Demise of the Sidereal Times?
Nothing Could be Further from the Truth

Barry Spletzer

Perhaps the first thing you noticed when you received this month’s Sidereal Times is a lack of heft. This issue is not as heavy or substantial as usual. Has our typical 12-16 page newsletter shrunk to a paltry few pages? Is this the beginning of the end? Is the Sidereal Times destined to fade like a dying star? Has your dedicated newsletter staff finally thrown in the towel? Is TAAS headed extinction? Of course not! All is well. Next month the Sidereal Times will again be bulging with club happenings, interesting science, and notices of events both past and future.

Appropriately enough, the need for this unusual issue is deeply rooted in the most ancient traditions of astronomy. Beginning with the Babylonians and Egyptians, there has always been a desire to synchronize astronomical time periods (i.e., seasons, day, month, and year) with each other. There is no reason why the time period for the rotation of the Earth on its axis, the revolution of the Moon around the Earth, and the revolution of the Earth about the Sun should have any connection with each other. As astronomers we, and our ancient counterparts, have worked hard to shoehorn these three unrelated cycles into a single, tidy system. For most folks, the chinks in the system are only apparent once every four years when February 29th shows up on the calendar. Inserting the leap day every four years (along with not inserting it once per century and then adding it back once every four centuries) is how we keep the calendar properly aligned with the seasons.

Keeping months in the “right” place is much more tricky. The term month derives from the word Moon and a month is approximately the time from one full moon to the next. We have a competing requirement to have the same number of months in each year. Since the moon does not orbit the earth exactly twelve times in a year, this causes problems. On our calendars, the full moon occurs a little bit earlier each month. Our average calendar month is 30.4 days long and the time from full moon to full moon is 29.5 days. The full Moon creeps up by about 0.9 days per month. Occasionally, this results in two full Moons occurring in a single month. This second full Moon is often called a blue moon.

So what does all this have to do with this thin issue of the Sidereal Times? TAAS schedules the general meetings based on the lunar cycle so a meeting falls on a weekend close to a full moon. This is done so the prime observing times (during the new moon) are not occupied by a club meeting. The deadline and publication dates for the Sidereal Times are tied to the general meeting dates and, in turn, are dependent on the phase of the moon. This means that a newsletter is published, on the average, every 29.5 days (one lunar cycle). Normally, you should receive the newsletter one month early. For example, the Sidereal Times listing June’s events is called the June issue and arrives in May. Your last issue, which came out in April was the June issue. The difference between the issue date and the date of publication gets larger over time because of the 0.9 day difference between the length of the month and the lunar cycle.

This month’s very brief newsletter brings the publication dates and the newsletter issue back into reasonable agreement. The issue is slim because it does not represent the activities of a full month. We have named the issue the Veadar issue. Veadar is a month in the Jewish calendar reserved for just such a purpose. The Jewish calendar, like the TAAS calendar, operates on a lunar cycle. Most Jewish years have twelve months but occasionally a leap month is inserted to keep the calendar in alignment. This leap month is called Veadar.

I hope you enjoy your Veadar issue of the Sidereal Times and will look forward to the full July issue.
In 1980, a Nobel laureate in physics, Luis Alvarez, postulated that Iridium, an element found in minuscule amounts on earth, must’ve come from an asteroid impact because asteroids contain Iridium. Alvarez and his son Walter set out to prove their controversial theory. Imagine the dismay, when no impact crater could be found! It took 11 years to find Chicxulub, buried under a mile of limestone and anhydrite...

Paul Harvey might have said, “And now, the rest of the story...”. Sixty-five million years ago, a 10 mile wide asteroid hit Yucatán. Earth’s mortal wound would leave a scar 110 miles wide. Animal and plant would mostly perish. Would Paul close with, “This is astronomy at the very limits of an astronomer’s imagination!”?

Today, a diverse range of scientists, from astrophysicist to modelers to vertebrate paleontologist around planet Earth are deeply intrigued by the Chicxulub impact and dinosaur deaths.

Our next scheduled event at GNTO will be our “new moon” opportunity on June 19, which is only two days after the new moon. This will be a good chance to use some of the great equipment we have at the observatory, and try what you learned from our training sessions in May. We will have the Isengard 16” reflector up and running, and the two loaner scopes will be available for you to use. The loaner scopes are on easy to use Dobsonian mounts, so you can easily use either the 6” or 16” version. Our next training sessions are scheduled for July 17, with more details to follow in the next newsletter.

