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Please note: TAAS offers a Safety Escort Service to those attending monthly meetings on the UNM campus. Please contact the President or any board member during social hour after the meeting if you wish assistance, and a club member will happily accompany you to your car.

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### Upcoming Events

**Click here for August 1997 events**

**Click here for September 1997 events**

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### August 1997

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15  Fri  * UNM Observing
    * Waldo reports due
16  Sat  * TAAS General Meeting - Regener Hall 7pm
    Pluto & Neptune Stationary
18  Mon  Full Moon
22  Fri  * UNM Observing
23  Sat  * GNTO Observing
    * Newsletter Input Due
24  Sun  Last Quarter Moon
29  Fri  UNM Observing
    Asteroid Ceres at Opposition
30  Sat  * GNTO Observing
    Chaco Observing

September 1997

1  Mon  New Moon
    Labor Day
4  Thu  * GNTO Com. Mtg
    * SFCC Observing
5  Fri  * UNM Observing
6  Sat  * GNTO Observing
7  Sun  Asteroid Pallas Stationary
9  Tue  First Quarter Moon
    Mercury Stationary
11  Thu  * Board Meeting - PandA building 7pm
12  Fri  * UNM Observing
    * Waldo reports due
13  Sat  * TAAS General Meeting - Regener Hall
16  Tue  Full Moon
18  Thu  Saturn occulted by Moon
19  Fri  * UNM Observing
20  Sat  * Newsletter input due
22  Mon  Autumnal Equinox
23  Tue  Last Quarter Moon
26  Fri  UNM Observing
27  Sat  * GNTO Observing

NOTES:
* = official TAAS Event
GNTO=General Nathan Twining Observatory. Call Bill Tondreau @ 263-5949 to confirm.
SFCC=Santa Fe Community College. Call Brock Parker @ 298-2792 to confirm.
UNM=UNM Observatory observing nights. Call Brad Hamlin @ 343-8943 to confirm.
ATM=Amateur Telescope Making. Call Michael Pendley for information @ 296-0549.
TAAS and LodeStar a Hit in Grants

Many TAAS members helped LodeStar by participating in the Grants, NM 4th of July Parade. On July 1st LodeStar decided to put a float in the parade to advertise the project and the soon to be built Enchanted Skies Park and observatory on Horace Mesa just east of Grants. The float was a 33 foot lowboy truck (provided by the county) decorated with LodeStar and Enchanted Skies banners, streamers, balloons and telescopes set up on the bed of the truck. TAAS members Mike Pendley & family, Ruth Pendley, Bruce Levin, Kevin McKeown, Lisa Wood & family, Brock Parker, and Bill Tondreau came through on short notice on the holiday to set up their telescopes on the float and tossed Milky Way bars to the kids in the crowd. We certainly had fun doing this unusual event and the response from Grants was incredible. They are still telling LodeStar it was the best float in the parade! Thanks to all of you who drove out to Grants to help.

-Ellie Gates

Presidents Update

This month's President's Update starts with another request for help. Brad Hamlin, who has served as our (most excellent) UNM Campus Observatory Coordinator for quite some time now, has decided to retire at the end of the summer. This is an important position and we need to fill it quickly. Responsibilities include coordinating the Friday night viewing sessions with TAAS.
docents and UNM. Please, give the hotline a call or drop me an e-mail if you have any interest in filling this position.

**TAAS 200**

You have been reading about the TAAS 200 for the last several months in the Observer's Page. The entire list is now available on the TAAS web site and should be on the Society BBS soon after you get this edition of the Times. A number of people are responsible for putting this list together-Lisa Wood came up with the idea and started things going. Lee Mesibov and Jeff Bender (with input from others) created the first draft. Gordon Pegue, Carl Frisch, Ellie Gates, Bill Tondreau, the late Leo Broline, Lisa Wood, and Kevin McKeown reviewed and refined the list. Kevin McKeown summed up the data and edited the final document. Ellie Gates loaded it on the web site.

**July General Meeting**

Those of you that missed the July general meeting missed a good one. In addition to the high turnout (75+ people) and the excellent talk on Roswell, yours truly was almost abducted by an ET!

I was a little nervous about the meeting in the first place. I knew our speaker would do a good job but I was afraid the "fringe" would find out about the meeting and try to disrupt it. When an ET appeared at the top of the steps I was afraid my fear was about to come true.

My first thought was to jump up and escort "it" to the door but I hesitated long enough to look at our speaker. He seemed unconcerned so I thought it was part of the presentation. Soon, however, it became obvious this was not a planned event and my stomach started to hurt.

Spssst--Kevin . . . Kevin . . . who is this I say? But no luck--I could not get eye contact. Ooo-acid burns a hole in my stomach.

I look around again and no one seemed terribly upset-in fact most seemed to be having a good time. Then "it" asked for me by name-Ouch, I was hit by a mini-stroke.

After tying me up the ET began to escort me to the mother ship. Just as we reached the exit, my Mom jumped up and stopped the ET and informed "it" (somewhat melodramatically) that I could not leave now because Sunday was my birthday. It wasn't until then that I finally realized what was going on. I think I instantly turned from white to red.

After a round of "Happy Birthday" the ET escaped and we were able to finish our meeting.
Thanks to all who made this a birthday I will never forget.

September Meeting

While talking to our program director Kevin McKeown at Oak Flat, I found out that we have a special talk lined up for the September 13 general meeting. Don Way, an engineer at Sandia National Laboratories, will talk about the Mars Pathfinder Air Bag development effort. Be sure to mark this one on your calendar.

Contact!

Just as we were putting the Sidereal Times to bed, approximately 40 TAAS members (including Dave Finley and John Spargo) converged at the Century Rio 24 to watch the movie Contact. Afterwards 30+ members ate dinner and listened to stories by John and Dave about filming at the VLA. More on this to follow next month. Thanks Lisa!

