



The ECLIPSE



The Newsletter of the Barnard-Seyfert Astronomical Society

Organized in 1928

February 2013

The Membership meeting will be held on February 20, 2013 at the Cumberland Valley Girl Scout Council Building located at the intersection of Harding Place and Granny White Pike at 7:30 pm.

Comets

Our President of the BSAS, Theo Wellington is going to speak about Comets and 2013 the year of the comets. Please don't miss her timely update on these amazing objects

Upcoming Events

Board of Directors Meeting, February 6 at the Cumberland Valley Girl Scout Building – 7:30 pm

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From the President

Here in Tennessee, the winter months are when we get some of our clearest, darkest nights. Unfortunately, that usually means cold as well! "Dark," of course, isn't really dark anymore. The Moon was lighting up the sky at Bells Bend this month, but the eastern sky was dominated by Nashville's light dome. Most of us deal with significant light pollution, and it is hard to get out far enough. Driving through the Mohave desert last summer, we knew exactly where Las Vegas was. Other than our selfish desire to enjoy the stunningly beautiful night sky every clear night, what should make everyone else care about dark skies?

There are lots of good practical reasons, from the waste of energy and money lighting up space to damaging the ecosystem of animals that expect the night, even effects on our own health. I'd like to argue that light pollution is damaging to the next generation's love of science and their attitude about the natural world around them as well.

Science is about how the world around you works. And for centuries, many of the brightest minds were inspired by the night sky. Not all of them became astronomers, but watching the cycles in the heavens got them thinking. So now we find ourselves in the 21st century, and policy makers want to interest young people in science...just when we have taken the stars away from them. We should not be surprised that they are not interested in science when they aren't allowed to see the natural world in action. We don't let them play in the dirt, or collect beetles like Darwin. We don't even want them to sweat - honestly, do you remember anyone worrying that you would get dehydrated on the playground 40 years ago? And we certainly aren't letting them see the stars at night. The night is scary, and what stars? You mean those 10 points of light? This phone app I can't connect to anything I actually see? (Hilariously, I saw students confused by the band of light a phone app was putting across the sky...they didn't know what it was.) Yet, the sky is accessible to everyone - you don't really need any special equipment. No lab, no chemicals, no money. The universe is visible

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Observing Highlights February & March

Moon phases

February 2013
02/03 LAST Quarter
02/10 NEW Moon
02/17 FIRST Quarter
02/25 FULL Moon

March 2013
03/04 LAST Quarter
03/11 NEW Moon
03/19 FIRST Quarter
03/27 FULL Moon

Objects:

Globular Clusters
M79

Open Clusters
NGC457 (ET), M103, NGC654,
NGC663, NGC884/869 (Double
Cluster),
M34, M45 (Pleiades), M36, M37,
M38, M35, M41,
M50, M47, M46, M93, M48, M44
(Beehive), M67,
NGC2264 (Christmas Tree)

Nebula

M76 (Little Dumbell), NGC1499
(California),
M1, M42 (Orion), M43, M78,
NGC2392 (Eskimo)

Galaxies

M31 (Andromeda), M32, M110, M33
(Triangulum), M74, M77, M81, M82

Multiple Star Systems

Eta Cassiopeiae, Gamma Arietis,
Gamma Andromedae, Beta Orionis
(Rigel),
Alpha Geminorum (Castor)

Variable Stars

Beta Persei (Algol), Omicron Ceti
(Mira), R Leporis (Hind's Crimson
Star)

Planets

Uranus, Jupiter

Star Parties for months of February and March

Sat 2/9 BSAS trace
marker 435.5

NM is 2/10 mile

Sat 2/16 Shelby Bottoms 700 to 900 FQ is 2/17 Moon,
Jupiter, Orion Nebula, Pleiades, etc

Sat 3/2 Warner Park 730 to 930 LQ is 3/4 Moon,
Jupiter, Orion Nebula, Pleiades, etc

Sat 3/9 BSAS at Mark's or Trace NM is 3/11 Messier
marathon attempt or mile marker 412 water valley overlook

Sat 3/16 Long Hunter 730 to 930 FQ is 3/19 Moon,
Jupiter, Orion Nebula, Pleiades, etc

Book Review: Return to Earth by Buzz Aldrin, Jr. and Wayne Warga

Reviewed by: Robin Byrne

At this last year's StarFest, I picked up a used copy of "Return to Earth," since it would fit in well with my collection of astronaut biographies and space program history books. Published in 1973, it is outdated in one sense. However this book provides nice insights not only into the life of Buzz Aldrin up to that point, but also a look at the space program from Mercury to Apollo while the events were still very fresh.

