STAR STUFF

The Ford Amateur Astronomy Club Newsletter

Happy Thanksgiving!

Volume 2 Number 11 November 1993

BASIC OBSERVING SERIES
by Greg Burnett

This article is the sixth in a series on basic observing techniques. This installment will address an observing area that is a favorite of mine, star clusters. Previous articles have discussed solar, asteroid, lunar, double star, and variable star observing; later entries will cover the basics for planetary, deep sky, meteor, and comet observing. Each article will discuss the preferred equipment and basic techniques for each type of observing. The goal is not technical depth, but to provide exposure to a wide range of observing alternatives. This may help a novice get started, or broaden the interest of a more experienced observer.

Star Clusters

There are two types of star clusters, "galactic' or "open" clusters, and "globular" clusters. The Pleiades and the Hyades are well known examples of nearby open clusters. M13, the Hercules Cluster, is a prime example of a globular cluster. The two types differ radically, being almost opposites of each other in terms of their defining characteristics. They also call for different observing techniques.

Open clusters generally contain some tens to some hundreds of stars. They occur most often within the spiral arms of our galaxy, hardly ever being found at higher galactic latitudes (i.e. they are all near the plane of the galaxy). As a result, astronomers estimate that there may be as many as 100,000 open clusters that remain undiscovered because they are obscured by dust in the galactic plane. Only about 1200 open clusters have been catalogued. Most open clusters are young, as evidenced by their populations of hot, blue stars of "early" spectral types. Many still contain nebulosity left over from their formative period (e.g. the Pleiades). The stars in an open cluster are not gravitationally bound to each other. They will eventually disperse into the galaxy due to galactic gravitational tidal forces and other perturbations. But while they remain a cluster, they are useful for computing distances beyond the range of parallax measurements. Because the members of a cluster are travelling in more or less the same direction through space, observations of the convergence (or divergence) of their proper motions, combined with measurements of their radial velocities, allow us to triangulate the distance to the cluster.

Open clusters are comparatively large in angular size, so observing them calls for low powers and wide fields. Many open clusters are admirable, even spectacular, binocular objects, and a few can be easily seen with the naked eye. Generally speaking, open clusters are composed of reasonably bright stars distributed over a generous area, so large telescope apertures and high resolution are not mandatory for satisfying views. The challenge in observing open clusters is often to separate them from the background stars. In this respect great light gathering power can be a hinderance rather than an asset. In a large-aperture scope the cluster can be lost among the many fainter background stars revealed by the large scope. The lowest magnification that provides adequate contrast usually yields the best views of open clusters. Move to higher powers to examine double stars and asterisms within the cluster.

Globular clusters generally contain thousands to hundreds of thousands of stars. They occur throughout a spherical "halo" that encompasses the galaxy, and they are found at all galactic latitudes. Within our galaxy there are 138 known globulars; probably fewer than 100 remain undiscovered. Globulars are among the oldest objects in the galaxy. Some are estimated to be up to 10 billion years old. Most of their stars are poor in "metals" (in astrophysics, any element other than hydrogen or helium is called a "metal"), having been formed at a time before much of the heavier elements had been formed. The stars of a globular cluster are gravitationally bound to each other. They form a stabile system in which each star orbits the gravitational center of the cluster as a whole. Globulars at high galactic latitudes are sometimes less dense than those closer to the galactic plane. Gravitational tidal forces generated by the galaxy impose a lower limit on the density of globulars close to the

(continued on page 2.)

STAR STUFF

Monthly Publication of the
Ford Amateur Astronomy Club
Star Stuff Newsletter
P. O. Box 7527
Dearborn, Michigan 48121-7527

1993 CLUB OFFICERS

President:	Greg Burnett	24-81941
Vice President:	Brian Gossiaux	39-03935
Secretary:	Brian Gossiaux	
Treasurer:	Al Czajkowski	84-57886

GENERAL MEETINGS

The Ford Amateur Astronomy Club holds regular general meetings open to the public on the fourth Thursday of the month at 5:00 pm. Meetings are held at the Ford Motor Credit Company (FMCC) building, northeast of the World Headquarters building in Dearborn, in the "Systems K" conference room, lower floor, NorthEast corner.

OBSERVING SITE

The Ford Amateur Astronomy Club has an established observing site, by permit, at the Spring Mill Pond area of the Island Lake Recreational Area in Brighton, Michigan located near the intersections of I-96 and US-23. Observing at this location is usually held on any clear weekend and holiday evenings or as specified in the observing hotline phone message.

OBSERVING HOTLINE NUMBER **(313) 248-1941**

On Friday and Saturday nights, or nights before holidays, you can call the hotline numbers up to 2 hours before sunset to find out if we will be observing that night. Assume that any clear Friday or Saturday night is a candidate observing night unless something else is going on or if none of the club officers are able to make it.