New Members

On behalf of the Board of Directors and the general membership I would like to welcome the following new and returning members of TAAS.

We hope your membership in TAAS is pleasant and rewarding. Please contact any board member if you have any suggestions or if you would like to become more involved in Society activities.

Girl Scouts of Chaparral  
Victoria & Ashleigh Davidson  
Ray Collins  
Cassandra Goodin  
John Koontz  
Amara Nance  
Michael Wiedenbeck

Total membership now stands at 335--up 4 from last month.

-Mike Pendley

Board Meeting

The July 17 Board of Directors meeting was called to order by President Mike Pendley at 7 p.m. Present were Kevin McKeown, Elinor Gates, Carl Frisch, Jay Harden, Kevin Jarigese, Bruce Levin, Robert Ortega, Gordon Pegue, Ruth Pendley and Robert Williams. Also attending were Barry Gordon and Jon Pendley.
June Minutes: Robert Williams read the June minutes to the board. The minutes were accepted with minor revisions.

Treasurer's Report: Elinor Gates reported that total funds on deposit were $10,637.07 a decrease of $138.65. Education Funds were $2,553.03, no change, Observatory Funds on Deposit were $6,286.93 an increase of $70.00. General Funds were $1,797.11 a decrease of $138.65.

Student Association: Mike Pendley said that he received an e-mail from Cassandra Goodin stating that she would be on vacation with her family and would not be able to make the July board meeting but should be here for the August board meeting.

Observatory Committee: Gordon Pegue stated that the Observatory committee met on July 10th, present at the committee meeting were Gordon Pegue, Bill Tondreau, Robert Ortega and Carl Frisch. Gordon then went over everything that was discussed at the committee meeting. Gordon then said that the committee came up with two dates for the work party one was August 9th and the second was August 16th (August 16th is the date of our next general meeting and it was suggested to move the meeting to GNTO for that night) Carl Frisch made a motion to make the official date for the observatory work party Saturday, August 9th seconded by Elinor Gates, voted on and passed. The next topic discussed by the board was the payment for materials and equipment needed to do the work. Robert Ortega said that he would make arrangements to rent and deliver the tractor to the site, water truck with enough water for our needs and the delivery of gravel for the project. Robert said that he would make arrangements to pay for everything with his company resources and submit the receipts to the treasurer for reimbursement. The board then discussed a maximum amount for these expenses of $2,500.00 Ruth Pendley moved to accept this amount, seconded by Carl Frisch, voted on and passed. Gordon also said that the arrangements for lunch for the volunteers were all worked out, Karina Running Horse will cook fried chicken and potato salad, Gordon will pick up and deliver the food.

Membership committee: Jay Harden said that he made 3 phone calls for renewal of membership. Jay got one answering machine, one was mailing their renewal and one would not be renewing. The club has 8 new members this month.

Events Policies and Procedures Committee (EPPC): Karina Running Horse was not able to make the board meeting so Robert Williams and Mike Pendley discussed the events of the committee meetings. Mike called for a five minute break to allow those who needed time to look over the amendment a chance to read it. Some changes and clarifications to the proposed amendment were discussed and the committee will meet again to work out these concerns, a date was not set for the committee meeting at this time.

Calendar Committee: Carl Frisch reported that there are no changes to the official calendar this month. Carl also announced that John Sefick will be in town from August 13th through August 16th and will be going to Chaco Canyon.

Past Events: Elinor Gates reported on Elena Gallegos she said that despite the mix up as to the time the event would end thing did go well. The TAAS picnic was a great success and all those
who attended seemed to have fun. Chaco Canyon was another success and those who went had great skies. Mike reported that the ATM class has 2 people polishing and expects to pour more pitch laps at the next class. Elinor said that the float that TAAS manned for the 4th of July parade in Grants was a big hit and they are still talking about it.

**Future Events:** We have another Oak Flat star party on August 2nd.

Future Meetings: Kevin McKeown reported that everything was set for the July meeting and that Physicist Dave Thomas will be speaking on the Roswell UFO Crash. The August meeting is still open at this time but Kevin is talking to James Coll, Dave Hollewell and Warren Offett.

**Old Business:** Mike Pendley reported that he did attend the Explora brainstorming session and it was mainly for fund-raising ideas and would not involve TAAS at this time. Mike also reported that we received confirmation from IDA on our membership. Complimentary Newsletters are still being discussed and worked out. Mike has received a list of all the telescopes the club has and is working with Robin Pimbley to come up with a policy for borrowing telescopes. The Public List will be changed to Membership List and will be made available to TAAS members soon.

**New Business:** Mike Pendley said that Carl Frisch has stated that he is interested in becoming the new Campus Observatory Coordinator when Brad Hamlin steps down. Elinor Gates said that LodeStar would like to have a TAAS member sit on their executive committee, it was discussed and decided that the person that does take the committee position should be board approved. Kevin Jarigese said that Rio Rancho may be asking for help on the construction of their observatory but things are still on the drawing board and he will let the board know what they want exactly once details are worked out.

Newsletter assignments were made and the meeting was adjourned at 9:00pm.

- Robert Williams

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**Observatory Committee**

The regularly scheduled meeting of the Observatory Committee took place Thursday evening, July 10 at Carl Frisch's residence. At this meeting, the main topic of discussion was the upcoming site work party at our observatory. Present at the meeting were the Director, Gordon Pegue, Bill Tondreau, Robert Ortega and our host, Carl Frisch.

After briefly going over the general plan for the benefit of Robert, committee members proceeded to go over details of the work plan.

The first item was the stakeout party scheduled for Saturday, July 12 at the observatory. At this work party, attended by Gordon, Bill and Robert, Robert was able to locate the rebar monuments quite easily for the SE and SW corners of our property. After locating these corners, it was
plainly evident that we had plenty of room to the south of the observatory building within which to construct our new prime observing area.

