

Bays Mountain Astronomy Club

☞ *Next Meeting: June 7* ☞

REFLECTIONS

Greetings fellow amateur astronomers.

May's meeting was to be devoted to an observing session. The weather didn't allow us the fulfillment of that plan. I hope in the future we can have more meetings with viewing as the theme. I also would like to add viewing to as many meetings as we can, depending on the weather, of course. We stayed inside and had a wonderful constellation quest presentation by BMAC'er Sally Hale. Her constellation was Ursa Minor (the Little Bear). Following her very interesting presentation we had an astronomy trivia game.

The major item for the business meeting was the upcoming annual picnic. Team leader Greg Love presented all the details. Please keep watching the web and bmastro for changes and updates. An update of the Astronomy Day event was reported. I feel that our trial of the new format for Astronomy Days was good overall, and can be even better with a few tweaks to the format. I hope that you'll offer suggestions to make it better. We should start planning for next year's now. We all know that proper planning makes

BY WILLIAM TROXEL

events better. This same concept applies to StarFest. Everybody knows that it's not fun to focus on planning, however the results of proper planning shows on the day of the event. I have said it many times as your chairman. We have a great club with lots of talent. We make a difference.



I'm not sure about you, but so far I haven't had many chances to view the night sky. The weather has not been on our side much this spring. I understand that some of you would like to have viewing as part of the meeting. I would like to add that as part of the upcoming meeting(s). July is always our annual picnic and star party, hopefully we can get a break in the weather so that we can set up our scopes and do some viewing from Natural Tunnel. I hope each of you will make a real effort to come out. It really is a wonderful evening of fun.

Our business meeting in June will focus on two areas. The first will be the election of next year's chairman. I have decided to place my name in for reelection as your chairman. I still have several ideas I would like to see the club develop and continue to grow some ideas we've put forth this

Calendar

Special Events

Jul. 13 6 p.m.; BMAC Annual pot-luck Picnic in the gazebo at Natural Tunnel State Park. Bring a dish or dessert to share. Bring your own chair.

SunWatch

Every Sat. & Sun., 3 - 3:30 p.m.,

Mar. - Oct., weather permitting.

BMACers are always welcome to help.

BMAC Meetings

7 p.m., Discovery Theater

June 7 Robin Byrne from Northeast State Community College will present "Where Am I? Finding Our Place in the Milky Way." Const. Quest: Boötes the Herdsman by William Troxel.

Aug 2 Dr Joseph Pollock, Appalachian State University Astronomy Department. "Specifically Paired & Binary Asteroids / PROMPT Telescope." Const. Quest: TBA.

year. I hope that you will come and express your feelings and vote. Should you want me, I will consider it an honor to serve for another year. I also want to remind each of you, that should you want to place your name in for consideration all you need to do is come out to the meeting, when the floor is open for nomination place your name in consideration.

The other major item will be the final planning for the July meeting and picnic. I will be asking as many of you as can to sign up for what you'll bring as a dish to pass and if you will be bringing a scope and or binoculars. I hope that if you have both you will bring them. I think it will be fun to have different options in case we have a few of the campers staying in the park come up to visit us.

(Continued on page 5)

STAR STUFF

BY TERRY ALFORD

Let's talk a bit about another tool very important to any woodworker be that person an amateur telescope maker or not; wood glue. A quality wood glue is essential for bonding parts where nails or screws are either not wanted or not really appropriate for the job. Fortunately, there are several quality wood adhesives on the market today. I am mostly going to discuss those products that I have had personal experience with. They are all readily available at any hardware or big box home improvement store. One popular glue I have not used is "Gorilla Glue." When it first came out I was interested, but when I read some test reports I did not like the fact that when it cures it can swell out of the joint and is a bear to clean up.

First a short warning about common "white" glue. Do not use this for anything other than crafts like gluing popsicle sticks together. It will not hold up to heavier duty applications. All of the wood glues listed below can be cleaned up with water or scraped off the surface when dried.

For many years I only used TiteBond wood glue. It worked fine but it seemed to not be as strong as I would have liked. Then someone gave me a small bottle of Elmer's Woodworking Glue. Now this stuff was even stronger and I liked it

better. I probably would have stayed with Elmer's but then TiteBond II came along. After reading some comparison tests I switched to this newer glue, TiteBond II.

TiteBond II Premium Wood Glue has a stronger shear resistance than regular Titebond. It has an "open" time of five minutes. This means the amount of time during assembly or clamping you can move or adjust the parts. After that it is very difficult to do anything other than to let the glue cure. Titebond II was the first one part glue to pass the ANSI type 2 water resistance test.

However it is not to be used submerged or below the



waterline. It is FDA approved for indirect food contact. A few years ago I took a 1/2-inch hardwood dowel and cut a 6-inch piece off with a table saw. I glued the pieces back together with Titebond II and let it cure for a couple of days. Then I took the dowel and whacked it on a thick board. After five or six slams the dowel broke...but not at the glue joint! This is one tough wood glue.

