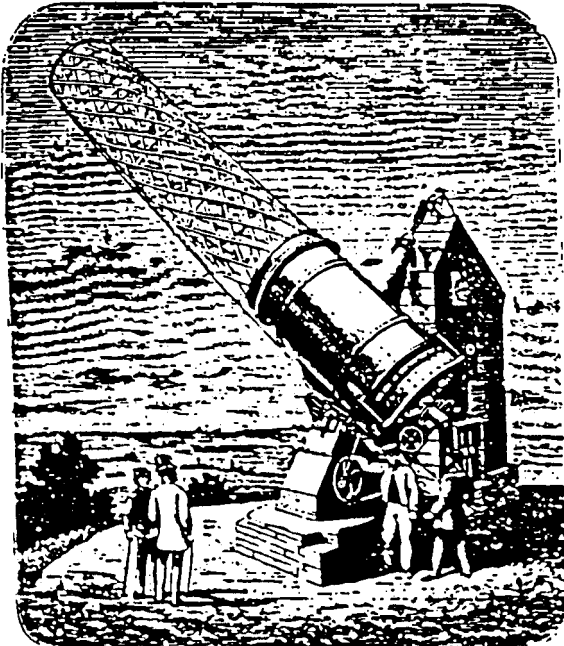
e-mail address _____

Membership/Subscription rates are pro-rated quarterly. Mail your enrollment form and check to: SCAC Membership, L-2 San Carlos Lane, Santa Cruz, CA 95065

Santa Cruz Astronomy Club

L-2 San Carlos Lane

Santa Cruz, CA 95065



Come and observe the universe with us!