



Spring Observing Season is Here!

Get those telescopes into the backyard!

Spring is finally arriving here on Selma Street, or at least it's just around the corner! With the kind of Winter we've had, I don't think anyone would blame us if our telescopes gathered a little dust over the last couple of months (not on the optics, of course!) I did have a few memorable viewing experiences this Winter, though: a night with Pat Rochford's new 24" telescope under the relatively good skies of Fairhope, and one evening's voyage through Auriga with my own 12.5" Dobsonian (the Flaming Star Nebula was plainly visible). I also did some lunar observing--mainly to try-out the 12mm Nagler Type II eyepiece that Santa delivered. Awesome! But, for the most part, this has been one of the stormiest, coldest Winters in memory,

with few opportunities for doing any kind of observing! But, thank goodness, the always wonderful Spring observing season is now upon us!

Perhaps the primary Spring attraction in the local world of amateur astronomy has become the Mid South Regional Stargaze. This star-party, which is held in French Camp, Mississippi, north of Jackson, on the grounds of the Rainwater Observatory at French Camp Academy has, in the last couple of years, moved from relative obscurity to being one of the highlights of the year. Though most of us still look forward to Fall's Deep

South Regional Stargaze as THE stargaze to attend, Mid-South is a close second. MSRSRG does, in fact, now have a couple of advantages over DSRSG. First, the skies at French Camp are really pristine. While the growth of McComb, Mississippi has compromised the skies at Percy Quin to some extent, the skies at French Camp remain dark--almost unbelievably so. It may not be the Prude Ranch (Texas Star Party), but I'm not really sure how much better skies can be than they were at last year's MSRSRG. Another big advantage which MSRSRG holds over DSRSG is

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MSRSRG '95...The Mid South Regional Star Gaze has become one of the most popular events on the local observing calendar! L-R (back row) Tony Kramer, Dorothy Mollise, Rod Mollise, Leland Cox, Phyllis Dunnivant, (seated) Ginny Kramer, George Byron.

FOOD. While the food at Deep South is edible, has improved lately, and is priced right, *it just can't compare* to the wonderful (and also reasonably priced) fare available at Mid South! This year's Mid South Regional Star Gaze will be held 17-21 April. If you think you might be interested in attending MSRSG '95, please contact me for further information. Don't delay! Last year's Stargaze was very well attended; if you wait, lodging will definitely be a problem!

Another alternative is The (3rd annual) **Peach State Star Gaze**. While I've never attended this star-party, which is, like Mid-South, only a few years old, I've had some good reports from attendees. I've also talked at length with one of the primary organizers, **Ken Poshedly** (a frequent Deep South attendee), and my impression is that Peach State is on the verge of attaining national stature. This year's Peach State will be held at Indian Springs State Park near Jackson, Georgia (not far from Atlanta) 18-21 April. Some very prominent speakers are on the agenda, along with workshops, swap tables, and LOTS OF OBSERVING. The Peach State Star Gaze is sponsored by Atlanta Astronomy Club. For further information, contact Ken Poshedly at 770-979-9842.

But what if you can't get to a star gaze, don't have a dark site from which to observe, and are HUNGRY for the deep sky? *Then get that telescope out into the backyard!* This is the season for GALAXIES! A six inch telescope located in a typically light-polluted suburban Mobile site will allow almost endless voyaging among the Coma-Virgo cloud of galaxies. I remember being out under the stars with my 4 inch f11 Newtonian many (many) years ago, and being bewildered by the forest of galaxies

that stretched from Canes Venatici to southernmost Virgo. I had a very small 'scope and, while Mobile's skies were somewhat better during the late sixties than they are now, they weren't that much better. And yet, I was seeing galaxy after galaxy! Not just Messiers, but NGC objects, which, from the books I'd read, I had expected to be totally invisible in my tiny telescope! I learned two important lessons on that long-ago night. First, you can do some kind of astronomy from almost *any* site, no matter how 'bad' the skies are. Second, when some book on observing tells you that something can't be seen, ignore it--most of the time the author is wrong! Get out there and try anyway! You'll frequently be pleasantly surprised about what can be done with even a very modest instrument!

The important thing, if you want to grow in the hobby and improve your observing skills, is to get out there with that telescope! 'Just' viewing the Moon helps you develop as an observer. One way to improve as an amateur and maintain your interest in the hobby is to set yourself some goals and keep trying new projects. Have you seen all the Messier objects? This is a good time to knock-out those Spring galaxies missing from your 'observed' list. Oh, you've been through all the Messiers? But have you sketched or photographed all of them? You have? Then how about observing the Herschel 400 (give me a holler if you need a list of these objects). And when the Spring observing season draws to a close, please remember your kindly old newsletter editor before you get wrapped-up in viewing the Summer Milky Way. I'd love to print your Spring observing notes, drawings, and photographs!