Titebond III Ultimate Wood Glue is even stronger when comparing shear strength. It has an open time of 10 minutes so it is a little more flexible when it comes to assembly time. It is also more water resistant but still should not be used submerged or below the water line. OK, I know we don't use our scopes submerged but let's say you are at a star party and left your wooden observing chair outside overnight and it rained. You would be glad you glued up your chair with a glue like Titebond III.

One more thing about these wood glues is that they have a shelf life of about two years. The containers are marked with a code that tells when they were filled but you may have to go to the internet to figure out how to read the code. When you buy glue write the date of purchase on a piece of masking tape and place it on the container. When yellow or white glue gets too old it will start to thicken and will eventually dry up. Keep these glues out of direct sunlight.

(Continued on page 5)

HAPPY BOOK REVIEW: STAR WARS AND HISTORY

BY ROBIN BYRNE

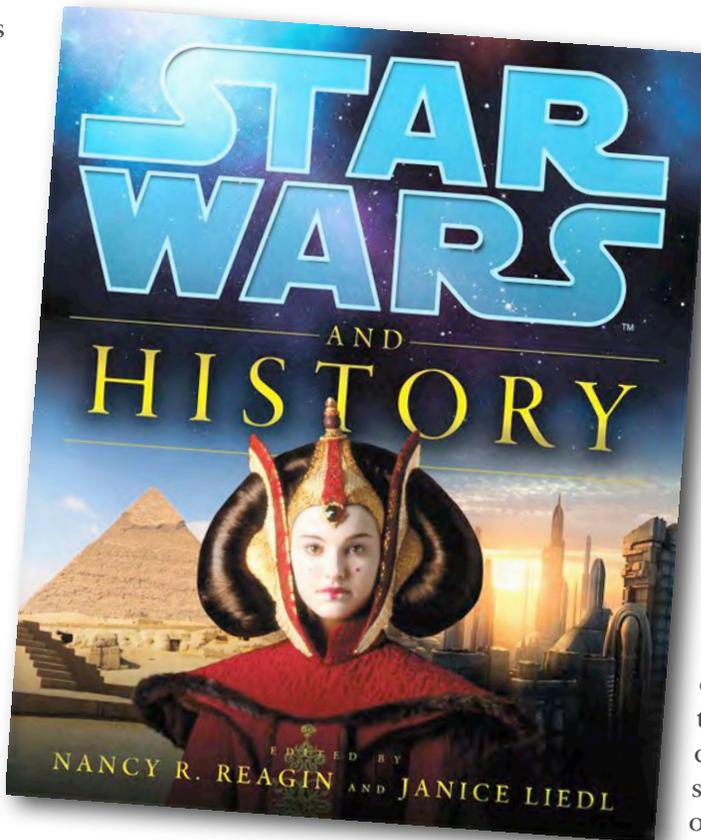
It is time once again for a book review, and this time I chose "Star Wars and History" edited by Nancy R. Reagin and Janice Liedl. Does it have anything to do with astronomy? No. Then why review it? Because it's STAR WARS, of course!

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 Jedi, 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.

(Continued on page 6)

NASA SPACE PLACE

Triple Treat

By Dr. Ethan Siegel

The solar system is a busy place, with five wandering planets visible to the naked eye alone. When any two pass close by each other from our point of view, we see an astronomical conjunction, but on very rare occasions, three planets will find themselves grouped together: a triple conjunction. Towards the end of May, Mercury, Venus and Jupiter will treat us to the best triple conjunction in years.

On May 25th, Mercury will pass within 1.4° of Venus, then two days later Mercury comes within 2.4° of Jupiter, and finally on the 28th, Jupiter and Venus approach within 1° of one another. If it weren't for the slight orbital tilt of our solar system's planetary orbits, these conjunctions would all be occultations instead. During the nights of May 26th-27th, all three planets are visible immediately after sunset within the same 3° field of view, with the triple conjunction peaking in a triangular shape on the 26th. (For scale, the full Moon subtends about $1/2^\circ$.) The three planets appear close together for a few days more, making a line in the sky on the 30th/31st.



How does this happen? Mercury and Venus race around the Sun far faster than Earth, with Mercury completing more than four revolutions around the Sun for each one that Earth makes. At the same time, Jupiter is far slower, taking 12 years to orbit just once around the Sun.

Jupiter's been high in the sky during the early parts of the night, but steadily lowers throughout May as Earth continues to move away from it, approaching its maximum distance from Earth. Mercury and Venus, meanwhile, begin to move out from behind the Sun during May: Venus at

telescopically resolve these planets into disks, you'll see our inner worlds in a nearly-full gibbous phase. Jupiter will appear largest in terms of angular diameter, followed by Venus and lastly by Mercury. Just a year ago, during its now-famous transit, Venus took up more than a full arc-minute in the sky; during this conjunction, it will be just one-sixth that angular size and less than a third the apparent diameter of Jupiter. Nevertheless, Venus will still be more than six times as bright as Jupiter during this time, outshining all night-sky objects other than the Moon.

