The ASTERISM

Volume XVII No. 7 **March/April *2006***

Sins

by Bonnie B. Witzgall

A member of the Westchester Amateur Astronomers related the following true story to me during the 2005 Northeast Astronomy Forum.

The Westchester Amateur Astronomers (WAA) conducted a daytime Sidewalk Solar Show in one of the local parks. Among the interested visitors was a young boy accompanied by his Dad. After listening to the basic description about the Sun, the boy was still skeptical about the precautions of viewing the intense star through a telescope. The WAA member on duty explained that the boy's fear was justified, but the solar filter in use was perfectly safe. Other people viewing through the scope were awed by the great solar flares revealed in H-alpha. Yet, the boy still worried about putting his bare eye to the eyepiece. His father then said something like, "Hey, whatzamatta? You chicken or sumthin? The astronomer guy here says it's safe to look. I ain't scared." The man turned his head and placed his right eye to the telescope's lens. A moment later, a blood-boiling scream blasted from man's lips. He wrenched his tortured face away from the scope and slammed his hand over his right eye. He then staggered back from the telescope, all the while making sure to keep his 'good' left eye focused on both his son and the startled crowd. Everyone around the scope was shocked! The astronomer said it was safe! There could not possibly be any retina damage…could there? An eternity of silent seconds passed as all witnesses just stared and held their collective breath. As soon as the father felt he made his point, his frightened face switched to a smug smile with a "Ha! Ha! Just kidding!" and fanatical laughter as his closing remark. The wise-ass father's eye was fine, but the damage was done to everyone else. The group who witnessed the hoax either expressed relief that no one was blinded or they just laughed at the stunned astronomer. The WAA member, tricked for scarcely a moment, was now incensed by this man's poignant stupidity and his ignorance for scientific knowledge. The young boy, who was sincerely frightened by his father's act, now avoided all telescopes. No amount of coaxing could get him to neither listen to the astronomer nor view the Sun. The boy and his overbearing dad walked away from the astronomical event, leaving everyone behind to cope with their cruel wreckage.

These brutal lessons, taught in a split second by ignorant people can go deeper than any astronomer can breach. Somehow, astronomers and teachers of science are always under fire, constantly defending the flame of knowledge. Please remember this ruthless story if you participate in any Astronomy Day festivities. Ω

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AAI Astronomy Day

Saturday, April 29, 2006

AAI will be holding its annual ***Astronomy Day*** *at Sperry Observatory!*

There will be talks, presentations, and weather permitting, solar observing and nighttime observing.

See inside for detailed schedule of events!

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The ASTERISM

can be reached at editor@asterism.org

Monthly Meeting

Friday, April 21st
at 8:00 PM
in the **Main Lecture Hall**

This month our speaker will be

Trudy Bell

Astronomy Author,

whose topic will be

"Albert 'Doc' Ingalls"

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Membership Dues

Regular Membership:	*$21*
Sustaining Membership:	*$31*
Sponsoring Membership:	*$46*
Family Membership:	*$5*

Sky & Telescope subscription: $32.95
Astronomy subscription: $34.00

First Time Application Fee: $3

Dues can be paid to the Club Treasurer or Membership Chairperson at the Observatory.

THEATER IN THE SKY

by Ron Ruemmler

May 2006 welcomes Jupiter back into the evening sky. The Giant Planet rises as the sun sets and is easily visible all night. Use binoculars to look for the four Galilean moons as well as Zubenelgenubi, the double star just below the planet. The second largest planet, Saturn, still offers good views of its rings, although it now sets soon after midnight. Look for the Beehive star cluster just to the left of the planet.

Mars is becoming harder to find as it approaches its dimmest of the year. Fortunately, it is positioned near Pollux and Castor, the Gemini Twins. As the month begins, the Red Planet is directly below the two stars, while at the end of May it is off to their left. A particularly wonderful alignment occurs on the 30th when Mars, the Moon, Pollux and Castor form a nearly perfect, evenly spaced, horizontal line low in the west just after sunset.