--Rod



Your Very Own Moon Pictures

Part I--Equipment

Have you spent a lot of time admiring those amateur photographs in the backs of *Astronomy* and *Sky and Telescope* magazines? You know the ones I mean, the **observatory quality**, full color prints which have captions along these lines: *'NGC umptysquatch. Composite of three 180 minute exposures which were registered, printed on an internegative, and post-processed with a Pentium computer.'* Reading little blurbs like this usually puts to rest any dreams the average amateur has of taking astrophotos. What hope is there if you don't have a large-aperture telescope, a team of darkroom experts and the patience of Job? But there is one branch of astrophotography which doesn't require much in the way of darkroom resources, doesn't demand a big telescope with a great drive (you don't even really need a drive), and which can yield good results to even the inexperienced astrophotographer right away. Right. I'm talking about LUNAR photography. Now, don't scoff. Taking moon pictures may not be quite as glamorous as imaging a distant galaxy cluster, but it has its own delights. For

one thing, the Moon sports a degree of detail unmatched by any other celestial object. That dim galaxy may make an interesting photo, but a good Moon picture will hold an amount of detail which calls for continued study. Another attraction of lunar photography is the constantly changing aspect of our satellite. As the Moon moves through its phases, there is a constantly changing vista to interest and challenge the photographer. And since Moon photography doesn't require dark skies, you can get out and practice

this art any time Luna is visible. Finally, the Moon often presents special events for our cameras--eclipses, occultations, etc., designed to delight and frustrate the best astrophotographers. OK, so you're sold on the idea. What equipment is needed to get started?

Telescope: Just about any telescope will work admirably well for Lunar photography. The only requirements are reasonably good optics (not necessarily perfect), and a mounting which is steady enough to hold the 'scope still in a light breeze. This is also the one branch of astrophotography in which a Dobsonian is a good choice of telescope. The moon is very bright and requires only short exposures most of the time, so for the majority of pictures (with the exception of extreme closeups, perhaps) the telescope doesn't need to be guided--or even driven. This being the case, the fact that a Dobsonian telescope's eyepiece always stays 'in the same place' (completely horizontal with respect to the eye or camera; just at different heights above the ground) comes in very handy if you have to mount the camera on a separate tripod. Since we'll be using eyepiece projection for our photographs, it is desirable to have at least one good eyepiece. By 'good' I don't mean that you'll require the latest extra-super-wide-field wonder, just an eyepiece which is obviously sharp to the eye--maybe a longer focal length Kellner, or a medium focal length Orthoscopic. But don't let the supposed poor quality of your telescope and eyepieces deter you from trying Lunar photography. The first telescope I used for taking Moon pictures (1965), a 3" Tasco reflector, with the usual poor-quality .965" eyepieces, was undoubtedly of far worse quality than the telescopes most of you own, and it yielded some decent photos after I learned the ropes.

Camera: A 35mm single lens reflex is a *must*. There really isn't any way to focus a range finder camera when using eyepiece projection (more about this later). For some of my very early



Near First Quarter Moon. Photo by Frank P. Mollise (1965). 3" f8 Newtonian telescope, Nikon Nikkorex camera, Tri-X film at ASA 400. Exposure was about 1/125 sec. using eyepiece projection with a 30mm eyepiece which was made from a Mercury camera 3 element lens. Some minimal additional processing was done using the commercial version of Paint Shop Pro on a PC. A great deal of detail is visible on the original.

efforts, I used an old Leica (range finder camera) body, since this was all I had. I attempted to focus by focusing on the projected image of the Moon which appeared on the camera's closed focal plane shutter. Needless to say, my results were variable! Stick with an SLR. Another reason to use an SLR is because you must be able to remove the camera's lens to use the photographic method we're going to try here. This is not a problem for single lens reflexes, but most modern range finder cameras use between-the-lens photos even ore. If you feel you might be interested in going this route, contact me for some basic advice on choosing appropriate darkroom equipment. If you don't think you're ready to learn darkroom techniques, shoot color print film and take it to the local 1 hour joint. I've seen some very shutters, and the lens is therefore not removable. As far as which brand of SLR to use goes, it really doesn't matter. The simpler and cheaper, in fact, the better. Since you won't use the camera's lens, and all the fancy electronic metering, etc. won't be used either, all you need is a camera with a reliable shutter and a light-proof back. Often, older, used SLRs can be found very reasonably priced; especially in local pawn shops.