The next item of discussion was exactly what kind of cover material we were going to use. After listening to some recommendations by Robert (who is a building contractor), committee members concluded that a single 3” thick layer of crusher fines would suffice as long as adequate surface preparation and compacting took place. Robert volunteered to take care of ordering and scheduling the delivery of the material. At the stakeout party, an area quantity of about 12,000 square feet was figured, allowing for the potty path and a little fudge factor.

What kind of heavy equipment is needed to perform the work was the next item of discussion. Once again Robert made some good recommendations and we were all agreed that it would be a whole lot easier on everyone concerned if we just RENTED a tractor to do the earth moving. Robert then volunteered to take care of renting and transporting the tractor to the observatory as well as arranging with an associate of his to have a water truck arrive at the site with sufficient water for our needs. Landscape rakes and shovels are needed and all volunteers will be asked to bring one along when they come down to help out.

Establishing a date for the site work party was next on the agenda. After some discussion we set the date of Saturday, August 9 (by the time you read this article, we should be done).

Gordon then outlined his plan to call and advise all the volunteers of the date for the work party. So far, Gordon has a list with 10 names on it (not counting the usual hardcores). Robert suggested that the volunteers do not need to show up as early as the core group because most of the work involves the use of heavy equipment. Gordon suggested that 10:30 would probably work for most of the volunteers and this is the time that all volunteers should plan on arriving at GNTO.

Money considerations were then examined and again, thanks to Robert and with the approval of the Board and the Treasurer, Robert will take care of paying for the tractor rental, the water truck and the delivery of the crusher fines with his company resources. He would keep receipts and submit them to the Treasurer for reimbursement.

Finally, the lunch that will be provided to all volunteers was discussed. Karina Running Horse has volunteered to cook up a batch of fried chicken and potato salad. Plenty of water and soda will be available. Cleanup will be the responsibility of everyone who shows up. This concluded the discussion of the site work party. The next meeting of the observatory committee is scheduled for Thursday evening, August 7, 1997 at 7 PM. The meeting was then adjourned.

- Gordon "DEEPSKY" Pegue, Observatory Director

July Meeting Recap: Mind Control at the July TAAS Meeting!
The July Meeting was called to order by Mike Pendley at 7 pm, and we immediately got underway with our guest speaker Dave Thomas, who presented a talk titled "A Skeptics Analysis of the Roswell UFO Crash". Dave first presented an prosaic explanation-supported by many facts and documents-for the Roswell crash. Namely, the Roswell crash was nothing more than a lost high altitude balloon from "Project Mogul" designed by the Army Air Force to "listen" in on Soviet nuclear tests. Thus: 1947, June 4th, Mogul flight #4 is lost as it drifts northeast out of Alamogordo, setting a precedent for lost balloons. June 14th: rancher Mac Brazel finds curious "trash", possibly that of Mogul flight #8, on the Foster Ranch near Roswell. Then, on June 24th, Kenneth Arnold observes, over the Pacific northwest, a formation of "flying saucers." This makes headlines nationwide. July 4th: Brazel retrieves the wreckage. July 5th: Brazel learns of a reward that the Air Force has offered for Mogul balloon debris. July 7th: Brazel goes to town with livestock, and wreckage, and meets with the Sheriff. Authorities are contacted. July 8th: the debris, under the auspices of Major Jesse Marcel, is flown to Ft. Worth army airfield. The Army issues a press release saying it was a crashed saucer, then says it was a weather balloon (neither of which it was). By this time, "flying saucer" mania, courtesy Arnold, is sweeping the country. July 9th: Mac Brazel tells the Roswell Daily Record about the debris-balsa wood with strange figures, and thin metallic foil that would not burn.

Then, all quiet for 21 years! In 1978 "physicist" Stanton Friedman interviews Major Marcel, who says "I am sure that what I found was not any weather balloon." Actually, it was a balloon, but not of meteorological design. Immediately, the pro UFO forces cry "COVERUP"!

In fact, explained Dr. Thomas, Project Mogul was a high altitude balloon project brainstormed by scientists at New York University. The balloon materials were obtained from a Manhattan toy manufacturer, which printed identification flowers and symbols on its paper. These markings were the "alien hieroglyphics" seen by Brazel and Marcel! The strange foil was nothing more than metallized mylar, designed to reflect radar signals used for tracking. Furthermore, meteorologist Charles Moore, at New Mexico Tech, modeled the flight for a balloon launched in late June 1947, and he showed that the Foster ranch would be close to the landing site! Do photos of the debris exist? Yes!!! These were published in the newspapers. But why would the Army keep a pile of . . . trash? It was thrown out. The Roswell "UFO" was a crashed Project Mogul balloon.

Dave then went on to explain how the pseudoscientists modify the facts to fit their unchanging hypothesis that a UFO really did crash at Roswell. For instance, Dave showed us cropped pictures of the original Mogul debris purported to be photos of the "real" UFO. Dave also showed how dates for the events change from publication to publication, some even by the same author! "Eyewitness" accounts of the number of bodies supposedly found in the wreckage range all over. Were there 5 killed? 8 total? 3 dead and one injured? All four dead?

But in fact, real Roswell "Trivia"-which fits the Mogul scenario-exists! We know debris was flown to Ft. Worth, then Wright Field, Ohio. We know that on July 9th NYU engineers traveled to Wright Field to examine the debris. Real Roswell Intelligence "Secrets" exist-it was the cold war and the Army was reluctant to give explanations for the balloon flights (and crashes) to the public.
Dave next called into question subsequent materials, and films that appear to support the extraterrestrial explanation for Roswell. A memo called "Majestic 12" purports to prove that President Truman knew about a crashed UFO at Roswell, and aliens. However, Dave showed, through type analysis and signature comparison that this document has to be a forgery. Also, a photo of an alien recently published in Penthouse Magazine was simply an unauthorized photo of the well known alien model at the Roswell UFO museum!