Mercury is visible during the last week of the month low in the west just after sunset. Venus blazes all by itself in the morning sky, rising just as the sky begins to brighten.

Spica, the alpha star in Virgo, the Virgin, is hiding behind the nearly-full Moon as the sun sets on the 10th. It might be possible to glimpse the star to the upper right of the bright edge of the Moon as the sky darkens

Finally, we get a rare opportunity to see a very young crescent moon on the same day of its New phase. Both the latitude and longitude have to be correct for this to happen as well as the Moon being far north of the plane of the earth's orbit. Everything comes together for New Jersey on the evening of the 27th. Although this event becomes theoretically possible in western Europe, it will be so difficult there that someone in New Jersey might be the very first person on Earth to see the Moon during this lunation! Note that this is not just a technicality caused by Daylight Saving time, since New Moon occurs a full 87 minutes after midnight. Ω

MAY SKY CALENDAR

3	WED	11:00 PM	Saturn left of fat crescent Moon
4	THU	10:00 AM	Jupiter at opposition from the sun, becoming an evening object
5	FRI	1:13 AM	First Quarter Moon
6	SAT		ASTRONOMY DAY! Many observatories open to the public
10	WED	7:00 PM	Daytime Lunar occultation of Spica
10	WED	8:30 PM	Spica upper right of Moon
11	THU	9:00 PM	Jupiter left of Moon
12	FRI	9:00 PM	Jupiter above Moon
13	SAT	2:52 AM	Full Moon
18	THU	4:00 PM	Mercury at conjunction beyond Sun, enters evening sky
20	SAT	5:20 AM	Last Quarter Moon
27	SAT	1:27 AM	New Moon
27	SAT	8:17 PM	Sunset
27	SAT	8:55 PM	Extremely thin crescent Moon directly above sunset point
27	SAT	9:24 PM	Moonset
28	SUN	8:50 PM	Mercury below very thin crescent Moon
30	TUE	9:00 PM	Mars-Moon-Pollux-Castor lineup
31	WED	10:00 PM	Saturn below crescent Moon

Stewart's Skybox

by Stewart Meyers

While March is generally associated with the NCAA basketball tournament, it is also the month of the spring equinox when day and night are about the same length, though the exact date of the equal day and night actually happens around St. Patrick's Day (according to AAI's Dr. Lew Thomas). And around the time of the equinox, amateur astronomers who are blessed with iron constitutions, dark skies, and fairly unobstructed horizons participate in a marathon. No, I am not talking about one of those foot races where thousands of people run through a city looking like fools in the vain hope of winning a contest that is always won by some professional athlete from a foreign country. The marathon I refer to is of a far more intellectual nature and involves observing a large number of interesting celestial objects in a single night – the infamous Messier Marathon. So in honor of this annual event, this article will examine the man who made it all possible, though he didn't intend to.

The Beginning

The story begins back in the 1680's when Edmund Halley had figured out that the comets of 1535, 1607, and 1682 were actually the same object. He then went on to predict that this comet would return in 1758. At the time, few people took the prediction seriously since Halley would be long dead before then.

In the years that followed, astronomy advanced considerably. Telescope design underwent major improvements, star catalogues got better, and government-supported national observatories appeared in the major countries of Europe.

In 1751, Charles Messier, the protagonist of this story, arrived in Paris as a poor 21-year old looking for work. Eventually, he was hired by Joseph Nicolas Deslisle to help make maps and record observations. By 1754, Messier was working as an observer at the Marine Observatory in Paris. Around this time, astronomers were wondering if Halley might have been right about his comet predictions, so astronomers all over Europe searched the skies, each hoping to gain fame and prestige by confirming the prediction.

Deslisle put his staff of observers on the search. He even went so far as to calculate likely positions for the comet and had his astronomers check them. Unfortunately, by restricting the areas of the search, Deslisle missed out on finding the comet, which was found in December 1758 by Johann Palitzsch, and, as would happen throughout history, was a case of the Germans soundly beating the French. In January of 1759, Messier spotted the comet and thought he had discovered it. However, Deslisle sat on the news for two months. By the time Deslisle was ready to go public, news of Palitzch's discovery was all over Europe.