Tripod: If you don't want to invest in a camera mount for your telescope, you'll need a decent, steady tripod to hold your camera up to the telescope's eyepiece. If you own an SCT telescope, most astronomy dealers sell very nice camera adapters. This makes for a very neat, easy-to-use setup. But a tripod works just as well, albeit it can be a little awkward to have the camera separate from the 'scope (move telescope to track moon, now move tripod so image is still centered in camera, refocus, etc. etc.). If you're

going to use a Newtonian telescope, a tripod may be your only viable option, since you may find that camera adapters are not very easy to find for this type of telescope. Mounting a heavy camera on the tube of a Dobsonian mounted Newtonian also creates some severe balance problems for small to medium sized scopes. As with cameras, 'go used.' A few chips of paint or scuffs on the legs won't affect the operation of the tripod, and by buying used you may be able to afford a steadier model than you would if you'd bought new.

Film: The big question here is: *black and white or color?* In the beginning, you may have to shoot quite a bit of film before you start getting good results. This argues in favor of using black and white and processing and printing the film yourself. In fact, shooting black and white film basically requires you to do the processing yourself unless you want to send your film to a custom lab (= \$\$\$). Purchasing a minimal amount of darkroom equipment (used, if you wish) is also wise if you think you might be interested in continuing on in astrophotography. Also, once you start getting acceptable results, you might want to try some simple **darkroomtricks** to improve your nice astrophotos processed this way. As for particular films, I use Kodak Tri-X (ASA 400) exclusively for black and white Lunar photography. I know that Kodak has some even better B&W films on the market now, but I'm used to Tri-X, and it always seems to give good results. What's a good color print film? Any of the **400 speed** Kodak films will work well in this application. Kodak Gold, which is, I guess, the successor to Kodacolor--which I used to use for Lunar photography occasionally--is a good choice. Since the Moon is such a

bright subject, 400 speed film seems to be about the best option. Remember, once you remove the lens of your camera, you won't be able to adjust the iris diaphragm ('f stop'), changing the shutter speed will be your only means of adjusting exposure.

--Rod

Next Time: Taking Your First Moon Pictures!

Between now and next issue, when we take our first photos, you may wish to do a little reading:

Covington, Michael. *Astrophotography for the Amateur*. Cambridge University Press, London. 1985. ISBN 0 521 25391 8

I notice that there is now a new edition now available of this *wonderful* book, which is probably the best guide for the beginning astrophotographer.

Astrobytes

El Cheapo Astronomy Software on CD ROM

Space, Softkey Software. 3 Pack which contains *Orbits 3.0*, *UFO*, and *Space O dyssey*. Requires 386 SX or above, 4mb RAM, SVGA 256 color graphics card, Windows 3.1 or above, Mouse, CD ROM drive. Approximate selling price is \$14.00, but the prices on these repackaged programs may vary wildly.

Journey to the Planets, Multicom Publishing. Requires 25mhz 386 or above, 4mb RAM, Windows 3.1 or above, SVGA 256 color graphics card, Sound Blaster™ compatible sound card, mouse, CD ROM drive. Was found priced at \$4.95 in a cut-out bin at the Airport Boulevard K-Mart store.

Just about everybody has a CD ROM installed in their computer now; these once upscale devices are really commonplace. The result is that there are a lot of people trying to make money selling CD ROMs, and also a lot of people trying to cut their losses on CDs which didn't sell so well a couple of years ago. Combine these two groups and you start finding a lot of the earlier CD programs being repackaged; often with two or three different programs being bundled together, and sold for rock-bottom prices. Many of these CDs are games, and some are programs which you can't believe anyone ever tried to market in the first place (e.g. *EZ Furniture Arranger* (!) Was seen at the Atlanta Computer City). But amongst all this dross are a few good values, and, surprisingly, even some good astronomy programs! These repackaged CDs seemed to be especially prevalent during the Christmas season; that was when I stumbled on Softkey's *Space*, while shopping in Mobile's Circuit City.

When I got this program home, I was initially very disappointed to discover that the '3-pack CD ROM Power Pack' I had purchased only contained a single CD ROM disk. At first I wondered whether the programs were complete, or whether I had purchased demo or abridged versions. It soon became apparent, though, that the three programs were complete and in their original form. On reflection, I recalled that most early

CDs didn't come anywhere close to filling up the data space on a CD ROM (650mb+). The first program I set about installing was *Orbits* 3.0.

I was somewhat familiar with *Orbits*, since it was the program which George Byron had used as a 'visual aid' during his presentation on Solar Evolution last year at an MAS meeting. I was impressed with the floppy-based



version of the program which George used, and I was even more impressed by this expanded edition. In addition to containing a wealth of data on the Solar System, much of which is accompanied by beautiful animations, this version of the program contains an expanded set of 'Orbit Tools', which includes a nice ephemeris program, a Lunar phase calendar, and a wealth of other very useful routines. I felt that I got my money's worth on this CD with this program alone! *Orbits* is a DOS application which installs completely to your hard disk, and does not need the CD to run.

