



# The ECLIPSE



The Newsletter of the Barnard-Seyfert Astronomical Society

Organized in 1928

June 2013

## The Membership meeting will be held on June 19, 2013 at the Cumberland Valley Girl Scout Council Building located at the intersection of Harding Place and Granny White Pike at 7:30 pm

This evening's program will be a DVD presentation on Lick Observatory located on Mount Hamilton near San Jose, California. Lick should be of interest to BSAS members because one of our club's namesakes, E. E. Barnard, brought the then new observatory considerable (Continued on Page 7)

### Upcoming Events

Board of Directors Meeting, June 5 at the Cumberland Valley Girl Scout Building – 7:30 pm

### In this issue

Membership meeting 1 & 7

From the President 1, 4 & 6

Observing Highlights 2  
Star Parties 2

Star Wars - book review –Robin Byrnes 3 & 4

Board Meeting Minutes May 1, 2013 5 & 6

Membership Meeting Minutes, May 15, 2013 7

BSAS Membership information 8

Eclipse photograph by Francisco Diego

### From the President

Boldly going nowhere....

Science has always had a tough time getting funding. Time was you did astrology on the side (Kepler) or schmoozed rich patrons (Galileo). Money for pure science has always been scarce. Explicit government science funding really only began in the 20<sup>th</sup> century. If we are not careful, it may end in the 21<sup>st</sup>.

The rise in available money for research, both private and public, is credited with many advances that brought benefits to everyone, especially in the medical field. In space, the advances that came with the race to the Moon opened up whole new fields of inquiry. Suddenly we had the tools to actually explore the cosmos, to send spacecraft to nearby worlds that were only hazy blobs in the telescopes of the day, to design instruments that could see the entire EM spectrum rather than only what nature allows to dribble through the atmosphere.

Unfortunately, tight budgets are raising questions about the money spent on pure science, preferring applied science with guaranteed returns. People do not realize how many unanticipated benefits have come from pure research.

In space exploration, although successes like the Hubble and Mars Rover missions have been very popular with the public, the budget is just not enough to continue. So we have less expensive but also less productive future missions. (Except for the James Webb space telescope, which pre-launch is just plain expensive.)

For example, the *Cassini* mission to Saturn cost 3.26 billion dollars. It went loaded with twelve instruments, radio isotope power plus the *Huygens* lander and has operated for nine years. The science done with this spacecraft is truly extraordinary. Currently it is slated to end in 2017, provided the spacecraft lasts that long.

But the *Juno* spacecraft now bound for Jupiter was cheaper...nine

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## Observing Highlights for June & July

### Moon phases

#### June 2013

06/08 NEW Moon  
06/16 FIRST Quarter  
06/23 FULL Moon  
06/29 LAST Quarter

#### July 2013

07/08 NEW Moon  
07/15 FIRST Quarter  
07/22 FULL Moon  
07/29 Last Quarter

### Objects:

#### Globular Clusters

M68, M53, M3, M5, M80, M4, M107,  
M13, M12, M10, M62, M19, M92, M9,  
M14

#### Open Clusters

M48, M44 (Beehive), M67, Mel111  
(Coma Star Cluster), M6 (Butterfly), M7,  
M23

#### Nebula

NGC3242 (Ghost of Jupiter), M97 (Owl),  
NGC6302 (Bug),  
NGC6309 (Box), NGC6543 (Cat's Eye)

### Galaxies

M81, M82, NGC3115 (Spindle Galaxy), M95,  
M96, M105, M108, M65/M66/NGC3628 (Leo  
Triplet), M109, M98, M99, M106, M61, M100,  
M84, M85, M86, M49,  
M87, M88, M91, M89, M90, M58, M104  
(Sombrero Galaxy), M59, M60, M94, M64  
(Black-Eye Galaxy),  
M63 (Sunflower Galaxy), M51 (Whirlpool  
Galaxy), M83, M101/M102

### Multiple Star Systems

Gamma Leonis (Algieba),  
M40, Gamma Virginis (Porrima),  
Alpha Canum Venaticorum (CorCaroli),  
Zeta Ursae Majoris (Mizar),  
Epsilon Bootis (Izar or Pulcherrima)  
Mu Bootis (Alkalurops),  
Beta Scorpii (Acraab),  
Alpha Herculis (Rasalgethi)

### Variable Stars

R Leonis

### Planets

Mercury, Venus, Jupiter, Saturn

## Star Parties for months of June and July

Sat 6/8 BSAS trace mile marker 412 water valley overlook

Sat 6/22 Long Hunter 830 to 1030 FM is 6/23 Great  
American Backyard Campout - Moon, Saturn

Fri 6/28 Bells Bend 830 to 1030 LQ is 6/30 Saturn, star  
clusters, nebulae, double stars, etc

Sat 7/6 BSAS trace mile marker 435.5

Sat 7/13 ASC 830 to 1030 FQ is 7/16 2<sup>nd</sup>  
Saturday - Moon and Saturn

Fri 7/19 Bowie Park 830 to 1030 NM is 7/22 Moon,  
Saturn, double stars

## Book Review: Star Wars and History

reviewed by Robin Byrne

It is time once again for a book review, and this time I chose "Star Wars and History" edited by Nancy R. Reagin and Janice Liedl. Does it have anything to do with astronomy? No. Then why review it? Because it's STAR WARS, of course!