MEMBERSHIP AND DUES

Membership to the Ford Amateur Astronomy Club is open to both Ford and Non-Ford Motor Company employees. The general public is also welcome to join. The dues structure is as follows:

Annual Individual/Family	$20.00
Lifetime Membership	$100.00

Membership benefits include a subscription to the Star Stuff newsletter, discounts on subscriptions to Astronomy and/or Sky & Telescope magazine(s), after hour use of the observing site at Island Lake Recreational Area, and discounts at selected local area astronomical equipment retailers.

NEWSLETTER STAFF

Editor:	Brian Gossiaux	39-03935
Contributing	Patti Smith	Doug Bock
Editors:	Greg Burnett	Gary Miller

NEWSLETTER SUBSCRIPTION

A yearly subscription at a rate of $12.00 is available to those who are not members of the Ford Amateur Astronomy Club. Subscriptions are free to any other Astronomy Clubs wishing to participate in a newsletter exchange.

BASIC OBSERVING SERIES...

(Continued from page 1.)

plane. Many globular clusters have been identified in other galaxies, and are important "standard candles" used in estimating intergalactic distances. Some 300 have been observed in M31, the Andromeda Galaxy, and a hoard of over 6000 globulars surrounds M87.

Observing globular clusters calls for moderate- to large-aperture telescopes with excellent resolution. Many globulars are somewhat faint, and the best views are those that resolve as many individual stars as possible. Moderate to high magnifications can be used for improved contrast, as globulars are comparatively small in angular diameter.

Star clusters are among the most beautiful objects in the heavens. Most of the best clusters (accessible from the northern hemisphere, at least) are contained in the famous catalogue of Charles Messier. Many additional objects worthy of observation can be found in the NGC and IC listings (New General Catalogue and Index Catalogue). One of the best books about stars clusters for the amateur is the Webb Society Deep-Sky Observer's Handbook, Volume 3: Open and Globular Clusters, which contains a wealth of information about clusters and a very useful catalogue of the best objects of both types.

Greg Burnett

□

SKY & TELESCOPE NEWS BULLETINS

Hubble Fix Accelerates

Preparations for the upcoming shuttle mission to fix the Hubble Space Telescope have reached a fever pitch. Nearly all the equipment for the flight -- including corrective optics, new solar-cell arrays, and improved gyroscopes -- is undergoing final testing at the Kennedy Space Center. Barring unforeseen problems, the orbiter Endeavour should be loaded up and rolled out to the launch pad by the end of October. Confident NASA managers have even moved the target launch date forward two days to November 30th. Still, there have been some glitches. For example, in late September a test result indicated that the new Wide Field and Planetary Camera was badly out of focus. For a few days it seemed the instrument might have to be returned to the Goddard Space Flight Center in Maryland for further work. But Hubble scientists were relieved to discover that the problem lay with a faulty test procedure, not the camera itself.

Much Ado About MACHOs

Two independent teams of astronomers, one from the United States and Australia and the other from France, believe they have discovered Massive Compact Halo Objects (MACHOs). These very-low-mass stars or giant planetlike bodies, thought to lurk at the galaxy's outskirts, have been proposed as the objects responsible for the universe's missing mass. An otherwise

invisible MACHO reveals itself by passing between a distant star and Earth, briefly focusing the star's light like a magnifying glass and causing it to brighten. For more than a year both groups have observed millions of stars in the nearby Large Magellanic Cloud, watching for the telltale signature of a microlensing event. On September 20th the American-Australian team announced the detection of one possible MACHO detection, while the French researchers reported seeing two.

Good Old Ida

About 40 planetary scientists gathered in Santa Monica, California, on September 28th to pore over newly obtained data on the asteroid 243 Ida, which NASA's Galileo spacecraft recently visited. The highlight proved to be a five-image mosaic of Ida taken on August 28th about 3.5 minutes before Galileo swept by at a distance of 2,400 kilometers. Ida turns out to be surprisingly large, 52 km long, compared to ground-based estimates in the range of 30 to 35 km. Moreover, its surface bears many more impact craters than expected. A member of the Koronis asteroid family, Ida had been thought to be the result of a recent asteroidal breakup and thus a youthful object by geologic standards. However, the numerous craters seen so far on the surface argue that Ida has existed in its present form for at least a billion years and conceivably much longer.

□

BIRTH ANNOUNCEMENT

John and Barbara St. Peter are proud to announce the birth of a son, Montgomery Brook St. Peter, on November 9 at 5:00pm. The newest St. Peter weighed in at 7 lbs. 14 oz. and measured 20 inches. Mother and son (and Dad!) are doing fine. Our congratulations to the St. Peter family!

