



The Spectrum

BUFFALO ASTRONOMICAL
ASSOCIATION, Inc.

Darwin Christy, Editor

JANUARY - FEBRUARY

1981

JANUARY meeting:- The January 9th meeting will begin at 8:00 PM in the New Science Building Auditorium at Buffalo State on Elmwood Ave. The evening speaker will have been announced at the December meeting and it will again be announced at the beginning of this meeting.

? QUIZ ?

- 1) What are the three modern theories of the Origin of the Universe?
- 2) What does each one offer in its theory?
- 3) In what capacity did the following four members of the B.A.A. serve?
Dick Zygmunt - Fred Price - Ron Clippinger - Darwin Christy
- 4) A few issues ago, there was a quiz about Charles' Wain; can you name the stars which make up the main group of that constellation?
- 5) What is the difference between a galactic and globular cluster?

FEBRUARY meeting:- The February 13th meeting will begin at 8:00 PM at the Buffalo Museum of Science on Humboldt Pkwy. The evening speaker will be our own Ernst Both. His topic will be "GALAXIES". REMEMBER, we change our meetings to the Science Museum at this, the February meeting.

(LUNAR PHASES)

New Moon - January 6th - February 4th

First Quarter Moon - January 13th - February 11th

Full Moon - January 20th - February 18th

Last Quarter Moon - January 27th - February 26th

Other Lunar Phenomenon:-

Perigee - January 14th - February 8th

Apogee - January 27th - February 24th

Ascending Node - January 20th - February 17th

Descending Node - January 8th - February 4th

An eclipse of the Moon will occur on January 20th. It will be a Penumbral eclipse starting at about midnight; this is a phenomenon called a Lunar Appulse.

+ SOLAR ECLIPSE +

A Solar Eclipse will happen on February 4th and will be seen south of Australia and New Zealand and into the Pacific Ocean. It is to be an Annular Eclipse.

The 'Triple Conjunction' of Jupiter and Saturn is under way. The first conjunction was December 31st. The next will be March 4th and the last on July 23rd. Don't the next conjunction will not be until 2238-2239.

FROM THE PRESIDENT

Like many people, I become quite pensive as each new year approaches. Questions like; who am I, what have I achieved this year, and where am I going to fill my consciousness and demand a certain amount of attention. As President I would like to attempt to answer these questions for our club.

First, who are we? Well, we're about 75 families and 150 members (as of now). We're the most talented group of amateurs I've ever come across! The depth of skills our club members possess is truly amazing. We're students and housewives, professionals and laborers, craftsmen and salesmen. We're armchair astronomers, instrument makers and observers. Often, a single member is all three. I can't imagine a group - so rich in history and tradition as the B.A.A. is - which works so hard at a hobby, and enjoys it so much.

Secondly, what have we achieved this year? A LOT! We have our usual season of fine speakers at our main meetings. Our instrument and study sections have continued their respective pursuits. Our members have attended two NFCAAA meetings and the famed Stellafane and Riverside astronomy conventions. We organized a very successful Mall Exhibit for astronomy day and many members visited various observatories across the country. Our club enjoyed a full summer of star parties and a new - now annual - summer campout. We have also sponsored two astronomy courses, one at Beaver Meadows and one at U.B. We have seen a change in officers with a new president, secretary, and a new Board member and two new observatory directors. We have also established a new post-archivist. All in all, a most impressive list, and those are just the activities our members have engaged in that I happen to be aware of.

Thirdly, where are we going? This is the difficult question, one which occupies much of my reflection. Where is the B.A.A. going? What does its members want?

In a sense it's easy to answer this question. We'll continue to have excellent speakers, star parties in the summer, and more ideas and telescopes from our instrument and study section. But, is there more that our members want or hope for?

One new event we can look forward to is the sponsoring of the NFCAAA this spring. It's our turn and the Board has accepted the responsibility. We are also sponsoring two astronomy courses this year - one at U.B. and one at the Science Museum.

But, is there any major project in store for us? I truly can't say. It depends on the will of our members. Our talents and energies can produce great things and I intend to encourage all members in projects which can expand B.A.A. activities - if the members feel the need.

Some projects I sometimes speculate about are:

1) A new, additional observatory location; less elaborate than Beaver Meadow, but closer to Buffalo.

2) Upgrading the equipment at Beaver Meadow. This could include a new 'dobsonian', micro-computer telescope drive controls, dew fighting contraptions, etc., etc.,....