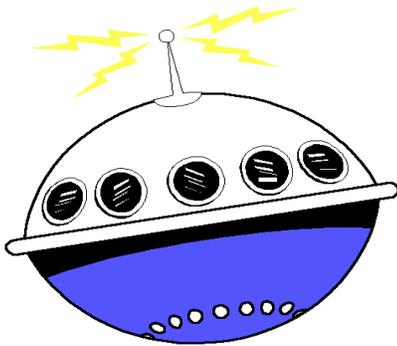
The next program on the CD, *UFO* is a bit more problematical. Whether you will find this program to be of interest or not depends to a large extent on *whether you have any interest in the subject of Unidentified Flying Objects or not*. If you do have an interest in Ufology, the program is somewhat useful, but, unfortunately, has a few limitations. *UFO* is essentially a Windows database program, with

data concerning about 1200 sightings/encounters. Some of these cases are accompanied by photographs, and a few include video sequences. My main problem with *UFO* was the paucity of the database. Many famous cases are missing. For example, I set the search criteria to 'abduction' and zoomed-in on the state of Mississippi. But the program had no information concerning the *important* 1973 Pascagoula, Mississippi abduction case of Calvin Parker and Charles Hickson! Other renowned cases were similarly missing. This would not be a great handicap if the program allowed you to enter your own data, but, unfortunately, it does not. Finally, both the videos and still photos are of fairly poor quality. *UFO* is a fun program to play with, and it does run well, but that's about all.

The final program on *Space* is the image/sound/movie collection *Space Odyssey*. This application contains about 100 really good tiff/bmp images of astronomical subjects, 25 videos, and 100 .wav files (music clips). I was mainly interested in the **images** (for use outside the program--in this newsletter for example), but I did enjoy the videos of various subjects (e.g. Voyager animations), and the slide show which allows you to view all of the images as 'new age' type music plays in the background was fun. Additionally, *Space Odyssey* provides a very good image export program, which makes it easy to use these beautiful photos as you see fit. All-in all, I was very pleased with Softkey's *Space*, and felt that it was, for the price, an **outstanding** value.

Unfortunately, there was very little to like about my other CD buy, *Journey to the Planets*. While this program purports to be a multimedia tour of the solar system, there is less hard data on this entire CD than there

is on *Orbits 3.0* alone! Also, unsettlingly, there were quite a few instances where the data that *Journey* did provide was WRONG. The multimedia aspect of this program consists of a few grainy videos on various subjects, and a bored-sounding announcer reading captions in a sleep-inducing voice. Zzzzzzzzz. This is a good lesson in how *not* to do a multimedia astronomy program. Oh well, I thought. At least this disk has some fair pictures that I can use in other applications. Wrong! All of the



images on this disk are in a proprietary image format. I could have used a screen-grabber to collect some of them, but I really didn't see anything that was good enough to make me want to go to even a minimum amount of trouble.

I'm still on the lookout for more cheap astronomy CDs. I understand that *The Expert Astronomer CD ROM*, which is apparently a fairly good program, has hit the bargain bins. I looked for this one in Atlanta this past Christmas, and found just about every 'Expert' series program *except* 'Astronomer'. But I'll keep looking. I think we should also start seeing *Distant Suns for Windows* heavily discounted now that *First Light Distant Suns* is on the shelves. Finally, I've received an upgrade for the buggy *First Light 1.0*. How is it? Well, that's a (long) story for next time.

--Rod

Cleaning Optical Surfaces

I've had quite a few questions lately concerning the cleaning of optics. How? When? Why? Well, my cardinal rule, at least where mirrors are concerned, is that NO CLEANING SHOULD BE DONE UNLESS THE MIRROR IS SO DIRTY THAT PERFORMANCE IS OBVIOUSLY AFFECTED (and a mirror has to be very dirty for most observers to notice a difference). The simple fact is that you are much more likely to do more harm than good when you clean a first surface mirror (all telescope mirrors--primary and secondary--are 'first surface' mirrors). Nevertheless, there are times when optics must be cleaned. Following is an excellent article by the AL's Ton Ponjee on this subject. This piece originally appeared in Cosmic Echoes for April-May 1989...

How to Keep Optics Clean

1. Avoid all contact with the skin (fingers, eyes, nose).
2. When not in use, keep dust caps/covers on or use plastic bags held in place with an elastic band.
3. Close all other holes like the focuser with a small dust cap. Some focusers of Newtonians do not sit close to the tube and dirt may enter through the gap. A larger plastic bag for the top end, including the focuser, may be the solution.
4. Keep your instrument and eyepieces in a clean and dry place (usually not the garage or tool shed).
5. To avoid mildew in closed systems, hang a bag with silica-gel in them to reduce the humidity. Be careful:

- a. To secure the bag so that it will not drop in the scope and that it can be taken out easily.
- b. To use a paper bag--with a textile bag, some dust from the silica-gel may fall into the instrument.
- c. To reactivate the silica-gel periodically by heating in an oven.