Closer conjunctions of two naked-eye planets are frequent, but getting three or more like this happens just once or twice per decade, so don't miss your chance to see it. And speaking of occultations, The Space Place has a great kid-friendly explanation of the Venus transit and solar eclipses of 2012 at spaceplace.nasa.gov/venus-transit.



The image shows the configuration of Mercury, Venus, and Jupiter in the western sky just after sunset on May 26, 2013. Insets show the relative size appearance of the planets on that date.

the beginning of the month and Mercury in the middle.

Thus, during this triple conjunction, all three planets will be on the far side of the Sun, something that happens just 25% of the time in triple conjunctions involving Mercury and Venus! If you

Dr. Ethan Siegel, a theoretical astrophysicist, is a professor at the University of Portland (OR) and Lewis & Clark College.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

MISCELLANEOUS

Reflections

by William Troxel

(continued from page 1)

Our June meeting will welcome Associate Professor Robin Byrne, Northeast State Community College, Department of Astronomy as our keynote speaker. Robin writes one of the articles in our monthly newsletters and also has served as club chairman in the past. She has and still offers her support and interest in the club's efforts to bring "Astronomy to the Masses." Her topic will be "Where Am I? Finding our place in the Milky Way." Please make an effort to come out and hear her presentation.

Our constellation quest this month will be presented by yours truly. This month's featured constellation will be the constellation Boötes, or The Herdsman. I hope you will consider signing up to do one of the future constellation quest presentations. It's a great way to learn about the night sky and also an ideal way of developing your viewing list when we do get a break in the weather. Remember, check the website for updates and new information. I hope to see each of you at the June meeting. Those of you that have been away, June is a great month to come back and be a part of this wonderful club. We welcomed two visitors to our meeting in May. Thank you e-mails were sent out. Until then.... Clear skies.

Star Stuff

by Terry Alford

(continued from page 2)

The other glue in the pic is Amazing GOOP. This stuff is actually pretty amazing. It looks at first glance like it is simply a silicone adhesive. It is more than that. While not strictly a wood glue it will securely glue wood, PVC, metal, glass, etc. It will glue just about anything to anything else. A few years ago I used GOOP to secure a secondary mirror to a shop made wood mirror holder. When I first used the scope, the image obviously had astigmatism. Immediately I suspected that GOOP was causing the problem. Checking the tube did not reveal any solvent that would allow safe removal of the secondary mirror. There was an 800 tech/assistance line so I called it. The guy confirmed my suspicions and said that when GOOP cured it "pulled" parts together even tighter. There was no solvent that would dissolve it but acetone would temporarily soften it. So, using acetone wicked behind the mirror and fishing line I slowly "sawed" through the joint. A quick clean up and I reattached the mirror with regular silicone adhesive and the astigmatism was gone. GOOP is one of my favorite adhesives and not just for wood.

One last note: a year or two ago there was a discussion on the Cloudy Nights ATM forum whether to use just good woodworking glue or glue combined with nails or screws to hold a Dob base together. There was a spirited discussion but it ended when a well known builder of large Dob style telescopes posted that

Regular Contributors

WILLIAM TROXEL



William is the current chair of the club. He serves as activities coordinator for a local retirement living community.

TERRY ALFORD



Terry is also a founding member since 1980 and has been chair many times, as well. He has worked as an astronomy lab instructor at ETSU since 2001.

ROBIN BYRNE



Robin has been writing the science history column since 1992 and was chair in 1997. She is an Associate Professor of Astronomy & Physics at Northeast State Community College (NSCC).

ADAM THANZ



Adam has been the Editor for almost all of the years since 1992. He is the Planetarium Director at Bays Mountain Park as well as an astronomy adjunct for NSCC.

once UPS crushed a package carrying a rocker box. The rocker was broken about everywhere EXCEPT along the glue joints!

Happy Birthday by Robin Byrne

(continued from page 3)

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



*Now playing at Bays Mountain Planetarium.
May at 2 p.m. weekends and June 2 p.m. daily.*

The Bays Mountain Astronomy Club



Edited by Adam Thanz:
thanz@kingsporttn.gov

Dues:

The Bays Mountain Astronomy Club requires annual dues for membership. It covers 12 months and is renewable at any time.

Rates:

\$16 /person/year

\$6 /additional family member

If you are a Park Association member, a 50% reduction in fees is applied.

Find out more at our website:

<http://www.baysmountain.com/astronomy/astronomy-club/>

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853 Bays Mountain Park Road
Kingsport, TN 37660