This naturally upset Deslisle and the other observers, including Messier. Soon, Deslisle retired and Messier went on hunting for comets. For over 15 years, he was the leading comet hunter in Europe, but that was not how he would gain his lasting fame. He would earn it for things that were not comets.

Checking His List

While comet hunting back in 1758, Messier was observing the area near Zeta Tauri and noticed something that wasn't stellar. It turned out to be a nebula. Messier then made a note of it. Later, in 1760, Messier found another non-comet in Aquarius. But it wasn't until 1764 that Messier would get the idea of actively creating a list of these objects. In that year, Messier added 38 more objects to the list, bringing the total to 40, though a number of the objects were very well known before and were only added due to Messier's obsession with making the list. Then, in 1769, he added five more objects, including the Pleiades (M45) simply to round the number off at 45. Of course, this was second to his obsession with finding comets. That was understandable since discovering a comet was one of the few things a person of humble background could do to achieve a measure of fame. But few took it to the level Messier did. A joke some years later maintained that, at his wife's funeral, Messier was more upset that he lost a comet discovery to a rival astronomer than he was over the death of his wife.

Messier then published the first list of 45 objects in 1771, and went back to work hunting comets and non-comets. By 1780, Messier added 23 more objects and had a revised list published.

Thank You For Being A Friend

Around this time, another astronomer enters the story. Pierre Mechain also worked at the same observatory Messier did and it seems he too had an interest in non-comets. And it appears that he was on excellent terms with Messier as he would relay observations of non-comets to him for evaluation. By 1781, this collaborative effort would add another 38 objects to the list, bringing the total to 107. Later astronomers, by going through the notes of both men, added a few to the list, thus bringing it to its modern total.

The Blooper Reel

As with many things, the Messier list contains a number of errors and a number of astronomers have spent quite a bit of time puzzling over them. Here are some prominent ones:

M47 and M48: Messier originally reported two clusters of stars in what we now call the constellation of Puppis. However, nothing can be found at the positions Messier gave. It appears that Messier made some computational errors in their positions. The two clusters are actually NGC 2422 and NGC 2548 respectively.

M91: In this case, there are two possible answers. Either Messier accidentally rediscovered M58, as claimed by Owen Gingrich. Or, it is actually NGC 4548 as maintained by W.C. Williams. The official modern Messier list uses NGC 4548 as M91.

M102: This was definitely an error on Messier's part as it is a duplicate observation of M101. This was even pointed out at the time by a letter from Mechain (which still exists). However, some astronomical revisionists deny this and have tried to assign M102 to NGC 5866, another galaxy in the general area.

Come The Revolution

The later years of both men were a mixed bag. In 1781, Messier had a serious accident, which broke his leg, an injury from which he never completely

recovered. And Mechain wound up losing the family fortune during the French Revolution, while Messier lost his pension. At least, they managed to avoid the guillotine, unlike quite a few French scientists. After the revolution, Mechain became director of the Paris Observatory and Messier landed a job on the Bureau of Longitudes. Mechain died in 1805 while Messier lived until 1817.

So, whether you are actually one of those hardy souls who actually undertakes the Messier Marthon or you just read about it, take a moment to think about the man with the strange obsessions who made it possible. Ω

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Dome Duty Schedule

Apr. 21	**Team D**
Apr. 28	**Team E**
Feb. 3	**Team A**
May 5	**Team B**
May 12	**Team C**
May 19	**Team D**
May 26	**Team E**

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Friday Night Talks at Sperry

April 28, 2006
Testing the Shadows & Silhouettes *NSN Toolkit*
--Ray Shapp

May 5, 2006
Jupiter- King of the Solar System
--Al Witzgall

May 12, 2006
StarDust@Home Training
--Ray Shapp

May 19, 2006
General Meeting
AAI Annual Members' Meeting

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AAI Astronomy Day

April 29, 2006

Sperry Observatory
Union County College
Cranford, New Jersey

Displays, afternoon and evening

Poster listing advantages to AAI Membership
Meteorites in display case
Poster-Ed Carlos' poster in the library
Display of astronomical images by AAI members in display case