Written with the cooperation of George Lucas, this book looks at the historical influences Lucas based his story and characters upon, as well as other historical parallels. Broken into three parts, Star Wars and History begins with wars, rebellions and those who fought in such battles. The second section explores the politics of the Star Wars universe. And we end with the economics and society of the galaxy far, far away.

Starting with the rebellion, two eras in history are explored: the American Revolution and the Vietnam War. In the case of the rebels versus the Empire, as with both the American Revolution and Vietnam, we have a small band of poorly trained and supplied rebels fighting against a very powerful enemy. In all three wars, on paper, it seems obvious that the more powerful side will win. However, what makes the difference is a familiarity with the local terrain and the help of native peoples. Against the odds, the rebels come out triumphant.

The role of Princess Leia as a woman fighting in a war finds many parallels. Joan of Arc, Constance Markievicz (Ireland), Rose Greenhow (Civil War), and women in the French Resistance of World War II are all examples of a woman taking up arms, spying, and fighting for a cause. In many cases, the women had to disguise themselves as men, much as Leia did when she portrayed the bounty hunter Boushh, bringing Chewbacca to Jabba the Hutt.

The Jedi order also has some earthly equivalents. Their monk-like order and skill as fighters is very much like the Shaolin Monks. The Zen philosophy teaches to "let go of the conscious mind", much as Obi Wan Kenobi instructs Luke Skywalker to do when he first begins training in the Jedi arts. The Knights Templar had a similar hierarchy to their order as the Jedi, and saw themselves as a force of good fighting against evil. And the fate of the Jedis, being massacred by their enemies, is very similar to what happened to the Knights Templar on Friday the 13th of October 1307, when a secret order was executed to arrest the Templars as heretics.

The rise of Palpatine to Emperor also has connections to our past. Lucas clearly based much of his rise to the events of ancient Rome, where the leaders asked for temporary power in a time of crisis, only to never relinquish it. The fall of Rome into rule by an Emperor, and the Senate losing all power is exactly what happened in the Star Wars story. Similarly, Napoleon crowning himself as Emperor for the good of the Republic is much like Palpatine's seeming reluctance to accept his emergency powers, while declaring how much he loves the Republic. One of the most obvious parallels to our past is in the form of Storm Troopers - a clear reference to Germany's soldiers of the same name. Many of the uniforms of the high ranking officers of the Empire are reminiscent of those worn by Nazi Panzer officers.

Powerful women in the Star Wars stories are not judged by their gender, but by their skill. Queen Padme Amidala, as a young woman in a position of power, has a few role models in history. Cleopatra was also a young woman when she became Queen. In Prussia, Maria Theresa fought for rule of her country. Catherine the Great was a formidable leader who had tremendous political skill. And Queen Elizabeth, dressed in armor, rallied her troops prior to the attempt to invade England by the Spanish Armada, much as Princess Leia briefed the rebel troops on Hoth before the Empire's attack.

In a reverse direction, Star Wars had an influence on history. Reagan's Strategic Defense Initiative (SDI) was derisively dubbed "Star Wars" by Senator Ted Kennedy. Meanwhile, Reagan referred to the Soviet Union as "The Evil Empire." The ultimate weapon, the Death Star, plainly represents the power of nuclear weapons. The choice to use such a weapon must be made such that it will send a clear message to the enemy. Truman's decision to drop the atomic bomb on Hiroshima and Nagasaki was meant to instill so much fear that no further use would be necessary and World War II would finally be brought to an end. Similarly, Grand Moff Tarkin's choice to use the Death Star to destroy Alderaan, rather than the, supposed, rebel base of Dantooine, was because Dantooine was too remote to make an effective impact.

The Trade Federation also has its roots in history. Set up to represent certain economic interests, the Trade Federation had its own army to help maintain its economic power. This is very similar to the East India Company. Blockades and invasions were a part of how the East India Company maintained control and drove out competitors. Similarly, they acted with the support of the politicians back home, at times being quite useful for expanding empires. But their end also is very similar. Once they had served their purpose, their services were no longer needed, and they were cut off from all political support, much as when Palpatine orders Darth Vader to execute the Trade Federation representatives on Mustafar.