□

PRESIDENT'S CORNER

According to our club constitution, we will hold elections of officers in January. Elections were delayed this year until everyone got to know each other a little better. We will try to get back on schedule for 1994. We will be looking for some "new blood" to help energize the club and spread the workload somewhat. You should consider nominating yourself for President, Vice-President, Secretary, or Treasurer. (By F.E.R.A. edict, non-Ford members are eligible for Vice-President or Secretary only.) The job will be done best by someone who decides they want to do it, rather than a "draftee." We've had a pretty good year in 1993, let's keep up the club momentum for '94! Volunteer nominees should contact me at 24-81941 or PROFS=GBURNETT.

Hope to see you soon!

Greg Burnett

Off Axis

This comes from Marcy Curran of the Cheyenne Astronomical Society (WY).

THE TOP 10 WAYS TO SPOT AN AMATEUR ASTRONOMER

10. Their favorite astronomy bulletin board is programmed in their phone as an emergency phone number.

9. Regardless of the time of day or night, whenever they walk outside, their heads look straight up into the sky and turn a complete 360 degrees to check everything out.

8. They go psychotic when asked by their friends and family, "How's your astrology going?"

7. ALL of their flashlights are red.

6. Regardless of how tightly packed their car is, they always think they need the latest telescope accessories.

5. Their walls are covered with photos of Messier and NGC objects without a picture of a family member in sight.

4. They know at least the first 5 letters of the Greek alphabet.

3. They express time in universal, sidereal, and local meridian time without blinking an eye.

2. They get excited when AM radio stations, CB's and TV stations off satellites are full of static. They mumble something about driving north to see the aurora of the century.

1. They choose their friends by the size of their wit, wisdom and telescope, and not necessarily in that order.

□

REQUEST FOR ARTICLES/PICTURES

The newsletter is always in need of articles and pictures (photographs, cartoons,...). Our primary interest is to publish articles/pictures that were done/made by our members. Articles/pictures for the newsletter should be sent to any of the newsletter/club officers or brought to the monthly club meetings. Local events, announcements, and classified items may be submitted up to one week prior issue and will be printed if layout space is available. The newsletter staff members do have access to optical scanners and can convert typed articles/pictures to the correct wordprocessor format.

FROM DOUG'S DECLINATION

by Douglas Bock
PROFS=DBOCK1

Observing log from the Northern Cross Observatory

This is the first installment of what I hope will be a regular article in the newsletter. I will be bringing you up to date with the last months observing sessions both organized and unorganized.

First some history of the Northern Cross Observatory. It was built shortly after I moved here in 1984. My search for an observing sight in 1981-1983 took me to Brighton State Park for most of my observing, but I tried places out near Howell, Dexter, and Fenton. Back then, I was living in Detroit in a rented house and I used to load my 8" f/7 into a Fiesta when it was clear out and would drive to the Brighton area. When we decided to move I started looking for homes out in the South Lyon and Brighton area, but soon realized that I probably couldn't afford that area, so I started looking for land to build on. Land out there was expensive also. Finally, I mapped out a 60 mile radius from Detroit and decided that was as far as I would be willing to drive to work each day. After seeing a lot of property, I chanced across this piece near Fenton. It is 53 miles from work, so it is within the parameters I set up. The price was right so we bought it in the spring of 1983 and move into the house we built in February of 1984. The skies were pretty dark back then and I used them almost every clear night that first year. Meanwhile we started the Observatory project that summer and installed the telescope late that fall. I have a 12.5" f/6 in the building.

The building is a rolloff roof design that is tall enough to stand in and could house a scope as large as a 20 inch depending on the focal length. When the roof is in the open position the false horizon is about the same as the actual horizon. The official dedication came during the 2nd Annual Summer Solstice Star Party. We named it the Northern Cross Observatory. This star party is just one of the events we host at our place.

Last month I hosted the Fall Star Party for the Warren Astronomical Society. We had about 20 people there with plenty of telescopes. A couple of 17 inchers, some 10's, a bunch of 8's and some smaller scopes. The moon was just past 1st quarter and for the newer members it was fun looking at it through several scopes. The straight wall was a feature that many had not seen before and they just soaked that up through several scopes. Another object was Saturn early in the evening, and that brought lots of oohs and ahhhs. I also found Uranus and Neptune for people to look at. Roger Tanner setup his 17 inch with all his computer stuff and after a good length of time was ready to start taking images of things with his CCD camera. That was a real crowd pleaser also. I gave a small tour of deep sky objects through the 12 inch to those who wanted to see. After the moon set we still had most of the crowd there and the sky got very dark making deep sky observing much better. Roger went after Stephans Quintet with his CCD system. That was interesting for many people. I challenge those of you who don't know this object to look it up and try to find it sometime in dark skies. It's a toughy. 4:00am rolled around and I had to give up. I was tired since I was up the night before until 3:00 in the morning observing. But the party went on until dawn. When I rolled out of bed about 7:30 am, the last 3 cars were just driving off and Roger was coming inside to get some sleep. Getting sleep at my house on a Sunday morning is some trick with 3 kids in the house. I don't know how he did it. It was a great Star Party, and I was happy that we finally got some clear sky for one of them.