Afternoon 1:00-4:00 PM

Activities
1:00-4:00 Solar Viewing Ray Shapp
2:00 Solar system Walk
--Aaron Zuckerman
Prize awarded after each talk

Talks
1:15 The Solar System
--Al Zuckerman
2:00 The Sun
Ann Anderson
2:45 Gravity and Black Hole Demonstration --Ray Shapp

Evening 7:30-11:00 PM

Activities
Celestial viewing with the two large telescopes and with member's scopes outside by sundial.

Talks

8:00 PM Planetary Bits and Pieces
--Al Witzgall
9:00 The Universe through the Ages From Early Egypt to Present
--Lew Thomas

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Survival Tactics

by Bonnie B. Witzgall

The outside world contains most of the population with most of them just struggling to survive. Errands and deeds are arranged by their priority. Tight deadlines, working within budgets and between snowstorms are just the normal routine for most people. Amid all of that turmoil, a Federal Mandate then takes an hour away from the weary populace. Every Spring, time is made to jump ahead on Sunday morn from 2am to 3am Eastern Daylight Savings. It happens in the dark of night when the Government thinks most people are asleep and won't notice the change. Somehow, most of the nation just shrugs its shoulders and survives without much fuss.

It's so hard to be an amateur astronomer existing in this chaotic society. It's a constant transverse between needs and wants and life's priorities. Then all is put on hold because the storm clouds just broke and the sky cleared to magnitude 4.5 with moments of 6 in the city! You need to find time to buy that digital camera with 6.5 mega pixels. Do you really need it or want it? Silly question! The boss says you must work this Saturday, but spaceweather.com just announced the leviathan of all sunspots! Gas prices are still too high, but driving to the Cherry Springs Star Party is worth the price of the fuel and you have plans for First Light Ceremony on your friend's new webcam. Then adding to the confusion, every Spring the Government flips the time ahead in the communal world. It affects our movements in the outside world, but not in the 'real' world. Astronomers thrive in the turbulent condition that is the surface of a star or a ravenous black hole. Whom is the Administration kidding? There is no way the Government can cheat researchers who actuate rovers on Mars or who image UB ^{313} from backyard observatories. We operate by the rhythms of the sky, but once the observing run is complete, observers must function within the tumultuous rules of society. This includes surviving that loss of the hour, taken away during the dark of our night. Unlike most people, astronomers are not asleep on Sunday morning from 2am to 3am and most <u>do</u> notice the time change. Fortunately, the astronomical community doesn't have to alter its 'real life' priorities. We just shrug and adjust our needs, wants, and sleep patterns outside the dome. Ω

Stewart's Skybox

by Stewart Meyers

The idea for this month's column came from an unlikely source. Every December, radio stations play ''The Hanukkah Song'' by Adam Sandler (one of the few funny things he has ever done). You might be wondering what this has to do with amateur astronomy or April. The answer is that April 29th marks Astronomy Day at Sperry Observatory and Astronomy Day is the closest thing we amateurs have to a holiday. So, (taking a page from Adam Sandler's playbook) whether you will be spending Astronomy Day at Sperry, your favorite observing site, or at home, here is a list of people who are amateur astronomers like you and me (along with some who are sympathetic to our cause).

The Famous Amateurs

* Johnny Carson: Of all celebrities, Carson was the one who most often showed astronomical knowledge in his work. Astronomers like Carl Sagan and amateurs like John Dobson were frequent guests on *The Tonight Show* during Carson's long tenure. Once there was a sketch on the show where Carson was played a scientist being interviewed by Ed McMahon. One of the questions Ed asked was about objects in the night sky. Carson mentioned Gamma Leonis and correctly identified it as a bright double star in the constellation of Leo. Carson's desire for privacy meant that few details are known about his astronomical activities. But, Ed McMahon did say that he saw Carson's telescope once and that it was quite large.