The look at Buzz Aldrin's early life is much as would be expected. Although an average student at first, summers at a military camp instilled a tremendous sense of drive, both academically and physically, and this drive would define his life for decades to come. Buzz wanted to be the best. Couple this desire to achieve with a father for whom nothing was good enough, and it is easy to see why Buzz made the choices he did.

Despite his father's wishes for Buzz to attend Annapolis, Buzz chose West Point. His summers at military camp prepared him well for the discipline, and he thrived in that environment. Following graduation, he entered the Air Force and served in Korea. After returning from the war, he met Joan Archer, and a short time later, they married. As Buzz's military career proceeded, so did his family, with the birth of three children in short order. When he and Joan realized how easily she could get pregnant, he made the decision to have a vasectomy. Quite an unusual move for men in that era.

As Buzz's career continued, he found himself torn between two choices: graduate school or test pilot school. He chose graduate school and was accepted to MIT - his father's alma mater. His area of study was the field of astronautics. Originally planing only to get a Masters degree and then go to test pilot school, Buzz decided to stay and pursue a PhD as well. His thesis studied the procedures necessary for two spacecraft to rendezvous in orbit. It's not as straight forward as you might think. Suppose you want to catch up with a vehicle ahead of you in orbit. If you were to speed up, this would put you into a higher orbit, where you would move slower, and the vehicle would move farther away from you. Instead, you need to slow down to move into a lower, faster orbit. Once caught up, you can speed up to raise your orbit back to where you were, and then perform small changes to finally dock up. Never one to be shy about extolling his own virtues, when Buzz worked at NASA, the combination of having a PhD and the topic of his thesis were frequently mentioned, ultimately giving him the nickname "Dr. Rendezvous." Despite the sarcasm behind the title, it was appropriate.

Buzz's career at NASA was one of many accomplishments. Many of his rendezvous techniques became standard practice. His Gemini flight was noteworthy because he was the first to truly understand how to maintain stability while performing tasks during a spacewalk. If this, seemingly, simple achievement had not occurred, the missions to the Moon would have been delayed. And then, of course, the Moon landing itself. Of interest to me were the ideas about the Moon still not understood at the time of the writing. The moon rocks and data were still being processed, so the concept of the moon forming from a collision was still not being discussed. The unmanned missions to the outer planets were just beginning, and it was still thought the our moon was the largest satellite in the solar system.

But, at the same time, the publication date had its advantages. Because this book was written only four years after the landing, the memories were very fresh. Details abound about the preparation, the flight itself, and, as the title emphasizes, the events after coming home. This was the part for which Buzz was not prepared. All his life, he had been goal oriented. Now, he had achieved his goals, so

what was left? For two years, his life was primarily devoted to public appearances, which he hated doing. The strain of feeling rudderless and being forced into situations that were uncomfortable took their toll. His marriage suffered. Infidelity made it worse. He and Joan even considered divorce. Underlying all of this was a case of severe depression. This downward spiral ultimately led to Buzz being hospitalized to treat the depression. With a tremendous amount of help from doctors and medication, Buzz slowly pulled his life back together.

For Buzz Aldrin, the desire to write his autobiography was partly due to his accomplishments with NASA, but it was also to go public about his struggle with depression. He wanted to help remove the stigma associated with mental illness by putting himself forward as an example that anyone can be a victim of mental illness - even heroes. And to also show that there is hope for those in the clutches of depression. Buzz Aldrin was a true pioneer in more than one way. He was a pioneer in space, but also a pioneer as a champion of mental health issues. "Return to Earth" gives a wonderful glimpse at both aspects of this very complicated man.

Return to Earth by Colonel Edwin E. "Buzz" Aldrin, Jr., with Wayne Warga Random House 1973

President's Message continued from Page 1

anywhere on Earth, every clear night.