Last Monday, the 8th of November was the next clear night we got, so I opened the observatory up at about 7:30 and went hunting for deep sky stuff again. The humidity must have been low since I didn't get any dew during the entire observing session. My daughter came out for about an hour, so I showed her Saturn, M13 (Hercules Globular Cluster), M31(Andromeda Galaxy), M36, M37, M38 (open clusters in Auriga), M45(the Pleiades), M15(in Pegasus), M57(ring nebula), M27(dumbbell nebula) and the double cluster (869? and 871?). I can't remember the NGC designations for those two right off the top of my head. Must be loosing it. After she went back inside I decided to try some more challenging items. NGC 7009 is a planetary that is fairly small and dim, but can be detected by its greenish hue. Another planetary was NGC 7662 which is even smaller but has that characteristic greenish hue. I also looked at M74, M33, M103. Another difficult object and a good test of the sky conditions was the Veil Nebula in Cygnus. Kind of fitting I should look at that object last. Anyhow, it was difficult to see. I hadn't looked at it for several years, so it was nice to see the skies here are still pretty good. I packed it in about 10:30pm since I had to work the next day. I think that this would be a good challenge for some of you to take this list and give them a try. It was fun.

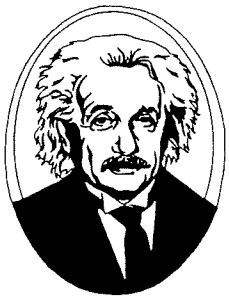
That about wraps up this month, except for the Star Party scheduled for this weekend, Nov. 13. The weather is questionable for this weekend but I'll let you know how it works out.

Until next time, hope you have clear weather.

□

(Doug got one of the two NGC designations for the Double Cluster in Perseus. They are labeled NGC 869 and 884. - Ed.)

ASTRONOMY WORKSHOP



By Gary W. Miller, Star Gazer

PROFS: gmille12
FAX: 84-55349
(call to let me know something has been sent)
PHONE: 84-54150

This is the third installment of this column and hopefully the format and content are what is needed. I have decided to drop the format statement "by --------- -" for simplicity. If you would like your name added for credit, please indicate your intent when submitting the answers for publication. Several of the questions that were presented in the last column have answers submitted by only one person. I am offering only a portion of these responses for this column with the hopes of receiving additional input for future issues from the rest of the reading audience. Again, please label your input with the number of the question, Q6/A6. I would like to see at least one question from each of you. With over 40 paid members, that would be enough material to keep this column going for at least six issues. Time to sharpen those pencils (keyboards?!?) and PROFS me some thing.
Here are this months offerings:

Q6. Why do we always see the same face of the moon?

A6. We see the same side of the Moon all the time because of a phenomenon known as "tidal locking." The moon used to rotate within the gravitational field of the Earth. This caused tides within the mass of the Moon. The tides were a sort of friction to the rotation of the Moon, and eventually slowed it down until it no longer rotated relative to the position of the Earth. It now rotates (relative to the stars) once during each revolution around the Earth, so it keep the same face presented to us all the time. The Earth could eventually tidal lock with the Sun, but would take a far longer time because it is larger (and its rotation is therefore more stable), and it might never lock due to orbital perturbations from the other Solar System planets.

Q7. What is universal time and how does it relate to EST, DST, etc.

A7. Universal Coordinated Time (UTC; the abbreviation is from the French words which occur in a different order; I'll have to look them up) is what we used to call Greenwich Mean Time (GMT); the actual difference is slight and insignificant for our purposes. UTC is related to our local time and the local time in other time zones by how far the zone is in longitude from the Prime Meridian in England. Our Eastern US time zone's standard meridian is 75 degrees west longitude and the zone extends more or less 7-1/2 degrees east and west, the limits corresponding by agreement with state boundaries (usually). Because the Earth takes 24 hours to rotate, local time differs by one hour for each 15 degrees of longitude. Our eastern time zone is thus 5 hours behind UTC, except when Daylight Savings Time is in effect, when it is 4 hours behind. A complete explanation of different times (ephemeris time, sidereal time, etc.) and the International Date Line etc., could take several pages.