At this point the meeting was abruptly taken over by an invading alien! Holy cow! We were all held under mind control by this probably female ET who attempted to abduct our President! It got pretty scary, but Ruth Pendley, Mike's mom, stood down the challenge, and ran the alien off with the argument that he needed to stay because it was his birthday. The ET agreed, sang him "Happy Birthday", and beamed-up.

Dave next took questions, some of which dealt with the isotopic homogeneity of solar system matter. This can be used to prove or disprove whether materials are from outside our solar system, and hence alien. One question asked was "Since aliens know we know about isotopic signatures, they could build their crafts from elements meant to match earth's isotopic ratios, so how can we tell if we have real materials made by extraterrestrials?" Dave replied that was possible but not probable.

We next had the Trivia question drawing (the winner received a tektite), and the Waldo drawing (winner: John Pendley won a Moon landing stamp set). Also, some very nice pins and key chains, courtesy of Dr. Q of KOOL-102/Coyote Iron Works, were given out. The usual social hour followed, when we celebrated Mike's birthday (that following Sunday). This wrapped up a really tremendous meeting! I'm told that the large, delicious cake we enjoyed then was left behind by the alien when it fled!

-Kevin McKeown

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**August Meeting to Discuss British Astronomy**

The TAAS Regular Meeting on Saturday, August 16th, at 7 pm will be held at Regener Hall, UNM Campus, as usual. The talk tonight will feature Dr. David Hollowell, of Los Alamos National Labs. Dave will present a slide show of his travels to the British Isles, where he visited several famous astronomy related landmarks. Dave will first talk about the social and astronomical significance of that most famous of all British historical sites, 5000-year-old Stonehenge. He will also compare Stonehenge to nearby 5500-year-old Avebury circle. Dave will next give us a tour of the Herschel home in Bath, England. From the backyard of this house is where William Herschel discovered Uranus in 1781, using an approximately 7 inch speculum reflector. This was one of the biggest astronomical discoveries of all time!

Dave is the Vice President of the "Pajarito Astronomers", based in Los Alamos. He also has some interest in the alleged UFO crash at Roswell, so bring your leftover questions from the July
meeting to the usual social hour. I suppose we can ask him about all of the "crop circles" that seem to plague England each summer (I will).

Of course, there will be the usual Trivia Contest. Since the topic of tonight's meeting is English astronomy, the contest winner will receive a cast button of genuine Speculum metal, the same kind of white mirror bronze William Herschel used for casting his telescope mirrors. This should be a great chance to learn about some old English astronomy-be there! A map to Regener appears on the back of the newsletter.

-Kevin McKeown

Observer's Page

September Musings

Consider a night over central New Mexico in mid September, three millennia before the birth of Christ, perhaps at the time Stonehenge was being constructed. At the end of evening twilight, our familiar summer zodiac constellations of Scorpius and Sagittarius had all but set. Fomalhaut stood very low, nearly at culmination, in the southern sky. Cygnus, the Swan, and Aquila, the Eagle were already well down in the west as they "flew" southwest along the Milky Way and into oblivion. The star alpha Draconis, known as Thuban, was by now becoming a very good north pole star. And in the east, by early evening, our familiar winter constellations were already availings themselves. By midnight, 3000 BC, our familiar winter sky was well seen; by dawn, the star Sirius stood high up in the nearly due south! All of this by mid September!

Of course, in the darkening skies after sunset now-a-days, one sees the Swan and the Eagle almost overhead. Fomalhaut is just rising in the southeast, and there is plenty of deep sky observing still to be done in Scorpius and Sagittarius. Polaris is now our pole star and Thuban now lies a whopping 26 degrees from the north pole! Somewhat simply put, the difference between the September sky then and now was that many of our familiar winter constellations were appearing several months ahead of time. And our favorite late summer constellations had either set, or were hopelessly low in the west. But remember, 5000 years ago the autumnal equinox lay in northwest Scorpius. We know that each September 22, or there about, the sun crosses the autumnal equinox-one of the two places in the sky where the celestial equator and the ecliptic intersect-as it heads south. Thus, on September 22, 3000 BC, the sun would lie in Scorpius, and thus obscure the Scorpion.

What I really find significant is how easily visible was Sirius, the dog star, by late summer, 3000 BC. Today, at dawn by September 1st, Sirius is just rising. We really don't think about trying to stargaze in Canis Major, Puppis, Vela, Orion, and so on, in September, from New Mexico today, but you could then!
But now, as back then, September is the month when the sun really heads south! On September 1st, the sun stands at +8 1/2 degrees declination; by the 30th, the sun has already "fallen" down to -3 degrees south. That's an 11.5 degree swing!

Observe Comet Hale-Bopp!

During the last week of September, we in New Mexico actually get a last look at comet Hale-Bopp! You'll have to look low in the southeast, way down in Puppis, just before the start of morning twilight. A very clean sky down to the horizon is necessary, but Hale Bopp might still be an easy binocular object. I hope many of you try for Hale-Bopp, so you can add several more months to your overall observation period for this comet. I know many of you began observing Hale-Bopp in September, 1995. Why not make it two full years of visibility? Also, Mercury makes a good morning apparition in mid to late September, and this alone might be worth getting up early for. For Hale-Bopp, see Sky and Telescope, August 1997, page 95.