Finding out whether dust is on the optics: shine, in the dark, a flashlight on them--the dust particles scatter light.

Now here is the "how to clean" part:

Dust and dirt particles can be brushed away with a SOFT brush, like one from camel hair. DO NOT apply pressure (DNAP) and use a straight motion, NOT circular.

Other products than 'normal' dust can contaminate your optics:

- a. Air pollution.
- b. Oil and grease from skin, eyelashes, etc.
- c. Makeup like mascara; eyepieces are prone to being contaminated with this.
- d. Products from accidents, e.g. spilled coffee, ice cream, etc.

How to Clean Optics

To remove the above without scratching the sensitive surfaces and coatings requires TLC (Tender Loving Care) and good materials like photographic lens cleaner solution (PLCS) and photographic lens cleaner tissue (PLCT), which are available from good camera stores. Never use any cloth, however soft it may appear to be.

Note: There is a special material which can be poured on optical surfaces and

which, when the solvent has evaporated, can be peeled off with all the dirt. This product is rather expensive and the writer has no experience with it.

Since we know you will not let your optical surfaces get so much contaminated, the mildly dirty areas can be cleaned in the following steps:

1. Do a 'soft brush job' first.
2. Wet surfaces with a few drops of PLCS and use PLCT wetted with PLCS, held between two fingers. Do not apply pressure.
3. Take a new PLCT between two fingers and carefully (DNAP) wipe off the excess PLCS.
4. Use another PLCT to remove (DNAP) any traces of PLCS.

'Closed' systems may require some disassembly, and then pose a problem in reassembling everything correctly. Unless you can do the disassembly and reassembly with your eyes closed, it is surely the best to make a sketch during the taking apart process to record where everything was. Be very careful not to make any fingerprints on the surfaces you can no longer reach after assembly!

Eyepieces mainly get dirty on the eye's side (mascara) and cleaning with PLCS and wiping with PLCT will usually do.

How to Keep Optics Clean After Cleaning

Take normal care of all optics. Dewing can take place with clean optics, and to avoid this you can use heated dew caps or heating tape. DO NOT wipe dew off with a cloth--use a hair dryer (or a 'dew-zapper', ed), while being careful not to blow dust on the wet surfaces. Heated dew caps and hair

dryers using the car battery (lighter in dash) are available for use away from house current.

Enjoy clear skies through clean optics.

UPDATE ON CLEANING SURFACES DATED SPRING 1995:

Very dirty optical surfaces may need 'washing,' and for this purpose they have to be taken out of the instrument. Use preferably distilled water (I'd substitute ALWAYS USE DISTILLED WATER here, given the 'quality' of some water supplies--ed) to which a few drops of a soft household detergent, like dishwashing liquid, are added as a wetting agent. Use Johnson & Johnson surgical cotton (USP) to clean the surface very carefully. Dry with cotton or use hot air. Small surfaces like eyepieces can be cleaned with a 50:50 water/Windex using a Q-tip. Make sure no liquid is left, and dry in a warm room or with hot air.

--Ton Ponjee

From City Lights to Deep Space



By seven pm on these early Spring nights, the Winter Milky Way has already reached its zenith and has begun an inevitable descent into the west. Now is the time to catch some of the beauties of this part of the sky before we become completely immersed in the wonders of the

*'Realm of the Galaxies,' which is beginning to make its presence felt in the east. And what better place to sample the delights of the Winter Milky Way than in Gemini? This ancient constellation holds a very nice assortment of objects--everything from **splashy open clusters to dim galaxies!***

*I try to make it a point to never go outside without some plan as to what I'm going to observe. Often this is merely an informal list of a few objects, but I usually find that things go more smoothly if I have a fairly structured program prepared. In any event, if I take the telescope outside without some idea of what I'm going to observe, I usually wind-up without having seen much at all. I am also often more productive if I stick to **one constellation** and use a pre-prepared list of objects and a custom set of charts (which I usually produce with the computer program Deep Space 5). I used to think that this kind of deep sky observing was inhibiting, but it gradually dawned on me that I was wasting much precious observing time trying to decide **what** I should view and hunting through the star atlas while out in the field. I also found that I had a tendency to keep re-observing and re-observing objects which I had seen many times before rather than pushing on to new and **challenging** deep sky wonders! So, in an attempt to share with you some of the observing methodology which has worked for me, I present as this issue's 'City Lights' project 'A Star-hop through Gemini.'*

OK, are we ready to get started? Telescope set up and allowed to adjust to the still-chilly evening air? Red light and star chart ready (you'll find a chart for this evening's observing run in the back

of the newsletter). Good...let's go!

All of the following observations were done with a 12.5" f4.8 Newtonian under the heavily light polluted skies of Mobile's Garden District.