Q8. What determines the color of a nebula?

A8. The colors of various type of nebulas are determined by what's producing the light. Planetary nebulas usually radiate in the greenish color of O-II, singly ionized oxygen, excited to florescence by the central star. So-called emission nebulas usually shine in the red light of hydrogen excited by stars near or with in the nebulas, whereas reflection nebulas shine by scattering (loosely a form o f reflection) the light from nearby stars. They appear blue for essentially the same reason the sky is blue. Some nebulas show combinations of these effects.

And for future issues.....

Q9. How do you find the north star and get set up to find your way around the sky?

Q10. If you were on a different planet, would the constellations be the sam e?

Q11. Which way does the Earth rotate on it's axis, east to west or west to east?

Q12. Which way do the planets rotate in orbit around the sun?

Q13. How does astrology and astronomy relate to one another?

Q14. Why can't you see your zodiac sign throughout the year?

OBSERVATIONS

A few nights ago I was out in the backyard looking UP!! Imagine that! I live in a rather light polluted neighborhood (Livonia) so the "seeing" is not all that good most of the time. Anyway, this night was EXCEPTIONAL! Armed with only binoculars and a chart, I could see many of the Messier objects, lots of clusters, and even the Andromeda Galaxy. Granted, a set of 10x50 binoculars does not offer the resolution of a good telescope, but for those of you on a limited budget, they provide a good view of most objects when you have learned " where" to look. Many times when I only have a half hour I'll observe with only these things. Other times just the chart and red flashlight, just to get out there.

That's all for this time.

□

ASTRONOMY Network News

Published by Kalmbach Publishing, PO Box 1612, Waukesha, WI 53187-1612 (414) 796-8776 (phone) (414) 796-1142 (fax)
CompuServe E-Mail: 72000,2704
Internet: 72000.2704@Compuserve.COM

While submission of articles to Star Stuff is on the rise, there is still room in each issue to fill. From time to time, Star Stuff will feature selected articles and interesting bits of information from the Network News, an electronic BBS astronomy newsletter from the publishers of Astronomy magazine. The E-Mail addresses are provided above for those wishing to reference this periodical on there own.

Network News is an on-line newsletter for astronomy clubs uploaded approximately every two months by ASTRONOMY magazine. It is designed to provide a forum for clubs to share news of their accomplishments and innovative programs, as well as discuss issues all clubs have in common - how to raise funds, attract new members, publish an interesting newsletter, among others. We hope the ideas in Network News will help other clubs provide the best possible services to their members and to their communities. Address comments, articles, and news of your club activities to the editor, Tom Gill, at his address below, or contact ASTRONOMY magazine via mail, e-mail, or the Compuserve Astronomy Forum.

Tom Gill, Editor, 1391 N. 72nd Street, Milwaukee, WI 53213 (414) 476-6986

SOUNDS GREAT/MORE FILLING
by Tom Gill

Having never actually counted the number of club newsletters I read between issues of the Network News, it will have to suffice if I say that it is A LOT. In my search for article ideas, I often come across a special type of article tucked in amidst observing discussions, club news and calendar events. I am referring to articles that are of a generally lighter fare than those found in, say ASTRONOMY magazine, but are nonetheless informative and/or entertaining. Prior to issue #11 of the Network News, our four-page printed format had insufficient space to include these gems. I believe a good article should get as much exposure as possible so please consider using these articles in your newsletters. The first one is by M. Leon Knott of the SAGUARO ASTRONOMY CLUB (AZ). In the future I will try to include one in every issue. To fit your newsletter space restrictions, I'll try to feature articles that are about one page in length or less. I welcome any comments you may have on this new direction for the Network News.

YOU CALL IT WHAT?

by M. Leon Knott

Well, here we are class. Summer, with its hazy skies and too hot temperatures has given way to blessed fall, with cooler temperatures and incredible skies. Now is the time to take out those new binoculars, telescope, star charts or books you just couldn't resist, as you begin mining the riches of the night-time sky. And right away, with the general cursedness and perverseness of life, you face a seemingly impossible task. For all those stars have such unusual names and just how do you really pronounce something like Betelgeuse and some others even worse? After all, one doesn't wish to appear unknowing about such elementary things when in the company of friends, spouses, students, ministers and school teachers, right?