GNTO committee meetings are open to any interested TAAS member and are a great way to get a bit more involved with your observatory. Our next scheduled meetings are on May 27 and June 24. We meet at 6:30 P.M. at the Village Inn restaurant on San Mateo just north of Academy. If you have questions about access and availability of GNTO, please contact me (Peter Eschman, gnto@taas.org, home phone: 873-1517). I hope to see you soon at GNTO.

Ever had a great idea for a new spacecraft propulsion system, or for a new kind of Mars rover? Have you ever wondered how such “dinner napkin sketches” evolve into real hardware flying real missions out in the cold blackness of space?

The road to reality for each idea is a unique story, but NASA has defined some common steps and stages that all fledgling space technologies must go through as they’re nursed from infancy to childhood. Suppose, for example, that you’ve thought of a new way to shield astronauts from harmful radiation during long space missions. In the first stage, you would simply “flesh out” the idea: Write it down, check the physics, and do some quick experiments to test your assumptions.

If the idea still looks good, the next step is to build a “proof of concept.” This is the “science fair project” stage, where you put together a nifty demonstration on a low budget-just to show that the idea can work. For your radiation-shielding idea, for example, you might show how a Geiger counter inside a miniature mock-up doesn’t start clicking when some radioactive cobalt-60 is held nearby. The shielding really works!

Once that hurdle is cleared, development shifts into a higher gear. In this stage, explains Dr. Christopher Stevens of JPL, the challenge isn’t just making it work, but making it work in space. “Some conditions of space flight cannot be adequately simulated here on Earth,” Stevens says. Cobalt-60 doesn’t truly mimic the diverse mixture of radiation in space, for example, and the true microgravity environment is needed to test some technologies, such as the delicate unfolding of a vast gossamer solar sail. Other technologies, such as artificial intelligence control systems, must be flight tested just because they’re so radically new that mission commanders won’t trust them based solely on lab tests.

Stevens is the manager of NASA’s New Millennium Program (NMP), which does this sort of testing: Sending things to space and seeing if they work. In recent years the NMP has tested ion engines and autonomous navigation on the Deep Space 1 spacecraft, a new “hyperspectral” imager on the Earth Observing 1 satellite, and dozens of other “high risk” technologies.

Thanks to the NMP, lots of dinner napkin sketches have become real, and they’re heading for space. You can learn more at the NMP website, nmp.nasa.gov.
Welcome to New TAAS Members

Arthur & Sharee Gariety
Rita Veix
Frank Cherry
Greg Poulter
Brian Friddy
Ronald & Maryann Lang
Destino Montez
Kerry Sturgis

Membership Services
for:
• Membership Inquiries
• Events Information
• Volunteer Opportunities

Contact Judy Stanley at membership@taas.org

Contact Shannon Mann at treasurer@taas.org

P.O. Box 50581 Albuquerque, NM

Donations to TAAS
TAAS General: Pete Eschman, Anna Whitlow, Mike Pendley UWCNM, Richard Fate, Dan Richey, Destino Montez

GNTO: Pete Eschman, Home Depot-Carl Frisch Match, Destino Montez, GNTO Piggy Bank

Dark Sky: Pete Eschman, Bob Hufnagel, Rita Veix, Frank Cherry, Ernie Villegas, Ronald Lang, Destino Montez

Dial 254-TAAS for Updates

The TAAS hotline is now bigger and better! The hotline now offers updates on TAAS monthly meetings (press 1), TAAS special events (press 2), and TAAS school star parties (press 3). If you have a special TAAS event that you would like to announce on the hotline, e-mail your announcement to sammy@taas.org

Editor’s Note

Please note that the deadline for the July 2004 issue of the Sidereal Times will be Friday, June 18th, as the finished manuscript must be at the printers before Monday, June 21st, so that you will receive it by e-mail that day or by snail mail the following Saturday. My e-mail address is editor@taas.org.


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The Official Newsletter of The Albuquerque Astronomical Society

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UNM Report

Jay Harden, UNM Campus Observatory Coordinator
unm_coord@taas.org

Apr 16 started clear, got cloudy. Docents Rebecca Purvis and Brock Parker. We had 75 viewers, all students with homework. Bruce who just joined brought his 60mm refractor. Once we got it working, even he had a line.