M 35 MAG: 5.1 Open Cluster 6h 8m53s x 24° 19'58"
NGC 2168 28' 0" x 28' 0"
CLASS:III 2 m
of stars:200 brightest star:8.18
Cl,vL,cRi.,pC,st9...16

M-35 lies only about 2200 light-years away. Its brightest members--B main sequence stars and G and K giants shine with 400 times the brightness of the Sun. *'Easily distinguishable shortly after sunset. Always devastatingly beautiful; at 30' across, it fits very nicely into the field of a 26mm Plossl.'*

NGC 2158 GEM MAG: 8.6 Open Cluster 6h 7m29s x 24° 5'57"
H VI 17 5' 0" x 5' 0" CLASS:II 3 r
of stars: brightest star:12.40
Cl,pS,mC,vRi,irr triangle * eS
150 F* on edge of M 35
[*]Herschel 400

NGC 2158 is located much farther away than nearby M35, being about 16,000 light-years distant. This rich, distant and aged cluster may be a transition type between globular and open clusters. *M35's little companion is discernable tonight (barely). It's sometimes totally invisible in my skies, even in the 12" reflector--and it's so beautiful under dark skies!'*

IC 2157 GEM MAG: 8.4 Open Cluster 6h 5m 1s x 24° 0' 1"
Cr 80 7' 0" x 7' 0" CLASS:III 2 p

of stars:20 brightest star:11.08
Cl,S,about 20 F stars

'Not a whole lot here. A compact group of a few dim stars. Most distinguishing characteristic is the arrow shaped asterism formed by some of the brighter members.'

NGC 2129 GEM MAG: 6.7 Open Cluster 6h 1m 1s x 23° 17'60"
H VIII 26 7' 0" x 7' 0" CLASS:III 3 p
of stars:40 brightest star:7.36
Cl,pL,40 or 50* 8...15
[*]Herschel 400

NGC 2129 is a small group of about 50 stars of magnitudes 8-15. It is about the same size as NGC 2158, it is brighter at about magnitude 6.7. An 8" telescope resolves this cluster. *'Nice little compact NGC cluster. Two bright stars are prominent. Used medium magnification (12mm Nagler) to bring it out of the background.'*

Basel 11B ORI MAG: 8.9 Open Cluster 5h58m13s x 21°58' 4"
10' 0" x 10' 0" CLASS:II 2 m
of stars:12 brightest star:11.48

'Tight little cluster of stars about 10' across. Brightest shine at about mag 11.5-12 or so.'

NGC 2175 ORI MAG: 6.8 Clstr w/Nebulosity 6h9m49s x 20°19' 2"
18' 0" x 18' 0" CLASS:IV 3 p n
of stars:60 brightest star:7.55
In Gem OB1?

'Somewhat hard to pick-out in an area of many loose groupings! No hint of the nebulosity associated with this cluster.'

η Geminorum Double Star 6h15m x

22°30'

Propus is one of the finest double stars in the area. The primary is a magnitude 3.3 M3 Red Giant; the secondary is a 6.5 mag G8 Sub-giant lying at position angle 266°. The secondary is only about 1.5" from the primary, making it a difficult system to resolve in telescopes of less than 12" aperture. The companion was first seen by S.W. Burnham in 1881. The distance to this system is estimated to be about 200 light-years, and the primary is about 160x the brilliance of the Sun. Uranus was located near this star at the time of its discovery in 1781. *'Unsteady seeing makes the companion star difficult. Beautiful nevertheless.'*

Bochum 1 GEM MAG: 7.9 Open Cluster 6h25m30s x 19°46' 4"
0' 0" x 0' 0" CLASS:
of stars: brightest star:8.42

'Missed this one due to haze moving in...'

PK194+2.1 GEM MAG:12.4 Planetary Nebula 6h25m59s x 17°47' 5"
J 900 0'12" x 0'10" CLASS:3b(2)
vS,B

Nearly stellar, J 900 is a tiny, dim oval that is not impressive even in medium-sized scopes. *'PK194+2.1's disk is dim, but not impossibly so. Its small size made it a little difficult to find, but it turned-up after a couple of false starts. Star about 15" SW. Nebula is round with no hint of detail.'*

Geminorum A0 Star 6h34m8s x 16°27'

Gamma, aka Alhena or Almeisam is a mag 1.93 A0 IV star. It is located about 105 light-years away and is about 160 times brighter than the Sun. 'A beautiful blue-white gem!'