I recently experienced such a problem when visited by the well-known deep-sky observer and author Walter Scott Houston. Sitting in our living room, we were talking about galaxies, clusters and nebulae when I happened to mention the beautiful double star in Orion we know as Rigel (rhymes with well-known antacid). Mr. Houston looked at me and said, "It's Rigel (rhymes with regal)." To which I replied, "Rigel (rhymes with well-known antacid)." At that point the famous Walter Scott Houston glared at me and said, "How many advanced degrees do you have?" When I answered that I had one degree and that it didn't amount to very much, he said "Well, I have three degrees and two fellowships. It's Rigel (rhymes with regal)." Glancing up, I could see my wife Fannie and two daughters, Dottie and Kana, smirking at me, and believe me I know how to pronounce "smirking." Well, Mr. Houston has gone back home, and in the spirit of modest correctness, I hereby affirm that the proper pronunciation of Rigel is Rigel (rhymes with well-known antacid).

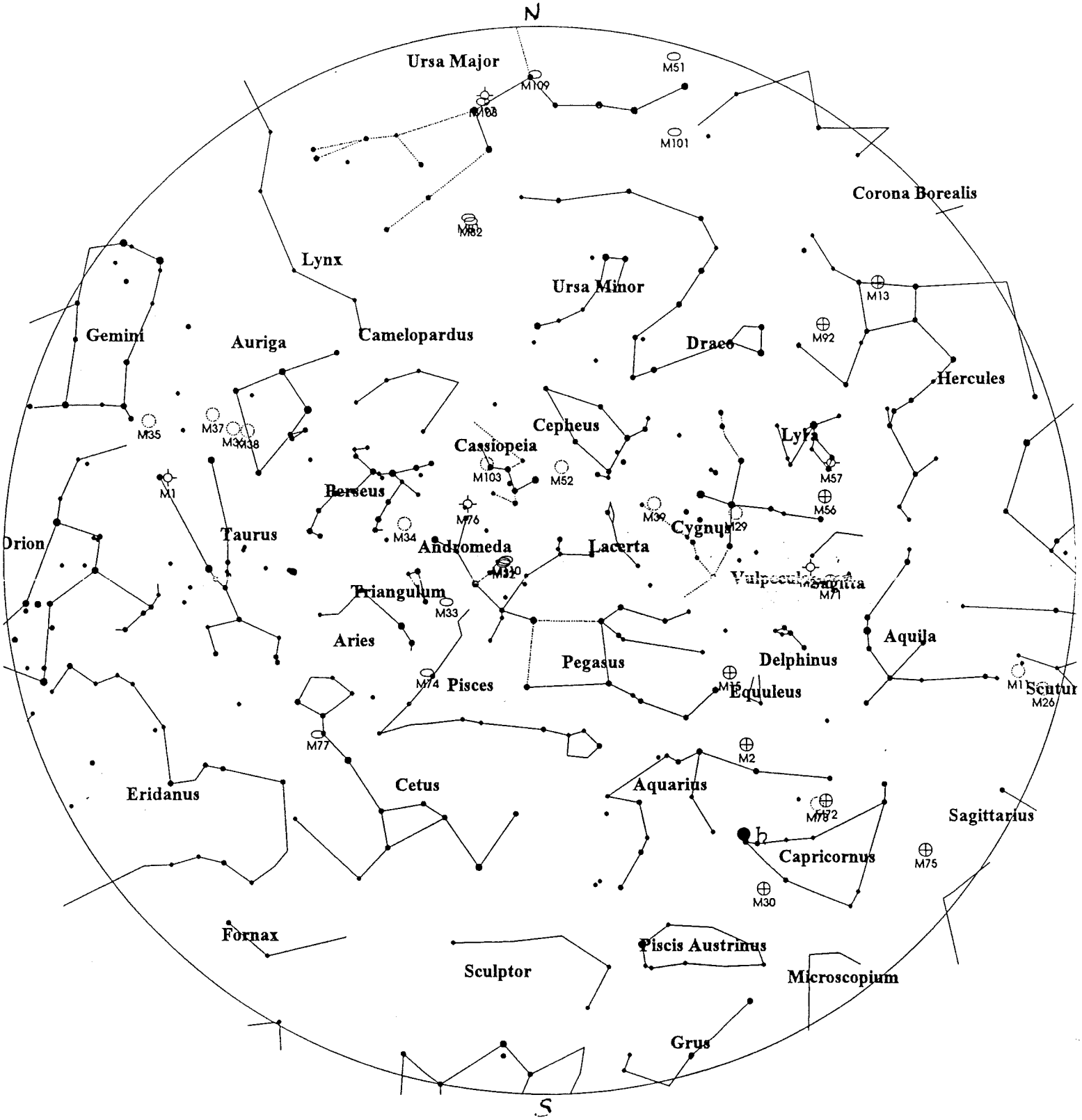
So in an attempt to share with you my grammatical, syntactical and pronunciational expertise, and in order to help you become better acquainted with the names of several famous stars, I have drawn up the following short list. If you learn to pronounce the names of these stars properly, you can hold your head high in any crowd, and put to shame anyone who might presume to correct you, whether PhD, school teacher, or even high school kid. If someone does try to push too hard, just tell them you heard it here and that ought to be good enough to silence even the most adamant and obdurate.