TAAS 200

This September offers the last chance until next year to observe some of the far southerly TAAS 200 objects located in or near Sagittarius. By October, this area is easily setting in the southwest, and you might not be able to count on a clean sky just after sunset-at least I don't. First up on the list is the dark nebulae B92, which lies on the west-northwest side of the "Little Sagittarius Star Cloud" (also known as M24). This is a nearly starless void, caused by a dense clot of dust that has obscured the rich starry background of the Little Cloud. It is about the size of the nearby Swan nebula (M17), and roughly oval in shape, somewhat like a half moon at 3rd quarter. An effective object, it has somewhat less contrast than B86. B92 lies about 3/4 degrees WNW of the open cluster NGC 6603 (called M24 in Tirion). Another smaller, narrow, crescent shaped, fine dark nebula lies just to the northeast of B92, so be careful not to confuse the two. These objects require very black, clean skies for best results. This is a wonderful area of the sky! Sweep the Little Sagittarius Cloud with low power to recover B92.

Next up, the globular NGC 6624 can be swept up less than a degree southeast of the star delta Sagittari. This is a small, very condensed, 8th magnitude globular that rises to a bright center. It makes a fine sight with delta, but it requires a large scope for resolution-check it out! You might remember this cluster when Comet Hale-Bopp passed very nearby in late summer, 1995. NGC 6652 is another globular in Sagittarius. Of 9th magnitude, this object shows fair resolution even in an 8 inch scope. The inner core of bright giants forms a curious, and memorable "football" shaped pattern. It lies close to M69 and is quite beautiful.

The next two TAAS 200 objects—globular NGC 6723 and diffuse nebulae NGC 6726-7—go hand in hand, and are part of a very remarkable region located on the very north edge of the Southern Crown, or "Ring", Corona Australis. First locate the globular cluster NGC 6723, in far southeast Sagittarius, just outside of the northern edge of the Ring. This is a beautiful, rich, 7th magnitude cluster that resolves well even with 6 inch scopes. It is large in diameter, and has a very broad smooth core. It can be recovered using binoculars. Now, having found NGC 6723, move due southeast by about 1/2 degree to the stars that make up the northern edge of the ring itself. As you sweep between these 5th magnitude stars, look for two stars (7th and about 9th magnitude)
involved in a small, fairly bright elongated nebula. This nebula has a rough figure 8 shape, formed by the two brighter internal concentrations involving the stars; together they form the TAAS 200 object NGC 6726 and 6727. NGC 6726-7 is reminiscent of M78 in Orion, but fainter. About 5 arc minutes to the southeast lies the small diffuse nebula NGC 6729, which together with NGC 6726-7 are the "illuminated" parts of a nearby, large, dense, dark dust cloud, where young freshly formed stars reside. These nebulae are bluish reflection nebulae, so nebular filters may not help contrast. This region shows much wispy, veil like, very faint reflection nebula, and quite a bit of dark nebulae, but the dark nebulae are hard to detect because there isn't a rich star field to obscure. Recall-this area lies well off the Milky Way. It is all the more fascinating when you appreciate the fact that the globular NGC 6723 is both very dust free and a very ancient object in galactic terms. However, NGC 6723 lies well behind, and far from, the dust cloud whose lit areas we call NGC's 6726-7-9. But only in the Sagittarius region can we find such fundamentally different deep sky objects lying-apparently-so close to one another (the Antares region is analogous).

Next, in north central Sagittarius lies the next TAAS 200 object, open cluster NGC 6645. This is one of the gems on the Herschel 400 list. It is moderately large, quite rich and compressed, and shows several star voids. This is one of the most pleasing of the fainter opens in Sagittarius.

Let's move northward, now that we've won some low declination prizes. NGC 6572 in northern Ophiuchus is a very small (about 10 arc seconds), very bright (about magnitude 8), oval planetary nebula. With a very high surface brightness, the blue green or emerald color of the ionized gasses is easily seen! It is exquisite. The very bluish central star can also be seen. This object deserves to be shown at star parties to all newcomers to astronomy! It also very closely resembles the planet Uranus, hence the origin of the term "planetary nebulae".

Just to the east is the large, fine open cluster NGC 6633, in Ophiuchus. It is rich, and irregularly wedge shaped, and easily resolved.

Over in neighboring Aquila, just to the southwest of Altair, lies the TAAS 200 planetary nebula NGC 6781. This is one of my absolute favorite planetaries! It is a fairly large (about 2 arc minutes in diameter), apparently perfectly round smoky disc that is decidedly fainter in the center, and along the northern edge. It always reminds me of a very dark, ghostly moon in a lunar eclipse! It is easy in a 6 inch scope, and has a total magnitude similar to the Ring nebula in Lyra.

Lastly, using binoculars, and starting from the position of NGC 6781, move about 14 degrees to the due north along the Milky Way to Vulpecula to sweep up the curious asterism known as the "Coathanger". Also known as the open cluster Collinder 399, it is very aptly named-see why! This curious asterism is worth taking a look at each and every summer night, because many novae have been found in and around this object. When a nova
does flare near the "Coathanger", you'll know it right away, as it disrupts the shape quite a bit.

NGC 6781

Oak Flat, July 5th and 12th:

For the record, some very successful stargazing was had during both of these Saturday night gatherings at Oak Flat. We looked at many favorite summer objects, the most memorable of which were the Swan (Omega) nebula (M17), the Lagoon, globulars M22, M4, NGC 6144 (near M4), the Ring Nebula, and the Dumbbell. Some of you even recovered the planet Uranus!

- Kevin McKeown

Deep Sky Waldo

TAAS offers an OBSERVING CHALLENGE each month. The challenge is in three parts: Deep Sky Waldo, Naked Eye Waldo, and Waldo Jr (ages 5-15). If you meet one or more of these challenges, please call the Hotline (296-0549) or send mail to the editor: Mike Pendley. You will then have your name published in the newsletter, and be eligible for our monthly drawing for the prize awarded at each meeting. You (or mom or dad for Waldo Jrs.) must be present to accept the prize if your name is drawn. Deadline is 9pm the Friday before the general meeting.

Naked Eye Waldo Challenge:

View the Perseids late on the night of August 11.

Deep Sky Waldo Challenge:

Find a deep sky object you've never found yourself before.