Apr 23 had 100% clouds. I was there alone. 14 viewers showed up and I sent them to the school star party on the next Thursday.

Apr 30 was clear with 30 viewers. The docents were Dale Murray, Brock Parker, Jim Lawrence (came with the most amazing 12” ultralight), and Rebecca Purvis. Other club members stopped by and gave us a hand with explanations. Sorry – I didn’t get all the names down of the people without scopes.

May 7 was again clear and again just Rebecca Purvis and Brock Parker. 35 viewers that were luckily spread out.

May 14 was clear and Jay Harding is back from his eye surgery. Joining him with a scope were Brock Parker, Gordon Pegue, and Rebecca Purvis. There were 24 viewers with Mickey and Judy stopping by to look.

Submitted by Rebecca Purvis

---

Location, Location, Location

- Chaco Canyon -
  6185' elevation
  36° 01' 50"N 107°54' 36"W

- Oak Flat -
  7680' elevation
  34° 59' 48"N 106° 19' 17"W

- UNM Campus Observatory -
  5180' elevation
  34° 59' 29"N 106° 37' 17"W

To convert from Degrees, Minutes, Seconds:
Divide seconds by 60, then add minutes, then divide by 60 again.
For security reasons, GNTO location is available by request only, so please contact Pete Eschman for GNTO information.

Courtesy Pete Eschman
The May Oak Flat Star Party was sponsored by the Friends of the Tijeras Pueblo and the Forest Service in recognition of New Mexico Heritage Month. I counted about 15 telescopes. There was a large crowd of viewers and the usual "oohs and ahs" were elicited as they viewed the objects that the astronomers had captured in their telescopes.

The weather gods were their usual playful selves that night. First they teased us with clouds that completely obscured the sky until about 6:00 P.M. Then the clouds parted and by nightfall the sky was completely clear and the seeing was excellent.

Comet C/2001Q4 was the “star” of the evening. It was seen in the Southwest shortly after twilight with binoculars and later when it was darker, easily seen with the naked eye. It is really a NEAT comet. Mars, Saturn, Jupiter and Venus, easy to spot, were the usual crowd pleasers.

Many thanks to John Laning who took over for me after I left around 11:00 P.M. and locked the gate when he left later in the evening.
### July 2004

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#### 4TH OF JULY

4

#### ATM Workshop

Ray Collins/Mike Pendley atm@taas.org

The Amateur Telescope Making Workshop meets the first and third Wednesdays of each month at Valley High School, 1505 Candelaria—the north side of Candelaria, just west of 12th street. The meetings begin at 7 P.M. and are in Building E, Room #3.

#### TAAS General Meeting

Saturday, June 5, 2004 7:00 P.M.

Regener Hall UNM Campus

Subject: Chixulub: Crater of Doom and Dinosaur Killer

Speaker: Joe Bridwell

Notes:


GNTO = General Nathan Twining.

GTTO Training = GTTO Observing and Training.

UNM = University of New Mexico Observatory. Call the TAAS hotline @254-8227, or the UNM hotline @277-1446 to confirm, or unm_coordinator@taas.org.

ACSA = Albuquerque Coffee Shop Astronomers. Contact Sammy Lockwood for information or visit www.taas.org and select sidewalk astronomy.

ATM = Amateur Telescope Making. Call Michael Pendley for information @296-0549, or atm@taas.org.

P & A = UNM Physics and Astronomy. Corner of Lomas and Yale.

= School Star Party.
Minutes of the Board

THE ALBUQUERQUE ASTRONOMICAL SOCIETY BOARD OF DIRECTORS MEETING. APRIL 29, 2004

Present: Dale Murray, President; Heather Mann, Vice President; Shannon Mann, Treasurer; Elizabeth Burki, Secretary; Peter Eschman, GNTO Director; Board Members: Larry Cash, Ray Collins, Gordon Pegue.