Let's begin with the bright stars in Orion, since that brilliant constellation commands the fast approaching winter skies. This starry warrior has beacons marking his shoulders, his belt and of course, his left foot (Rigel...you already know how to say that) along with his right knee. The bright star that does signify Orion's right knee is Saiph, and you'll be perfectly safe in pronouncing it "safe" with just a tiny bit of emphasis right in the middle of the word; you know, as if you suddenly realized that a bug had entered your mouth and was conducting extensive and probing explorations in there. His right shoulder is Bellatrix, and you might say Bellatrix is for kids. On the other hand, his left shoulder is Betelgeuse, and I defy anyone to pronounce it "Beetle Juice" within my hearing. I simply won't stand for it...You'd be much safer in pronouncing it as if it were spelled "Bet Old Joy." Now doesn't it feel really good when you get it right? The three stars making up Orion's belt are very famous and are know as Mintaka, Alnitak, and Alnilam (ed. note -- just like they look). I dare you to say all three names, quickly as you can, three times in a row! These stars point to the eastern direction and help us locate the brightest star in the heavens. This star is seriously bright and is named Sirius. You might even call it Seriously Sirius, if you know what I mean. Letting the belt lead us in the opposite direction will point us to the glaring red eye of Taurus (like the automobile) the Bull. This bright red star is named Aldebaran. Here you might say "The Bull attacks us...Al, Deb and I run (Aldebaran), while Ann tarries behind (Antares, the name of the Scorpion's heart, seen during summer...I threw it in for free)." Poor Ann.

Well, you've been marvelous students and this is enough for a first session. Later we'll cover such important names as Arcturus, Zubeneshamali, Algenubi, Mirach and perhaps, even Uranus. Being an amateur is fun and informative. It can also give rise to some justifiable pride and perhaps even some gentle snob appeal, especially when we can pronounce all those tough words correctly, with confidence and verve arising out of knowing we're right and all those other guys are wrong....

□

NOVEMBER'S SKIES



NOVEMBER 1993

SUN	MON	TUE	WED	THUR	FRI	SAT
	1	2	3	4	5	6
7 LAST QUARTER MOON	8	9	10	11	12	13 NEW MOON
14	15	16 Leonid Meteors	17	18 Leonid Meteors	19 Observing at Island Lake with the D.A.S.	20 Observing at Doug Bock's Saturn 7° S. of Moon FIRST QUARTER MOON
21	22 Mercury at greatest western elongation	23	24 Moon at apogee	25 The Ford Astronomy Club meeting is rescheduled for Thursday, December 9th. THANKSGIVING DAY	26	27
28	29 FULL MOON	30				

NEXT MONTH **The Ford Amateur Astronomy Club general meeting is December 9th!**

MEETING ANNOUNCEMENT -- DECEMBER 9, 1993

*** NOTE SCHEDULE CHANGE ***

The Ford Amateur Astronomy Club normally holds regular general meetings on the fourth Thursday of each month. BECAUSE OF CONFLICTS WITH THE THANKSGIVING AND CHRISTMAS HOLIDAYS, our next meeting will be **Thursday, December 9 at 5:00 p.m.**, and this will be the last meeting for 1993. The normal meeting schedule will resume with a January meeting on the 27th.

The Ford Amateur Astronomy Club meets in the Ford Motor Credit Company (FMCC) "Systems K" conference room, located on the lower floor in the far NorthEast corner of the building. FMCC is the low building immediately northeast of (but not attached to) Ford World Headquarters in Dearborn. The FMCC building is secured with a card entry system. The easiest way to enter the building for meetings is to park in the northeast lot (Employee Lot 7) and enter through the lower northeast door. At 5:00 p.m. no one seems to have much trouble getting in because many people are leaving around that time. If it becomes a problem we will just prop the door open. You may, of course, find your way into the building any way you see fit, but I will post direction signs only between the lower northeast door and the meeting room.
Hope to see you at the meeting!