*the controls of my starship of the mind for the **heart of Virgo**. My beloved telescope responds like a living thing and away we fly into eternal night.*

NGC 2304 GEM MAG:10.0 Open Cluster 6h54m59s x 18° 0'55"
H VI 2 5' 0" x 5' 0" CLASS:II 1 p
of stars:30 brightest star:
Cl,pL,Ri,mC,st vS
[*]Herschel 400

--Rod

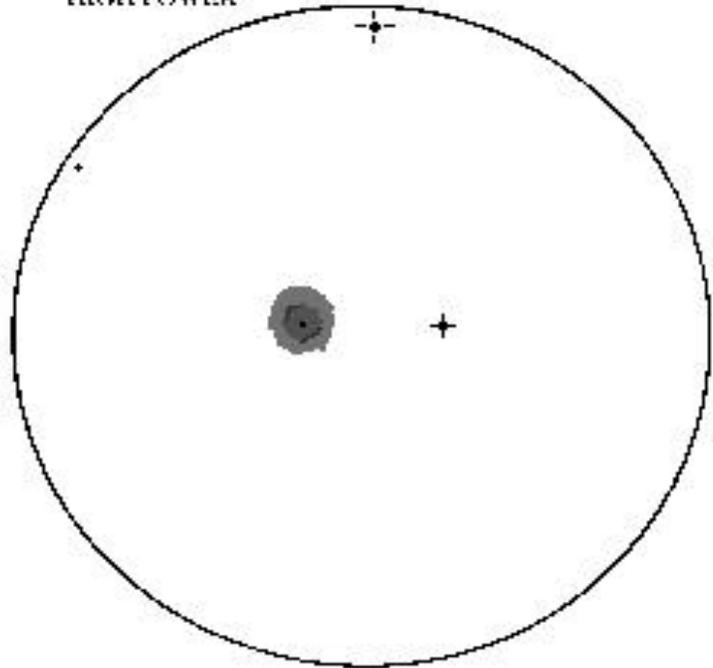
'Incoming haze kept this little sucker out of my field.'

NGC 2392 GEM MAG: 8.6
Planetary Nebula 7h29m11s x 20°54'57"
H IV 45 1'47" x 1'43"
CLASS:3b(3b)
B,S,R,*9M,*8 nf 100"
Clown Face or Eskimo Nebula,PK197+17.1,sev shells
[*]Herschel 400.

The Eskimo's 10th mag central star and fuzzy disk compose one of the youngest known planetaries, which is located at a distance of about 3,000 light-years. The nebula, which is about half a light-year across, was discovered by William Herschel in 1787. $2/3^\circ$ northwest is the wide double 63 Geminorum (mag 5.5/9.5, 43"). 'Very nice view of the Eskimo tonight! Central star is very prominent. In moments of good seeing, some detail seems on the verge of resolution in the 12" at 217X--'arcs' as well as an inner and outer shell are suspected.'

I take one last lingering look at the beautiful Eskimo Nebula, and, feeling the tug of wild extragalactic space, I say goodbye to the Winter Milky Way for another year, and set

Ocular: 13mm Or = 217x
EUGEL POWER



The Eskimo Nebula...field drawing was done with a 12.5" Newtonian at 217X...

My Back Pages



AstroPoem

Luna

Harsh mistress
 Or loving Goddess
 Of the quiet night,
 I've ignored your
 beautiful, aged face.
 But never have I forgotten you.
 And again I realize:
 You are ever lovely.
 Unchanged as when I first gazed
 On your shining silver profile
 With my wide wondering eyes
 Of childhood.

--Rod Mollise



Club Notes

January 1996 Meeting: The January 1996 meeting of the Mobile Astronomical Society was held in conjunction with our now-'traditional' dinner at Shoney's in Tillman's Corner in West Mobile. We really didn't conduct much business, we just enjoyed each-other's company, talked about our hopes for the coming year (a club 'dark-site' was at the top of the list), and shared our Christmas memories (including 'what astronomy

equipment Santa brung me!').

February 1996 Meeting: The February meeting of the MAS was held on Wednesday, February 7, 1996 at the Society's usual meeting place, the Environmental Studies Center on Girby Road. Much of the discussion at this meeting centered around the upcoming **Mid South Regional Star Gaze**. The membership is really excited about this star-party! President Pat Rochford then passed around a copy of the wonderful news story done on him by the Eastern Shore press. In addition to a great discussion of amateur astronomy in general, the article also contained a nice plug for the MAS (even though the reporter did refer to us as the Mobile *Astrological* Society!). Kudos, Pat!

New Bright Comet!

While the much anticipated **Comet Hale-Bopp** is not due to hit the inner Solar System until next year, a recently discovered comet, **Comet Hyakutake**, which was discovered by a Japanese amateur, may put on nearly as good a show! While comets are notoriously fickle, speculation at this point is that this object could reach magnitude +1 by late March! After a dearth of bright comets over the last few years (more like 20, I guess!) We now seem to have an increasing number of these fascinating creatures in our skies! Watch the astronomy resources of the **World Wide Web** and call *Sky and Telescope's Skyline* telephone news service for further details!