If you love Star Wars (and let's face it, who amongst us doesn't?) and you enjoy history, this book provides a rich tapestry of both. I definitely recommend giving it a read.

Star Wars and History edited by Nancy R. Reagin and Janice Liedl, John Wiley & Sons, Inc. 2012

President's Message, continued from page 1

instruments, solar panels, 1.1 billion dollars. We will have only slightly over a year of data before the spacecraft is deliberately crashed into Jupiter in 2017. Hopefully it will do good work...but that's not nearly the bang for the buck of *Cassini*.

Well, maybe we could live with cheaper...but on the horizon is....nothing at all. Right now NASA plans to go nowhere other than Mars after 2017, and *nowhere at all after 2020*. We will still fund a few Earth satellites, but apparently much of Washington does not think anything useful can be learned by studying other planets. (The sequester, by the way, has been used to cut NASA education and public outreach funds, much of which will not be restored.)

What to do? I know it sounds cliché, but write your congressman or woman! There are a number of petitions around, but individual letters carry more impact. Look at the Planetary Society blogs and articles for the latest in the budget battles.

Mention this often to others...we can't just preach to the choir. When asked, the public grossly overestimates NASA's share of the budget (0.5%), and planetary exploration is currently less than 10% of NASA's total. Raise awareness of the facts.

Support science education. Currently even our public school teachers do not feel free to teach the ideas of natural selection without framing it as just a fun idea that biologists have. We need a science literate society. Our elected officials are just a reflection of our failure to teach a basic understanding of science. Consider that when you vote as well.

President's Message, continued on Page 6

**Barnard-Seyfert Astronomical Society  
Minutes of the Regular Meeting of the Board of Directors  
Held On Wednesday, May 1, 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, May 1, 2013. A sign-in sheet was passed around in lieu of a roll call. Board members Joe Boyd, Dr. Spencer Buckner, Steve Cobb, Bill Griswold, Melissa Lanz, Bob Norling, Poppy Simmons, and Theo Wellington were present. Board members Kris McCall and Bob Rice were absent. A quorum being present, President Theo Wellington called the meeting to order at 7:35 P.M.

Theo Wellington asked for corrections to the minutes of the previous board meeting held on April 3, 2013 and, there being none, asked for a motion declaring them to be approved as published in the May 2013 edition of the Society's *Eclipse* newsletter. Steve Cobb so moved and Dr. Spencer Buckner seconded his motion that was subsequently passed by a unanimous voice vote without discussion. Treasurer Bob Norling reported that the BSAS had \$2,072.81 in its regular checking account and \$1,251.20 in its equipment account.

Theo Wellington announced these upcoming star parties:

- May 03 – Public Star Party @ Bells Bend Park from 8:30 P.M. to 10:30 P.M.
- May 11 – Private Star Party @ Natchez Trace MM 435.5
- May 18 – Public Star Party @ Long Hunter State Park from 8:30 P.M. to 10:30 P.M.
- June 8 – Private Star Party @ Natchez Trace MM 412

Joe Boyd reported that he had made several attempts to contact Nashville Metro government's Office of Sustainability, within the Mayor's office, about dark sky issues, but no one would return his calls. He has a new name to contact now – Megan Barry, a Council Person at Large – and will try to reach her.

Theo Wellington reminded everyone of the Tennessee Spring Star Party to be held on May 10 -12, at the Fall Creek Falls State Park.

Ms. Wellington also reported that she and Joe Boyd attended the Gamma Ray Burst Conference in Nashville. It was a very well organized conference, with around 200 people in attendance from all over the world. She and Mr. Boyd found the topics to be interesting and well-presented, and the speakers and attendees open to questions from non-experts.

Ms. Wellington commented that our esteemed speaker from the conference, Dr. Neil Gehrels, deserved kudos for his fine presentation at our April membership meeting.

Ms. Wellington noted that we have several opportunities for outreach:

- Camp Idyllwild would like to have an "Astronomy Night" program on June 7<sup>th</sup>. The address is 3139 Blue Buck Creek Road, Duck River, Tennessee 38454. It is halfway between Columbia and Centerville on Highway 50. If anyone can go, please contact Mr. Ward at 931-729-2012 or 615-541-9453.
- Pickett State Park is trying to get their Dark Sky accreditation, and would like to have our assistance. Monica is the park ranger. The Orion Astronomy Club in Oak Ridge is closer to them, but we may have members who can assist.

- The Scouts are looking forward to having us for their Great American camp-out at Long Hunter State Park. The park ranger has a fair number of people signed up.
- The board discussed the possibility of offering a collimation clinic. Ms. Wellington suggested putting up a sign-up sheet to see if there is enough interest. The board thought it best to hold one during daylight hours in the summer-time, prior to a star party.