Waldo Jr. April Challenge:

Look at the moon. On what night(s) is it the shape of a banana?

Just Joking Waldo:

Using a Tasco with a magnification of at least 3,000,000X, find the Sojourner on Mars. Describe what it is doing.
Observers that qualified for the Vega-Summer Triangle-Uranus/Neptune Waldo drawing were (in random order): Steve Pendley, Kevin McKeown, Gordon Pegue, Mike Pendley, Debbie Pendley, Anna Whitlow, Katherine Blankenburg, Henry Baronsky, Jon Pendley, and Linda Hixon.

This month's winner was Jon Pendley.

- Lisa

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**The Kids' Corner**

*by Lindsay*

**Why the North Star Stands Still**

*(A Pahute story about the North Star)*

There was a god called Shinob, and Shinob had a mountain sheep as his son. His name was Nagah. Nagah could climb any mountain. He would go looking for tall and treacherous mountains to climb. One day Naga found a steep mountain to climb. He made his way up the mountain, going around and around as he climbed higher and higher. When he could go no further, he found a passageway that led upwards inside the mountain. It was dark inside the passageway and sliding rocks made it difficult to climb. Nagah was scared. He tried to make his way back down, but the falling rocks had formed a wall behind him. Nagah finally got to the top, but there was no way down. Nagah's father was distraught when he found his son stranded on top of the mountain peak. He turned his son into a star so that he could remain alive, and travelers could use him to find their way. Many animals still try to climb to the top where Nagah must stand, but can only go around and around on the path he made that no longer reaches the top. These are the stars of the Big and Little Dipper, always traveling around Nagah, but never reaching him.

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**Internet Info**

As the Spring/Summer 1997 TAAS telescope making class comes to an end (last class was July 30), I thought it might be appropriate to review the wealth of information that can be found on the Internet relating to telescope making and amateur optics.
The good news this month is you only need to remember one URL--The ATM Page--located at http://web0.tiac.net/users/atm/. This page is by far the most complete and most professional looking ATM page on the net.

Here is the home page menu and a description of what is behind each item:

**Reference Shelf**--A review of 20 some publications that deal with telescope making, optics, CCD cameras, etc.

**Gallery of ATM Scopes**--As you might guess, pictures of lots of different telescopes.

**Mirror Making**--How to make a Foucault Tester, silvering a mirror, how to make Schmidt corrector plates, how not to scratch glass and more.

**Telescope Design**--A comparison of various telescope designs (e.g. Gregorian, Dall-Kirkham, etc.) This page is still under construction but what is finished is good.

**Optical Miscellany**--Construction of a dual grating prominence telescope / spectrohelioscope, baffling Newtonians, design and construction notes on a Wright reflector, and more.

**Mechanical Miscellany**--All about curved spiders, a Crayford focuser design, a quick & dirty guide to anodizing . . .

**CCD Cameras**--Plans for a flip mirror and filter wheel, comparison of CCD chips, image processing software, and more.

**Mountings and Drives**--A simple wedge, plans for a split ring mount, and a cylindrical bearing equatorial platform.

**Vendor Lists**--A list of over 350 companies.

**Observatory Plans**--Marcel Fontaine's roll off roof observatory, a backyard observatory, a garden shed observatory.

**Links**--Well over 70 links to other sites. One describes how to build a Telrad flashing circuit and another describes the Group 70 effort (an amateur effort to build a 70 inch f/2.8 telescope)

- Michael Pendley

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**UNM Campus Observatory Report**

Independence Day and the monsoon weather pattern limited viewing at the UNM Campus Observatory to one night this month.
July 4  | Closed
July 11 | Approximately 150 people turned out under a partly cloudy sky.
July 18 | Rained Out
July 25 | Rained Out

UNM docents this month (in random order) were Brad Hamlin, Kevin McKeown, Helix Fairwether, and Robbin Pimbley.

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**School Star Party Update**

No report was available at press time on Susie Reyes Marmon. The complete report will be in the October Sidereal Times.

* -Karina Running Horse

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**Maps to Future School Star Parties**

No schools scheduled for this period. Take a break!

* -Karina Running Horse

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**TAAS Mail Bag**

Some of the items delivered to the PO box this month include:

Newsletters from other clubs (Pajarito, Orange County, San Antonio, Lake County, Tuson, San Luis Obispo), 5 returned newsletters, 2 address changes (thanks Tim and John), 5 membership renewals, the newsletter printing bill, payment for Sidereal Times advertising, a thank you card from the International Darksky Association, the bank statement, 5 new member applications, and one misc. letter.

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**TAAS Picnic at Oak Flat a Big Success**

The highlight of this Forth of July weekend was the annual TAAS Picnic followed by a public star party-both at Oak Flat Picnic Ground. Our thanks go out to the many that made this event possible; the Sandia Ranger District for daytime use of the area and Dr. Q of KOOL 102 for
providing outstanding background music during the star party. Of course thanks, too, to the many of you that came up with your expertise and/or telescopes, not to mention good food. Thanks for all the athletic equipment, Kevin, but I think this bunch prefers the laid back approach.

An estimated forty or so TAAS members and guests attended the picnic while twenty or more telescopes entertained around seventy or so public attendees. Nice bino-viewers, Robin. Elinor Gates dazzled the pre-star party audience with an informal presentation of what the night sky held in store for them. The skies got mushy around 3 AM, but skies were good for the most part.

July 12th another star party ensued at Oak Flat. After dark clouds gave way to good skies, but again got soft by the wee hours of the morning. Ellie and Dr. Q entertained again with a dozen or so telescopes in attendance. Next time out I'll show you where to find M15, Barry.

-Carl Frisch

Membership List Now Available!

Have you ever wanted a list of fellow TAAS members so you could contact them outside of club meetings and events? Now you can! We now have a preliminary list available with about 100 member's home phone numbers, and e-mail addresses.