I find myself talking more about turning off lights at every star party. The upcoming comets will make a great argument for turning off city lights. We need to create understanding about how important it is to have the night sky, and to learn to counter arguments for more unnecessary light. There are some excellent resources at the International Dark Sky website darksky.org. We need to educate teachers as well...I don't think I've ever had a teacher actually tell students to go out and look at an astronomical event. Real science, going on in real time, all they have to do is look up!

There are exactly two things that "wow" almost any young child....dinosaurs...and space. Dinosaurs belong to the distant past. Space is the future. I don't think we could do any better to interest our children to continue the adventure of science than to bring back the dark night sky....and to encourage them to go outside - even in winter - and look up.

Clear dark skies,
Theo Wellington

Barnard-Seyfert Astronomical Society
Minutes of the Regular Meeting of the Board of Directors
Held On Wednesday, January 9, 2013

The board of directors of the Barnard-Seyfert Astronomical Society (BSAS) met in regular session at the Cumberland Valley Girl Scout Council Building in Nashville, Tennessee on Wednesday, January 9th, 2013. This meeting would normally have occurred on Wednesday, January 2nd but was postponed a week due to this former date's proximity to the New Years Day holiday. A sign-in sheet was passed around in lieu of a roll call. Board members Joe Boyd, Steve Cobb, Bill Griswold, John Harrington, Melissa Lanz, Bob Norling, Bob Rice, Poppy Simmons, and Theo Wellington were present. Board members Dr. Spencer Buckner and Kris McCall were absent. A quorum being present and since President Theo Wellington had not yet arrived, Vice-President Joe Boyd called the meeting to order at 7:32 P.M.

Joe Boyd asked for corrections to the minutes of the previous board meeting held on December 5, 2012 and, there being none, declared them to be approved as published in the January 2013 edition of the Society's *Eclipse* newsletter. Treasurer Bob Norling reported that the BSAS had \$1,712.24 in its regular checking account and \$1,211.13 in its equipment account. Mr. Norling also reported that the Society made \$195.00 from the silent auction at the December 19, 2012 membership meeting and Christmas party and had an outstanding bill of \$320.00 for its annual liability insurance premium. Secretary Bob Rice reported that he had filed the Society's 2012 federal income tax return.

Joe Boyd announced these upcoming star parties:

- Jan 12 – Private star party @ mm 411.8 (Water Valley Overlook) on the Natchez Trace Parkway,
- Jan 18 – Public star party @ Bells Bend Park from 7:00 to 9:00 P.M.,
- Feb 09 – Private star party @ mm433.5 on the Natchez Trace Parkway, and
- Feb 16 – Public star party @ Shelby Bottoms Park at 7:30 P.M.

Joe Boyd announced that an update on the reorganization of the Middle Tennessee Chapter of the International Dark Sky Association would be postponed until the next board meeting. President Theo Wellington arrived and Mr. Boyd promptly turned the meeting over to her. Ms Wellington introduced new board member Poppy Simmons. Ms Wellington noted that an updated star party list had been sent out via email. She also reported that, thanks to the efforts of Bill Griswold, the BSAS had received a special use permit from the National Parks Service to again use the two sites at mileposts 411.8 and 433.5 for private star parties. Ms Wellington announced that the parents of a group of homeschooled 5th grade students in Mt. Juliet had asked the BSAS to provide telescopes for public viewing during a science fair at Heritage Christian Academy on January 28 at 6:00 P.M. Since the BSAS had recent favorable outreach experience with this same group, the board agreed to support their request by announcing the event at our January 16th membership meeting and asking anyone who could do so to provide telescopes.

Theo Wellington announced that the BSAS had been invited to attend a "peer consult" meeting at the Warner Parks Nature Center on Friday, January 11th at 4:00 P.M. and invited other officers and board members to join her there. Ms Wellington reported that Jessica House, an Interpretive Specialist with the Tennessee State Parks who attended our December 19th membership meeting and Christmas Party, had asked the BSAS to provide star parties for these two dates and locations: (1) April 20, 2013 at Nathan Bedford Forest State Park for Waverly Elementary School 2nd graders and their families and

(2) June 22, 2013 at Long Hunter State Park for their Great American Backyard Campout. Joe Boyd moved that the BSAS provide star parties for both events and John Harrington seconded his motion. Following a brief discussion, the board approved the motion by a unanimous voice vote. Theo Wellington announced that the BSAS had been invited to attend a meeting with the Americans United for Separation of Church and State on February 10 2013 at 3:00 P.M. The board noted that a previous joint meeting with this same group had been favorable. Joe Boyd moved that the BSAS support, notify, and encourage member attendance at this meeting and publicize it in the *Eclipse* newsletter. John Harrington seconded this motion and, following a brief discussion, the board passed it by a unanimous voice vote.