Ms. Wellington took a solar telescope to the Nathan Bedford Forrest State Park astronomy event on April 20<sup>th</sup>, and John Walker assisted that evening. About 40 people came, and enjoyed seeing the Moon and Jupiter. The ranger is interested in making this an annual event, and may be willing to see about a cabin if anyone would like to go up on Friday night. The sky is certainly darker than what we normally see.

Poppy Simmons asked if we wanted to make plans to have solar scopes at the Dragon Boat Festival. She commented that the Earth Day Festival, scheduled for April 14<sup>th</sup> 2014 in Centennial Park, would be another appropriate opportunity for solar scopes.

Ms. Wellington commented that Cornelia Fort, an old airstrip at the end of the bend at Neely's Bend, is being made into another park, and would be another possible site for star parties. It will not have a nature center, and no additional staff.

Melissa Lanz asked if there were plans to fill the board position vacated by John Harrington. Since he was an ex-officio member, as past President, the board deemed it unnecessary to fill the position.

Ms. Wellington asked that if anyone sees anything on the web-site that needs changing or adding, to please email Drew Gilmore. She stated that he also keeps a backup of the membership roster, which Bill Griswold sends to him each month..

Since there was no further business to discuss, Poppy Simmons moved that the meeting be adjourned. Steve Cobb seconded his motion that passed by a unanimous voice vote of the board at 8:25 P.M. without additional discussion.

Respectfully submitted,  
Melissa Lanz, Substituting for Bob Rice, Secretary

President's Message continued from page 4

Know any rich folks? We need private funding as well. George Ellery Hale raised private money to build Yerkes, Mt. Wilson, and Mt. Palomar. We could use a Hale today....we have several earthbound observatories in danger of being closed – the Green Bank and VLBA radio telescopes, the McMath-Pierce Solar Telescope and Mayall Telescopes at Kitt Peak, to name a few. These need permanent foundation funding, not year to year money subject to politics. Yes, we should still be schmoozing. Raise awareness, write your representatives....let be advocates for science!

Clear, dark skies  
Theo Wellington, President

## Barnard-Seyfert Astronomical Society Minutes of the Monthly Membership Meeting Held On Wednesday, May 15, 2013

President Theo Wellington called the meeting to order at 7:40 P.M. on Wednesday, May 15, 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 April 17, 2013 and, there being none, asked for a motion to approve these minutes as published in the May 2013 edition of the Society's *Eclipse* newsletter. A member so moved, a second member seconded this motion, and the minutes were approved by a unanimous voice vote.

Theo Wellington announced these upcoming star parties and other events:

- Jun 08 – Private star party at Natchez Trace Parkway mm412 (Water Valley Overlook),
- Jun 22 – Public star party at Long Hunter State Park from 8:30 to 10:30 PM,
- Jun 28 – Public star party at Bells Bend Park from 8:30 PM to 10:30 PM.

Ms Wellington also announced that she had been contacted about holding a star party at Camp Idyllwild and received a request from Pickett State Park for assistance with achieving the Dark Sky Park Designation from the International Dark-Sky Association.

Theo Wellington announced that the BSAS needed contact information for new member James Davidson. Ms Wellington commented that the club was considering holding a collimation workshop as a future program. She reminded the audience to check the BSAS' website and Facebook. A member inquired about club's loaner telescopes and equipment. Ms Wellington replied that an updated list was being compiled and would be posted on the website.

Theo Wellington introduced Dr. Erika Grundstrom, Vanderbilt University Director of Astronomy Labs and Dyer Observatory Liaison, who delivered the evening's program on "Stars That Give Too Much - Stripped Subdwarfs." Dr. Grundstrom described systems that often involve the pairing of a large, very hot, and rapidly rotating spectral class "B" star that has gained angular momentum by stripping the outer envelope from a hot subdwarf companion star. She noted that the first Be type star discovered, Gamma Cassiopeiae, is clearly visible to amateurs. Dr. Grundstrom stated that she currently had a proposal for time on the Hubble Space Telescope to further study these Be types of stars. She concluded by graciously answering questions from the audience.

Since there was no further business to discuss, the meeting was adjourned at 8:49 P.M.

Respectfully submitted,  
Bob Rice, Secretary

(Program, continued from Page 1)

fame when he visually discovered Jupiter's 5th moon Almathea through the 36 inch refractor there in 1892. Opened in 1888, Lick was also the first observatory to be built high on a mountain top where the seeing is better. Lick has installed a number of additional telescopes since then (including the 120 inch Shane reflector) and continues to be a leader in the development of adaptive optics.

## Become a Member of the BSAS!

Download and print the Application for membership from [www.bsasnashville.com](http://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](http://www.bsasnashville.com). If you need more information, write to us at [info@bsasnashville.com](mailto: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.