1. REVIEW OF APRIL 1ST MINUTES: No comments. Minutes were inadvertently submitted too late for publication.

2. TREASURER’S REPORT: (written report submitted)
   a. Because this meeting did not fall at the end of the month the complete treasurer’s report is not yet ready. However, it does appear that there are surpluses in all categories except the Special Projects Fund.
   b. There was a $200 match of the Carl Frisch donation by Home Depot. These monies will go into the GNTO Capital Improvement Fund.
   c. Our asset inventory shows a gain of $6,000 worth of equipment and other TAAS items.
   d. An IRS inquiry was received requesting proof of our non-profit status.
   e. With the advertisement of our screen-saver in “Astronomy Magazine” we have received 4 orders from various parts of the country.

3. CORRESPONDENCE:
   a. Four letters requesting membership information were received.
   b. A person in England wrote to ask about TAAS activities at Chaco Canyon.

4. RETROSPECT:
   a. April 3rd general meeting: Very good feedback on Jim Gale’s presentation on night sky photography. Some commented positively on the Lodestar location.
   b. GNTO: April 10th gathering and Messier Marathon evening on April 17 were “blown out” because of bad weather and wind. GNTO regulars have been having some informal nights at GNTO. Check with LISTSERVE for notices.
   c. SCHOOL OUTREACH: The last school party of the year was held at Hope Christian School. This year more than 4,000 children and adults participated in this outreach effort. Next year’s schedule is being finalized. We are still looking for a replacement for Sammy Lockwood. Becky Purvis will be assisting Isleta School with their new telescope.
   d. MAILING LIST: “Sidereal Times” will go out to 220 members, now that corrections to the list have been made. Shannon will review the complementary and honorary memberships to find out how many newsletters are going out to this group of non-paying members.

5. PROSPECT:
   a. MEMBERSHIP MEETING: There will be a telescope “show and tell” to allow members to present their scopes and why/why not they use them and their bells and whistles. Heather Mann suggested that we do something like this twice a year to allow other interested members to participate. Heather will try to invite a professor from the Physics and Astronomy Department for our June meeting.
   b. GNTO: On May 7th a 6th grade class from Belen Elementary School will come to GNTO for an evening orientation to the stars. GNTO training on May 15th starting at 7:30 P.M. Karen Keese and Larry Cash will reprise their general guide to the constellations and an “intimate” guide to particular constellation activities.
   c. COMMITTEE REPORTS:
      1. MEMBERSHIP: No report. Ray Collins has volunteered to take over the position of membership chair.
      2. GNTO:
         a. Work meeting on April 22nd. Dome repairs are turning out well. Roof work continues. The committee is considering a sealed battery system which, although more expensive requires less maintenance.
         b. The PNM Foundation grant for new batteries was rejected for reasons, which have yet to be determined.
      d. S h a n e Ramotowski rebuilt the Losmandy mount. Barry Spletzer will work on the polar alignment mechanism.
      e. An additional 150 copies of the screen saver have been purchased by TAAS for future sales.

6. OLD BUSINESS:
   a. Astronomy Day. Heather Mann has confirmed September 25th date at Coronado Mall.

7. NEW BUSINESS:
   a. Our first Oak Flat night will be on May 8th. Chaco Canyon night will be on May 22nd.
   b. A letter was received from UNM with the names and addresses of the Broline award winners.
   c. Proposal made that new awards be issued under the names of more recent members, and especially our much missed Mark Kroska or to simply close the Broline award once the account has been spent down.
   d. Barry Spletzer would like those items, which have been removed/lost/stolen/or permanently, borrowed removed from the TAAS inventory list. The Board approved this request.
   e. Barry Spletzer also requests funds for a Rigel quick-tinder and tripod ($200). The Board approved this expenditure.
   f. Newsletter is now two months out of sync with the calendar year. Suggestion was made that an abbreviated newsletter be sent out to compensate for the asynchrony.

Meeting adjourned at 9:15 PM

The Official Newsletter of The Albuquerque Astronomical Society
In a sweeping move to provide top quality communiques to our members while conserving our precious resources, TAAS is pleased to re-announce the availability of this newsletter the Sidereal Times in full color. That’s right, catch the blush of the monthly speaker, the blue eyes and red hair of that cute 6-year-old at the School Star Party, the depth and vibrance of all the full-color illustrations.

The catch is that the full-color version is only available at our website: www.taas.org. If you prefer to download and read your newsletter on your computer rather than receive a paper copy by mail, please notify the TAAS treasurer, Shannon Mann at treasurer@taas.org to have your name removed from the Sidereal Times mailing list. This will provide you with the newsletter of your choice, save TAAS money, and earn you the undying (okay, maybe slowly dying) gratitude of our Sid Times printer – me.