* Gordon Clapp: While best known for his portrayal of Detective Medavoy on *NYPD Blue*, he is also an amateur astronomer. The telescope he uses is a small Schmidt-Cassegrain, since it is portable and can be taken on trips.

* Hugh Downs: This veteran broadcaster has a well-known interest in science, so it should not be surprising to learn that he is an amateur astronomer. He is also actively involved in the National Space Society.

* Lou Dobbs: A prominent personality on CNN, Dobbs is really into astronomy, so much so that he founded Space.com which then became Imaginova.

* Will Hay: He was an old-time British comic actor, but was also a very astute observer of the planets. In 1933, he discovered a large white spot on Saturn that was also rather long-lived, which helped astronomers refine the rotation period. In his honor, the feature was known as Hay's White Spot.

* Tim Russ: Most people probably know of Tim Russ from his work as Tuvok on *Star Trek: Voyager* or his recurring role as a Secret Service agent on *Murphy Brown*, but he is also an amateur astronomer. Russ owns a number of telescopes and is a member of a couple of astronomy clubs.

Nearly But Not Quite

In addition to the celebrities who are definitely amateur astronomers, there are some who have the interest, but probably need a bit of help to get to the next level.

* Roxann Dawson: Though best known for playing B'Elanna Torres on *Star Trek: Voyager*, she is also interested in real space. Evidently others on the cast knew of this, which is why Tim Russ gave her a telescope as a present. However, no one explained to her that one should know their way around the sky in order to get the most out of the instrument (a point I stress - and so should you - whenever anyone asks about buying a telescope). As a result, she only observed the Moon. When I met Roxann at a convention a few years ago, I discussed her plight since I had read about it in Astronomy magazine's interview with Tim Russ. I then offered some helpful advice and recommended that she contact an astronomy club in her area and ask someone there to help her with learning the constellations. I also suggested reading some books on the subject. Finally, I gave her an AAI business card and said that she could check out our website and find out more about astronomy clubs in general. She thought those were good ideas and that she would ask Tim Russ about which astronomy club would be best for the purpose.

* Kim Richards: This star of a few live-action Disney films in the 1970's is probably better known today as the aunt of Paris Hilton. I saw her at a convention in 2004 and was talking with her about how her famous niece was jeopardizing the family reputation. Then I mentioned about the two upcoming comets that spring. At that point, she mentioned that her wealthy uncle gave her a computerized telescope for a gift but she had a tough time trying to use it. So, I gave her pretty much the same advice I gave Roxann Dawson.

Friendly To The Cause

The following are people who, while not being amateur astronomers or leaning in that direction, are supportive of our interest.

* Virginia Hey: A tall Australian actress, she is best known to American audiences for her performance as Zhaan, a blue alien plant creature on *Farscape*. Back in 2004, I met her and, since she was Australian, I decided to ask what she thought about the southern Milky Way. To my surprise, she said that she liked watching the night sky and that she knew some constellations. She also said that her favorite way to observe was from a boat anchored off the coast because the sky was extremely dark. Naturally, I talked up astronomy and plugged the idea of astronomy clubs. Virginia thought that it might be interesting to visit one.

* Ann Robinson: While having the unique distinction of appearing in every version of *War of the Worlds* except for the 1938 radio broadcast and the recent Sci-Fi Channel version, Ann is also very well informed about astronomy. The reason for her knowledge is a cute little story that started back in 1953, the year the original *War of the Worlds* film was released. Watching the movie was a boy by the name of E.C. Krupp and he was very impressed by Ann's performance (in fact, Krupp still considers Ann his favorite actress). Years later, Krupp wound up working at the Griffith Park Observatory in Los Angeles and it was there that he got to meet Ann and the two became friends. As a result, Krupp taught Ann some astronomy. The reason I know this tale is that I had met Ann and her son (who is more into astronomy) at a convention in 2005.

* Dwight Schultz: Despite his career of playing crazy and neurotic characters, Dwight is actually quite intelligent and is very knowledgeable about science. His

specialty is physics, but he also knows some astronomy, especially the more exotic areas, such as neutron stars.