Bob Rice, reporting for the Program Committee, announced these tentatively scheduled membership meeting programs for 2013:

- Jan 16 – Dr. Spenser Buckner on “I Got a New Telescope for Christmas... Now What?”
- Feb 20 – Brad Hill on planetary imaging,
- Mar 20 – Dr. Terry Reeves & Steve Wheeler on “What’s Up in the Spring Sky,” and
- Apr 17 – A speaker from the 7th Huntsville Gamma Ray Burst Symposium.

Mr. Rice noted that BSAS past-presidents Dr. Spencer Buckner, John Harrington, and Dr. Terry Reeves were also serving on this committee.

Theo Wellington stated that she and John Harrington would look into getting new members from students at Vanderbilt University, Middle Tennessee State University, and other local colleges and universities. Bob Norling noted that the BSAS will pay \$240.00 in annual rent to the Cumberland Valley Girl Scout Council. Since there was no further business to discuss, President Theo Wellington declared the meeting to be adjourned at 8:27 P.M.

Respectfully submitted,
Bob Rice, Secretary

Barnard-Seyfert Astronomical Society
Minutes of the Monthly Membership Meeting
Held On Wednesday, January 16, 2013

President Theo Wellington called the meeting to order at 7:40 P.M. on Wednesday, January 16, 2013 at the Cumberland Valley Girl Scout Council Building in Nashville, Tennessee and welcomed members and visitors. Ms Wellington asked for corrections to the minutes of the previous membership meeting held on December 19, 2012 and, since none were presented, asked for a motion that these minutes be approved as published in the January 2013 edition of the Society's *Eclipse* newsletter. Joe Boyd so moved, Bill Griswold seconded his motion, and the minutes were approved by a unanimous voice vote of the membership. Treasurer Bob Norling reported that the Society had \$1,385.76 in its regular account and \$1,211.13 in its equipment account. Mr. Norling also commented that three new members had joined this evening.

Theo Wellington announced these upcoming star parties and other events:

- Jan 18 – Public star party at Bells Bend Outdoor Center from 7:00 PM to 9:00 PM,
- Jan 17 – Carl K. Seyfert Lecture on the Kepler Mission at Vanderbilt University at 4:00 PM,
- Feb 09 – Private star party at mm 435.5 on the Natchez Trace Parkway,
- Feb 16 – Public star party at Shelby Bottoms Park from 7:00 PM to 9:00 PM, and
- Mar 02 – “Rusty Rocket’s Last Blast” a presentation for kids at the Adventure Science Center.

Theo Wellington introduced Dr. Spencer Buckner, a BSAS past-president and currently Associate Professor of Physics and Astronomy at Austin Peay State University, who delivered the evening’s program on “So You Got a Telescope for Christmas – What Next?” Dr. Buckner began with a brief PowerPoint presentation covering these topics:

- Types of telescopes – refractors, reflectors, & catadioptric (use lenses & mirrors),
- Types of mounts – altazimuth & equatorial,
- Dobsonian mounts as a special type of altazimuth mount,
- Use of “go-to” & “push-to” features for mounts,
- Use of planispheres & sky maps,
- Planetarium software – Starry Nights, The Sky, Stellarium, etc,
- Smart phone apps – some can be used to operate a telescope, and
- Special software can be useful in planning what to observe.

The audience then gathered around the two telescopes that Dr. Buckner brought – an 8 inch dobsonian reflector and a 100mm refractor on a go-to German equatorial mount – for a demonstration of the set-up, use, and special features of each. All questions – and there were many - were fielded and answered on the spot. Dr. Buckner concluded by pointing out that high quality telescopes and eyepieces also needed cases for protection. He noted that for eyepieces a simple fishing tackle box could suffice.