Free Telescope Offer

What’s that? Did you say Free? That’s right FREE! Any TAAS member can use this coupon to borrow a TAAS telescope. Contact Barry Spletzer at telescope_loans@taas.org or 294-4601 and receive a loaner telescope absolutely free. You can choose from scopes with apertures ranging from 6” to 13”. Some restrictions apply. Offer valid for current TAAS members. Offer is first come first served. Late comers will be put on a waiting list. Neither TAAS nor the telescope curators will be held liable for any lost sleep or other problems arising from the use of TAAS scopes. Borrowers are required to enjoy the telescopes.

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Events Coordinator
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798-1958 (H)

Public Relations Officer
Karen Keese
261-0040 (C)

Education / TAAS Web Master
Sammy Lockwood
275-0258 (H)

Newsletter Editor
Dan Richey
286-7993 (H)

Telescope Curator
Barry Spletzer
294-4601 (H)

TAAS Archivist
Pat Appel
292-0463 (H)

TAAS Librarian
Dawn Gray
856-2054 (H)

ATM Coordinator
Ray Collins
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ATM Coordinator
Michael Pendley
296059 (H)

UNM Observatory Coordinator
Jay Harden
2960537 (H)

Telephone
E-mail Address

SOCIETY STAFF

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296-2479 (H)

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771-0126 (H)

• Secretary
Elizabeth Burki
254-0674 (H)

• Treasurer/Membership Services
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771-0126 (H)

Director/Observatory Director
Pete Eschman
873-1517 (H)

Director/Membership Director
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896-0040 (H)

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webmaster@taas.org

editor@taas.org

telecope_loans@taas.org

librarian@taas.org

atm@taas.org

atm@taas.org1
MEMBERSHIP: You may request a membership application by sending e-mail to membership@taas.org or calling (505) 254-TAAS(8227). Applications may also be downloaded from the Web site. Annual dues to The Albuquerque Astronomical Society are $30/year for a full membership and $15/year for a full time student (high school or less) membership. Additional family members may join for $5/each (student and family memberships are not eligible to vote on society matters). New member information packets can be downloaded from the website or requested from the TAAS Membership Services Director at membership@taas.org. You may send your dues by mail to our newsletter mailing address or e-mail address to treasurer@taas.org with your new move!! Please provide the Treasurer to your new address should you change it. The newsletter will NOT be forwarded to your new address unless you request it by the deadline shown on the Society calendar (generally the Saturday near the new Moon). Rates for commercial ads (per issue) are $120 per page, $60 per half page, $30 per quarter page, $7 for business card size. The newsletter editor reserves the right to include and/or edit any article or advertisement. Email attachments in Microsoft Word, 11 point Palatino, justified, no indent to paragraph beginning, one space between paragraphs is preferred. ASCII and RTF are acceptable. One column is approximately 350 words. Contact the Newsletter Editor at editor@taas.org for more information.

MAGAZINES: Discount magazine subscriptions to Sky and Telescope and Astronomy as well as discounts on books from Sky Publishing Corporation are available when purchased by TAAS members through our society. Include any of the above magazine renewal mailers and subscription payments as part of your renewal check. Make checks out to TAAS (we will combine and send one check to the publisher). Warning: publishers take several months to process magazine subscriptions.

ARTICLES/ADVERTISEMENTS: Articles, personal astronomical classified advertisements and business card size advertisements for businesses related to astronomy must be submitted by the deadline shown on the Society calendar (generally the Saturday near the new Moon). Rates for commercial ads (per issue) are $120 per page, $60 per half page, $30 per quarter page, $7 for business card size. The newsletter editor reserves the right to include and/or edit any article or advertisement. Email attachments in Microsoft Word, 11 point Palatino, justified, no indent to paragraph beginning, one space between paragraphs is preferred. ASCII and RTF are acceptable. One column is approximately 350 words. Contact the Newsletter Editor at editor@taas.org for more information.

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TAAS LIBRARY: Please contact the Librarian at librarian@taas.org or 856-2054 to check out a book or make a contribution.

The Albuquerque Astronomical Society

P.O. Box 50581
Albuquerque, NM 87181-0581

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http://www.taas.org

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