If you would like a copy of the list please send a SASE to Membership List, The Albuquerque Astronomical Society, PO Box 54072, Albuquerque, NM 87153-4072. This list is for TAAS member use only and is not to be given or sold to non-members or other organizations.

We have over 330 members, so many of you haven't given permission to be listed yet (we will only put your name on the list with your permission!). If you are not on the list and wish to be--contact Elinor Gates at 277-1529 (work) or by e-mail, egates@unm.edu.

-Ellie Gates

SHOEMAKER-LEVY 9

SHOEMAKER-LEVY 9
By Beth Fernandez

You spend your days
Alone
Wandering among
The darkness and the ice
A procession of lights
Against the speck-filled sky
You blaze your trail
Traveling so fast
To an end that will come before its time
For now your orbits are numbered
Your end is near
This is the last time this path will be traveled
Twenty-one cats creep across the sky
From far away
Eyes are turned
Towards you
And you promise yourself
You will never be forgotten
As the planet looms ahead
I realize your fate
One by one
Silent explosions
Deepening, wounding the planet
And in this cosmic wave I watch
Never has destruction looked so beautiful

CHACO CANYON, AGAIN?

or

OBSERVING IN THE SHADOWS OF THE ANCIENT ONES

Were the ancient Chacoans astronomers? Come see the skies as they did and judge for yourself.

Yes, due to popular demand Chaco is again on our agenda. If you haven't attended one of the many past Chaco star parties this may be your last chance this summer. Labor Day marks the end of summer and what a better way to remember it than a camping trip and star party? Those of you that attended the Memorial Day star party can attest to the dark skies and great
accommodations. Come and experience the mystery and observe in the shadows of the ancient ones.

As before TAAS member John Sefick will be demonstrating CCD astronomy using his 25 inch Obsession and SBIG ST6 camera system. We will be putting on a public star party on Saturday evening, the 30th, but the night before and after we will be have the Chacoan skies to ourselves.

To get to Chaco take Highway 44 west from Bernalillo to about 50 miles past Cuba. Turn south at the signs for the last 21 miles. From Albuquerque it's about a three hour drive. I recommend daytime travel since the scenery is great and the last 16 miles is a dirt road. Any vehicle can make it, although the dirt part is a bit "washboardy" in places. Park and camping fees are waived for TAAS members and there may be shower and cooking facilities available. Any questions may be directed to me.

-Carl Frisch

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**Eugene Shoemaker 1928-1997**

We all regret the tragic accident that claimed the life of geologist and planetary scientist, Dr. Eugene Shoemaker on July 18, 1997. Dr. Shoemaker had a long career in planetary science. His main interests were in impact processes in the solar system and the effects of large body impacts on the evolution of life. He had been conducting an ongoing investigation of ancient impact structures with his wife, Carolyn, when his car collided head-on with another vehicle on an unpaved road in the Tanami Desert northwest of Alice Springs, in the Northern Territory of Australia.

Dr. Shoemaker received a Ph.D. from Princeton University in 1960. He joined the staff at Lowell Observatory in 1993, after serving as a geologist with the US Geological Survey. He was also serving as a research professor of astronomy at Northern Arizona University. Dr. Shoemaker served as the principle investigator on Surveyor and Apollo projects, and originated the Palomar Asteroid and Comet Survey. He was also the science team leader for the Clementine mission to the Moon. He was awarded the National Medal of Science in a White House ceremony in 1992. He co-discovered 29 comets and many asteroids, including the celebrated Shoemaker-Levy 9 comet that impacted with Jupiter in June of 1994. Dr. Shoemaker has contributed greatly to our understanding of the importance and frequency of astronomical impacts within our solar system, and his contributions have provided an innovative and firm foundation upon which future research will certainly depend. He will be greatly missed.

-Lisa Wood

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**IF AT FIRST...you don't succeed...**
During the wee hours of the morning of July 29, from about 3:16 to 3:57, the waning crescent Moon occulted Aldebaran (alpha Tau), the brightest of all the night-sky stars that the Moon can occult. Unfortunately, we in the Albuquerque area were in the midst of a particularly active monsoon season, rendering this very fine event unobservable.

. . . half a loaf is better than none.

Another very fine lunar occultation comes our way during the wee hours of the morning of September 18; in one way, it will not be as good as July's, but in another way, it will be even better. The bad news is that, instead of a modest crescent, the Moon for this event will be a rather fat gibbous phase, only about 40 hours past full, thus producing considerable glare that will make it much more difficult to see what's being occulted. The good news is that "what's being occulted" is the showpiece of the solar system: the ringed planet Saturn. In his Sky and Telescope article on this event, Alan MacRobert says that "a small telescope should easily reveal Saturn in the Moon's glare."

Another bit of good news is that the event occurs at a favorable altitude and a slightly more civilized hour. Saturn should disappear behind the bright side of the Moon at about 4:28 AM and reappear from behind the very narrow dark portion at about 5:24 AM, both MDT. Thus, for us, the entire event takes place just about as late as it possibly can in a totally dark sky, just before the onset of morning twilight at about 5:25 AM.

As a photo op, the fullness of the Moon makes this one a real challenge. In the Sky and Telescope article, MacRobert states that Saturn and the Moon are "tough to capture on a photograph", and I certainly agree with him; there are formidable problems in both image size and exposure. Anyone interested in trying it is welcome to contact me for details.

On the other hand, for eyeball-to-eyepiece observing, this one will be hard to beat. Unlike the instantaneous blinking off and on of a star, the covering and uncovering of Saturn will take "up to a minute or more" according to Sky and Telescope Now this is something you can really observe-and is one of the very finest examples of the solar system's "clockwork" in action.