Since there was no further business to discuss, the meeting was informally adjourned shortly after 9:20 P.M. with small groups of guests and members continuing their conversations in the parking lot.

Respectfully submitted,
Bob Rice, Secretary

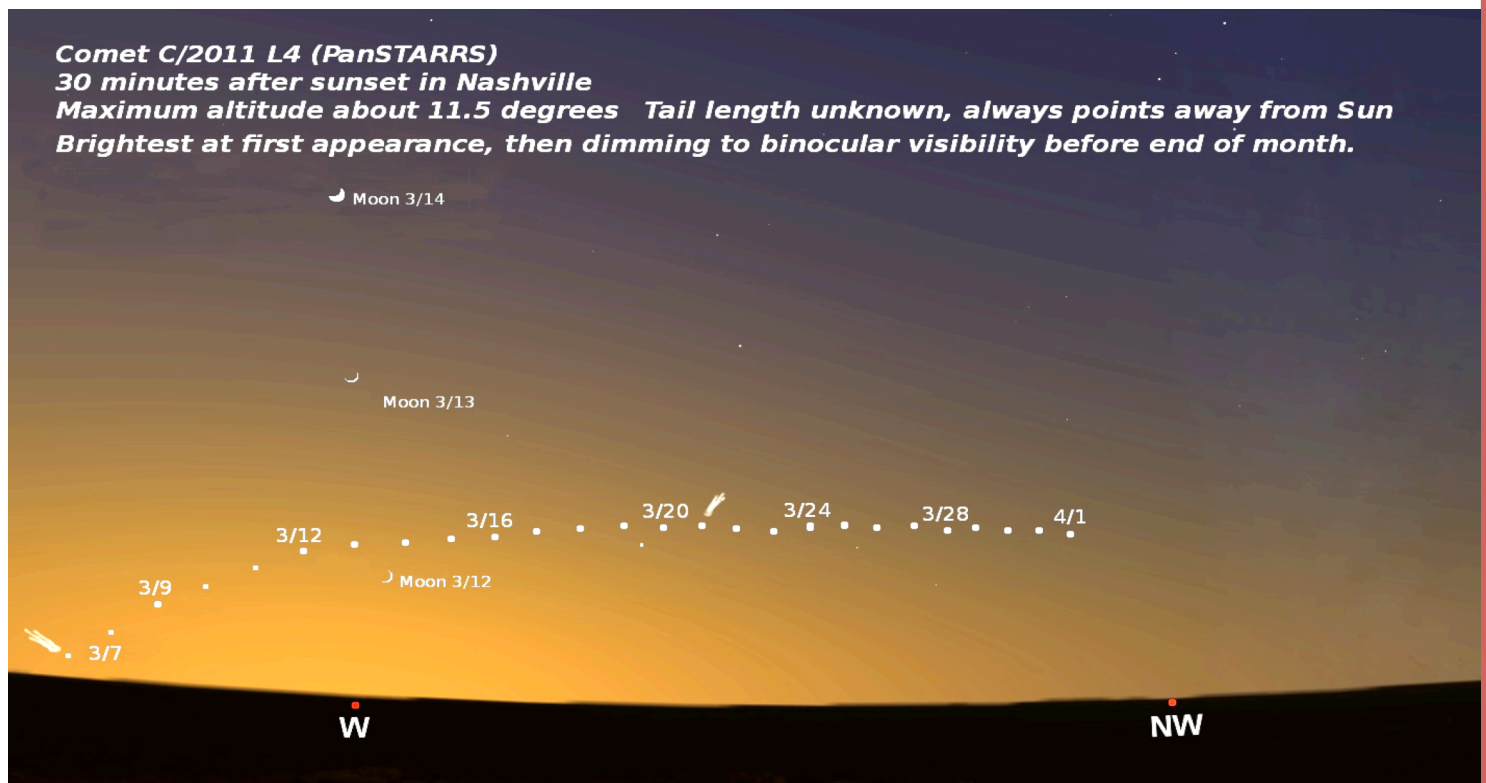
Year of the Comets

After the Transit of Venus last year, 2013 looked like just a normal year of observing the sky. Two recent comet discoveries changed that. After a number of years without a truly bright naked eye comet, we may get not one but two!