The Rumored Mill

These folks are thought to have an interest in astronomy, but I have not found any published confirmation of this.

* Ann Curry: The hostess of NBC's *Dateline*, Ann also works on the *Today* show. Back in 1999, she interviewed a scientist about the Lunar Prospector probe's possible detection of ice on the Moon and did surprisingly well. Whether this was due to having a good writer or because of an interest in the subject is not known, though I have heard rumors that Ann does have a slight interest in space-related stuff. Would be interesting to find out if that is the case.

* William Harwood: This reporter is the man CBS has covering various space missions and he seems to know what he is talking about. Odd thing is that I have found no mention of any astronomical background, amateur or professional and he has no degrees in any field related to space science. Perhaps he is self-taught.

* David Letterman: I have heard rumors that Letterman is interested in astronomy in general. While he has had a few astronomers appear on his show such as Geoffrey Marcy, Letterman has seldom mentioned anything astronomical on the show.

The Lesson of the Stars

Besides providing an interesting diversion and change of pace from the usual columns, why discuss celebrities who are into amateur astronomy?

The reason why amateurs should be interested in celebrities who are either amateurs or share their interests is simple: public relations. With rising science illiteracy, astronomy and space science can use all the public relations help they can get. And nothing works better than having celebrities supporting the cause. I can think of a number of occasions where having a celebrity or two on our side would have been a great help.

Also, there is a lesson in this article for us amateurs. Some of these celebrities are people I have met at conventions. So, if you are serious about promoting astronomy, you should be prepared and willing to do it anywhere and anytime you find receptive people, not just on Astronomy Day at Sperry. You never know who you might be helping out. Ω

A NEW LOOK AT THE EARLY UNIVERSE

by Lew Thomas

Launched in 2001, data from the Wilkinson Microwave Anisotropy Probe (WMAP) has recently been analyzed after two years of concentrated effort. It shows the polarization of early photons, now stretched to microwave wavelengths. Such polarization is believed to be caused by fast-moving protons released from the earliest star formation. It places the first star beginnings at about 400 million years after the Big Bang. This is earlier than previously expected.

Analyzing fluctuations or waves in the microwave background, whose average temperature is 2.7^0 Kelvin, scientists place the age of our universe at 13.7 billion years. The spacing of these ripples or temperature variations, orders of magnitude less than the average microwave temperature, gives credence to the inflationary hypothesis. This states that in the first 10^{-35} of a second after the Big Bang the universe expanded to billions of light years in extent. The thought is that this expansion took place due to some strange anti-gravity force which repelled rather than attracted. This expansion and the slower expansion which took place after star formation rendered the universe, at least where we are, flat and not curved outward in a positive sense like a sphere or inward like a western saddle.

Now the universe is still expanding in an accelerating sense due to some force or dark energy which is believe to be constant over all time. If this be the case, as the universe expands the attractive force of gravity diminishes and acceleration must result.

But what is this anti-gravity force which caused the initial inflation? In our AAI Seminar Group, Bill Poelstra suggested that we (the universe) are moving forward in time at light speed; that is, all positive matter does this. But within a small semiconductor diode or transistor, negative mass can be created in very small amounts. If this be true, the negative mass must move in the opposite direction along the time line and leave our

presence. He is building an experiment that may detect this exit by the loss of mass within the semiconductor as measured by its change in electrical charge. If this hypothesis proves true let me advance another.

Suppose just after the Big Bang a large amount of negative mass was created. Being negative it would initially exert a repelling force on all matter. But being negative it would leave our universe rapidly moving ''backward'' along the time line. Could this be the negative gravity cosmologists speak of? Remember this is only a hypothesis (but so is anti-gravity). Ω

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Star Parties

Public Star Parties:
April 28, May 26, June 30
at Sperry Observatory

Member's-Only Star Parties:
April 29, May 27, June 24
Jenny Jump

For more information regarding club star parties, please contact Wayne Augenstein: wsaugenstein@juno.com