-Barry Gordon BarryGordon@CompuServe.com

Notes from GB

In the last three years visitors to Chaco Culture National Historical Park have been treated to extraordinary events thanks, in part, to The Albuquerque Astronomical Society (TAAS). Once or twice a year enthusiastic TAAS members, as well as other interested amateurs from the surrounding areas, converge on the canyon to conduct star parties both for their own enjoyment and the visitor's amazement. Our next scheduled club-wide gathering will be held on August 30th, and I urge all interested club members to come out and partake in our dark skies.
This last year has seen new developments in astronomy at Chaco. John Sefick, Carl Frisch, and Brad Hamlin are becoming expert at producing phenomenal images via CCD and John's 25 inch Obsession. It has proven so satisfying that John has left his scope, along with some handsomely mounted photos put together by Carl, to show visitors what can be done by enthusiastic "hobbyists".

A new era of astronomy is being introduced into Chaco by these and other activities that will impact on the future of the canyon. Astronomy projects have a great potential as planks in an official platform from which to argue against development around the canyon that would increase light pollution. Presently our night skies are almost free from such impact, but progress being what it is, we will eventually have to deal with this issue. A tradition of astronomy projects that require the unusual dark skies of Chaco offer a potential argument in favor of preserving this fragile natural resource.

So, while astronomy is "fun" in Chaco both for the astronomer and the happy visitor whose time in the canyon coincides with scope owners, we also see that "important" issues are at stake, (but please, never let it be thought that I believe "fun" and "important" are necessarily mutually exclusive!).

Also, let me not leave the impression that official proposals only need apply. Any time scope owners come into the canyon and offer views to visitors, they help build the tradition that Chaco is a place of exceptional dark skies. This year alone Brock Parker has generously spent several nights hanging out at our campground, much to the delight of fellow campers. Personal research projects are also welcomed additions. Earlier this year Karina Running Horse escorted a colleague into the canyon to take photos of Hale-Bopp as well as to conduct her own investigations. My great fortune in life (one of many) is to be semi-permanently stationed at this fascinating place and learn from all who come to ask specific questions or to just hang out with the stars. It is true, however, that TAAS members hold a special place in Chaco's collective heart. So, whether you come up during scheduled star parties or sojourn on your own, please make Chaco one of your frequent celestial pilgrimage sites.

As a post script, I now have a personal hone in my apartment (Look out! Progress is afoot!). Feel free to give me a call (505) 786-7145 and let me know of your visit here, and I will do my best to host you in any way I can.

GG Cornucopia  
Chaco Culture NHP  
PO Box 220  
Nageezi, NM 87037  
(505) 786-7145

What's a Star Party?
A group of astronomers, amateur and professional, set-up their telescopes at the University Observatory, a school yard, or out in the country at a park. People come and the astronomers point at things. There is much discussion: How to grind lenses; How to detect the mass of a black hole based on the spectral shift of nitrogen gases through the Doppler effect; Who makes the best doughnuts: Dunkin or Krispie Cream?; Light pollution from urban sprawl; What does the Moody Blues "Nights in White Satin" really mean?; Where is the coffee thermos?; and How best to renovate the Societies own Observatory-the outhouse which was stolen, probably for a chicken coop last year.

Taken from a letter by Rogi Russell to a friend in Kentucky

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**Classified Ads**

**For Sale:** Meade LX-50 8" SCT telescope. All std assy, 2 extra plossel eyepieces w/case (Orion), Meade tripod, Meade std. wedge, Meade 201XT CCD autoguider, Meade off-axis guider, Celestron off-axis guider, Meade 9mm illuminated reticle w/ movable cross-hairs, Tuthill polar axis finder, original foam lined box, Meade prime focus camera adaptor, Meade t-rings for Pentax mount camera

Excellent condition, maybe used 20 times. Sell as complete set only. Price: $1600 OBO

Wm. Mack Julian II
e-mail koder@swcp.com
Home Phone: 896-9478

**For Sale:** 1988 Meade 826-C Newtonian reflector, German equatorial mount with clock drive. Excellent 8" f/6 mirror. 8x50 finder scope. 2" rack and pinion focuser with 1.25" adapter. Asking $595. Call Jeff Bender at 293-4868

**For Sale:** Home built 10" Dobsonian f/4.5. 6x30 finder scope. Very user friendly. Can observe from horizon to zenith while seated in a chair! Asking $395. Call Jeff Bender 293-4868.

**For Sale:** Obsession 18" f/4.5. One year old, Galaxy Optics primary and secondary mirrors. A Telrad, light baffle, shroud and mirror fan are included. The telescope is in prime condition with no knicks, scratches or otherwise anywhere on the scope or mirrors. I have priced the telescope at $4300.

Les4moore@aol.com. (970) 223-4560 (Ft. Collins, CO, Northern Colorado Astronomical Society (NCAS) member).

**Wanted:** Are you tired of your current position? Worried about down sizing? Interested in doubling your current income? So am I! If I had the secrets to those problems I would not be writing this. But now that I have your attention I can tell you how you can gain the admiration of your fellow society members and gain international fame-become a writer or reporter for the
Sidereal Times. Not much time is required and it can be lots of fun. Cover an event or maintain a monthly column. Interested? Contact the Sidereal Times editor at the phone number below.

**For Sale:** Reflector Telescope, Celestron International Cometron CO114. 4.5 inch aperture, f/8.8. Call Lois Brown, 891-0081 (Rio Rancho)

**For Sale:** 1990 Celestron Ultimate 8 PEC. Hard foam case and tripod, heavy duty electronic equatorial mount. 8x50 finder scope. Oculars: (Plossel) 10.5mm, 17mm, 21mm, 30mm (Ortho) 12mm. Set of 6 ocular color filters. Asking $1500. Call Jim Brannon at 792-4337.

*Non-commercial ads for astronomy related products listed at no charge for members. To place an ad, send a message to the editor at the society PO box or send a message to mycall@rt66.com.*