RUMOURS

Early one morning last month, I heard a nerve-jangling clatter on the front porch. I was puzzled, since Santa had long since come and gone. Investigating, I found a hermetically sealed mayonnaise jar containing another edition of Rumours...

Is Meade having problems with its LX-200 line of SCTs?

Checking into the Meade Advanced Products Users' Group (MAPUG) recently revealed *much concern* among users about a 'halo' problem. It seems that some users of LX-200s were noticing very distinct halos around bright objects--e.g. Jupiter. According to some reports, Meade, when questioned, in effect replied that these halos were inherent in the SCT telescope design. The 'halos' being reported by users, however, are very pronounced visually and do not seem easily attributable to this. And it also seems that Meade has been able to **repair** 'scopes which exhibit this defect. According to some, it is a **chemical film** on the inside of the corrector plate which causes these annoying rings around

luminous objects. Users **speculate** that out-gassing from paint used on LX-200 internal components causes the film. It is not entirely clear to your reporter exactly which vintage of LX-200 is affected by the problem, nor is it entirely clear whether the 'halo effect' is present in the most recent production runs of this popular telescope. Some users are also reporting a 'declination retrograde' (sorta like backlash) problem in recent LX-200s which shows up during photographic guiding...

In related 'news', I hear that Meade, being very unhappy over the **heat** they've been taking on the INTERNET from some **vocal and irate consumers**, has decided to 'cut the cord' *and leave the INTERNET altogether*. What are my feelings about Meade? **Mixed**. I've had little trouble with the Meade instrument I own, but I did have to do a little **fine-tuning**, which a beginner may have been reluctant to undertake. LX-200 owners I've met seem happy with their 'scopes, though most seem to have had a few **problems**. Much of the anger stems, I think, from a perceived *lack of responsiveness on the part of Meade's Customer Service Department* rather than from any overwhelmingly bad problems with Meade's products...

Prices on digital setting circles are falling. Flipping through the ads in last month's *Sky and Scope* revealed that **Lumicon** has slashed its prices for its **Sky Vector** computers by close to 50%! The full featured NGC Sky Vector (12,000 objects) now sells for **\$389.00!** *JMI* has also cut its prices, **though not as dramatically**. The fancy NGC **Max** still commands a price of **\$699.00**. I'm *curious* about this sudden price drop. Has **Tangent Instruments** (manufacturer for many of the electronic components in modern 'scopes including the 'guts' of most digital setting circles) cut their prices, has Meade's **\$299.00 price for its Magellan** computers **scared** the other vendors, or have they all just realized that *more realistic prices will encourage a majority of active amateurs (probably) to computerize their telescopes?...*

The *latest* manufacturer of telescopes to bite the dust is **Houston's Z-Scope**. Z-Scope was never very prominent, but their small ads in the astronomy mags did generate some interest, and their Dobsonian telescopes were, by many reports, first-rate. But, like Coulter, Z-Scope is now *gone*, and, also like Coulter, has taken quite a few people's money with it. 'Round these parts, lot of people are thinking that with **Big Boys Meade and Celestron** (and also **Orion**, who I consider a major player) in the lower-price Dob business, there's not a lot of room left for the 'little guys'. Question now is whether these heavy hitters will try their hand at premium Dobs, and squeeze out tiny but *high-quality* outfits like **Obsession...**

I see that the **March issue** of *Sky and Telescope* contained a small news item on the sad fates of **Coulter and Questar**. Cool. I'm glad to see a little reporting on the amateur astronomy equipment business. Remember, though, **you read it here first!...**

Perhaps some final words on Questar are in order, since it seems apparent to me that they'll probably not continue producing astronomical telescopes even if they survive their current round of difficulties. The Questar 3.5 was in many ways a remarkable instrument when it was introduced in the 1950s. And it remained an **OPTICALLY** excellent telescope into the '90s. But by not updating the mounting and drive (both of which had a few serious limitations), the company doomed themselves when a competitor came along who appealed to the 'optical excellence/beautiful machining' sector of the astronomy market. Who killed the Questar 3.5? The modern, small **apochromatic refractor**. With their short focal lengths and wonderful optics, telescopes like the Televue Genesis easily filled the niche once firmly occupied by Questar. And, almost unbelievably, these fine refractors were priced somewhat *lower* (even when ordered with *optional* mountings) than the Questar, which was beginning to look like an antique to many buyers. Ironically, I notice that **Televue** now occupies the coveted inside-front-cover ad space of *Sky and Telescope* which was held by Questar for *so many* years. Sigh. In memory of the ground-breaking Questar 3.5, we present one of those **MUCH-DROOLED-OVER** ads (by the over 40 baby-boomers out there, anyway); this one being from the Summer of Love...June 1967 to be exact. Back in the late sixties I was saddled with a Dynascope budget, but I always had a Questar taste! Goodbye you little jewel, you'll be missed!

--The Anonymous Astronomer