Comet C/2012 S1 (ISON) (named after the automated telescope program that detected it) promises to brighten to negative magnitudes in the fall of 2013. With luck we will first see it brighten in the predawn skies before Thanksgiving. Then we'll watch it round the Sun, passing less than a solar diameter from the surface. If ISON survives, it may be an extraordinarily bright comet in our evening sky in December. The hype is already there – "as bright as the full Moon!" Well, we've all been disappointed by comets, so we will just have to wait and see what we get, hoping for the best.

In early March, however, the opening act for the later show will be **Comet C/2011 L4 (PanSTARRS)**. The comet is currently in the southern hemisphere's sky, where it will be until a few days before perihelion on March 10. Brightness estimates range from +1 to -1 near perihelion. Closest approach to Earth is on March 5th. By the time it appears in Nashville's skies it will be moving away from us, slowly dimming over a few weeks. See the finding chart for how the comet will move through our evening sky. If it gets as bright as advertised, all you will really have to do is look to the west/northwest, and you'll find it low in the sky. If it does have a long tail, March 13th the Moon might stand in front of the top of the tail.

With luck, and of course clear skies, we will have a good reason to encourage the public to look at the spring sky. Comet PanSTARRS should also give us practice in observing and photographing comets, visitors from the outer edges of the solar system. Both *Sky and Telescope* and *Astronomy* magazines have extensive coverage of both comets of 2013.



Become a Member of the BSAS!

Download and print the Application for membership from www.bsasnashville.com (Adobe® Acrobat Reader® required).

Then fill it out and bring it to the next monthly meeting or mail it along with your first year's membership dues to:

BSAS
P.O. Box 150713
Nashville, TN 37215-0713

Annual dues, which include membership in the BSAS and Astronomical League, and subscriptions to their newsletters, are:

\$20 Individual
\$30 Family
\$15 Senior (+65)
\$25 Senior Family (+65)
\$12 Student*

* To qualify, you must be enrolled full time in an accredited institution or home schooled.

All memberships have a vote in BSAS elections and other membership votes.

Also included are subscriptions to the BSAS and Astronomical League newsletters.

IMPORTANT DUES INFORMATION

To find the expiration date for your current membership, visit our web site at <http://www.bsasnashville.com> and click the Renewals link.

There will be a two month grace period before any member's name is removed from the current distribution list.

About Our Organization

Organized in 1928, the Barnard-Seyfert Astronomical Society is an association of amateur and professional astronomers who have joined to share our knowledge and our love of the sky.

The BSAS meets on the third Wednesday of each month at the Cumberland Valley Girl Scout Building at the intersection of Granny White Pike and Harding Place in Nashville. Experienced members or guest speakers talk about some aspect of astronomy or observing. Subjects range from how the universe first formed to how to build your own telescope. The meetings are informal and time is allotted for fellowship. You do not have to be a member to attend the meetings.

Membership entitles you to subscriptions to *Astronomy and Sky & Telescope* at reduced rates; the club's newsletter, the *Eclipse*, is sent to members monthly.

BSAS members also receive membership in the Astronomical League, receiving their quarterly newsletter, the *Reflector*, discounts on all astronomical books, and many other benefits.

In addition to the meetings, BSAS also sponsors many public events, such as star parties and Astronomy Day; we go into the schools on occasion to hold star parties for the children and their parents. Often the public star parties are centered on a special astronomical event, such as a lunar eclipse or a planetary opposition.

Most information about BSAS and our activities may be found at www.bsasnashville.com. If you need more information, write to us at info@bsasnashville.com or call John Harrington at (615) 739-4500.

[BSAS on Facebook](#)

Free Telescope Offer!

Did someone say free telescope? Yes, you did read that correctly. The BSAS Equipment & Facilities Committee has free telescopes ranging in size from 2.6" to 8" that current members can actually have to use for up to 60 days at a time. We also have some other items in the loaner program such as a photometer, H-alpha solar telescope, educational CDs, tapes, DVDs, and books. Some restrictions apply. A waiting list is applicable in some cases. The BSAS Equipment Committee will not be held responsible for lost sleep or other problems arising from use of this excellent astronomy gear. For information on what equipment is currently available, contact Lonnie Puterbaugh at 615-661-9540.