JUST LOOKING by Brian Gossiaux

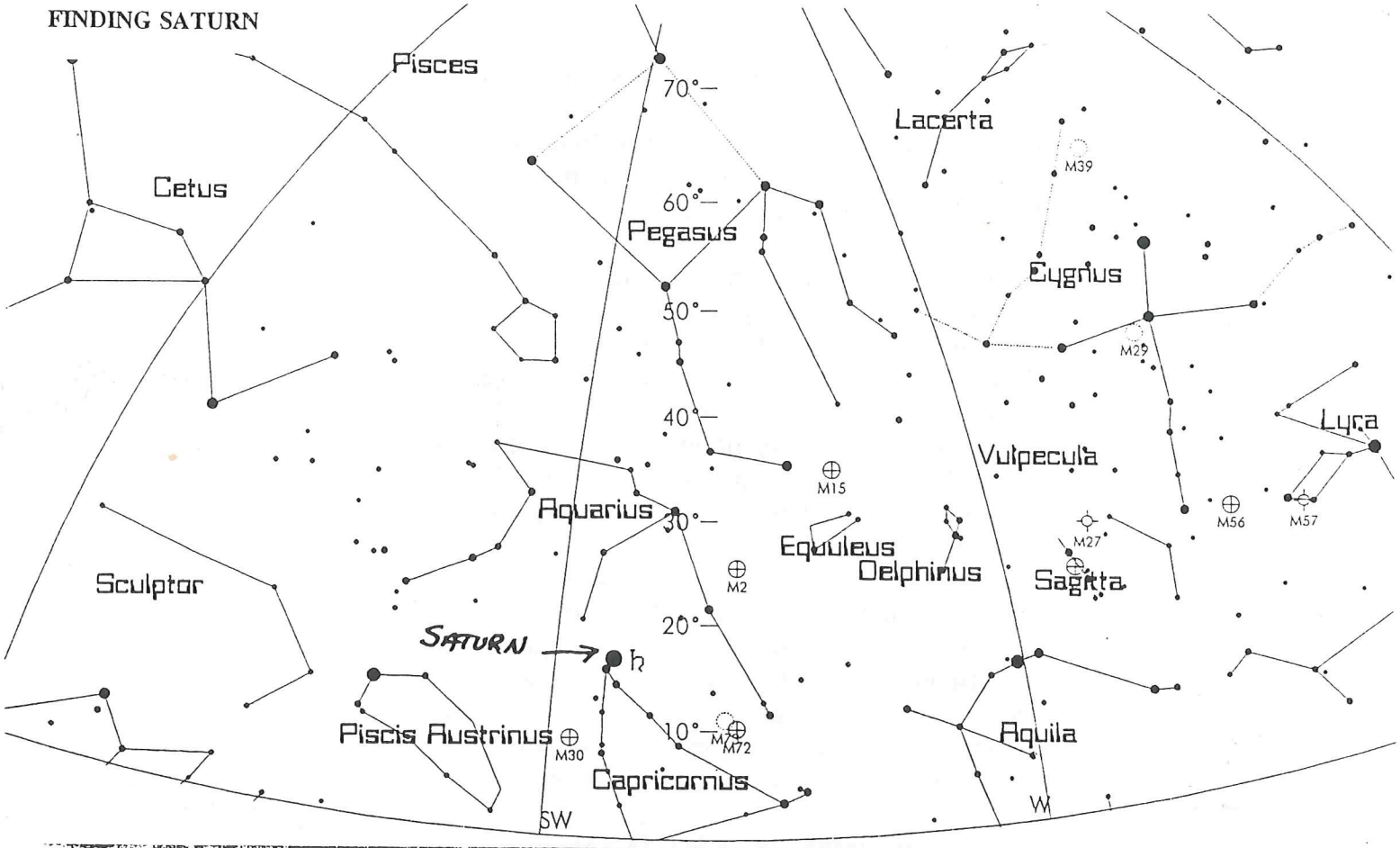
With the onset of the holidays, the limited newsletter staff (me), and the shortage of clear observing weekends, this months installment of 'Just Looking' will not be available. I promise to get December's installment done in plenty of time.

I would like to mention in this column a free offer to those with IBM compatible computers that run Microsoft Windows. I have for distribution two different 'shareware' desktop planetarium/star chart software programs. I was especially impressed with the professional quality of these applications and would like to give a copy of them to any FAAC member who wishes to try them. The applications resemble the EZCosmos 4.0 and The_Sky commercial applications. Being shareware, the disclaimer on the software is that you can freely copy and distribute the software but should send in a registration fee to the author after you have tried the software on your system for a reasonable amount of time. (2 to 3 months) If you don't like the software simply delete it and pay nothing.

The first application is called SKYMAP and the other is called EARTH CENTERED UNIVERSE. For those who may be interested please call me at 390-3935 or PROFS me a message at BGOSSIAU. The applications are available in 3.5" HD diskette which can be mailed to you or you can pick it up at the December 9th meeting. It is also possible that we can arrange electronic transfer of the software, compatibility withstanding.

Have a Happy Thanksgiving!

FINDING SATURN



Ford Amateur Astronomy Club
Star Stuff Newsletter
P.O. Box 7527
Dearborn, MI 48121