3) Mini-courses for B.A.A. members given by B.A.A. members in topics like: telescope buying, telescope building, astrophotography, observing tricks and shortcuts, etc.,....

4) A library of expensive reference books we could bring to each meeting and lend out a month at a time. Books like Atlases, the Palomar Survey, the Hubble Atlas of Galaxies, etc.,.... What most of us could not afford as individuals, we could all enjoy as a club.

5) We now own an extensive collection of Sky & Telescope back issues. We need someone to make bookshelves so we can store them in the observatory.

I realize that most of these ideas also require fund raising, which can be a nuisance. However, members have already suggested some fund raising ideas to me - so maybe we should look into some of these projects.

All in all, we've had a great year and I look forward to the coming year with new enthusiasm for the Buffalo Astronomical Association.

Al. K.

WELCOME THESE NEW MEMBERS - - -

New members since September include Daniel Collins, Doris Koestler, David Bertuca, Lorne Moore, Edward Huck, Klaus & Johanna & Mark Baerwaldt, Art Gielow, and Melinda Barber, and Mry Kolodziejczak.

- - MERCURY - -

Verying between .30 to .38 AUs from the Sun, the first member of our solar system whips around in its orbit in a mere 88.6 day sidereal period, and a 116 day synodic period.

The planets rotation is locked in a unique 3:2 ratio spin orbit coupling. (Three 360° rotations to two orbital circuits). The 3:2 ratio spin orbit coupling causes longitudes 0° and 180° to alternately face the sun at perihelion while longitudes 90° and 270° alternately face the Sun at aphelion. At perhelion, the orbital angular velocity exceeds spin velocity so that, to any observer on the surface of Mercury, the Sun would make a retrograde loop as it crosses the sky. The resulting effect is that longitudes 0° and 180° receive 2.5 times more solar radiation than does longitudes 90° and 270°.

Except for Pluto, Mercury's 7° orbital inclination to the ecliptic is greater than any other planets.

The planet itself has a mass of only .055 x earth, a volume of .06 x the earth's, and a radius of 2440 KM. Mercury's iron core constitutes 80% of the planet's mass, giving it the usually high density of 5.4 g/cm³ for its size and an escape velocity of 4.3 KM. per sec. It's surface gravity is .37 x the earth's.

It has a lunar like surface with extensive cratering as shown by the Mariner 10 spacecraft in 1974. The spacecraft also found a thin atmosphere thought to be helium trapped from the solar wind.

Mercury's temperature extreme ranges from 350° C. on the sunward side to -170° C. on the dark side of the planet.

As seen from Earth, Mercury has a magnitude of -0.2 and reaches a maximum elongation of 27°, 45''.

James A. Machowski.

----- FOR SALE -----

Edmund Scientific Co., cast iron equatorial mount with setting circles, no clock drive, has locks on both axes for adjustments, and a 5 lb. counterweight. The mount is attached to a steel pedistal 3" in diameter with three detachable legs attached. The mount and pedistal are suitable for reflectors up to 6 inches and refractors up to 4 inches. Both are in good condition. Selling for \$60.00.

Edmund Scientific Co., 4½ inch, f/10 reflecting relescope. This scope needs a focusing eyepiece holder, eyepieces and a finder scope. All other parts are included and everything is in very good condition. Selling for \$80.00.

Contact Terry Farrell, 2331 South Park Avenue, Buffalo, N.Y. 14220 - Phone 823-3555

THE DEADLINE FOR THE NEXT "SPECTRUM" IS FEBRUARY 20th

Don't forget your editor, and send him that article you were going to write. I am please with this last responce and am looking forward to as great a responce as this time.....Thank you who sent them in.....Darwin

This year marks the height of the sunspot eleven year cycle, so start looking for more activity with the northern lights (aurora). They should be more active, especially on the clear winter nights.....Enjoy them.

SPY AND TELL

Our congratulations and best wishes to Kenneth Ranchil and Katharine Smith who were married September 6, 1980.

Orrin Christy goes to Los Angeles in January to demonstrate his ink-jet system for printing machines, as part of his work with Moore Research.

Phil Cizdziel, who is doing graduate studies in Hawaii, has had the opportunity to try a breathtaking sport; that of hang gliding.

Tropical fish take a great deal of care as Allan Mohn can tell you. He has two tanks: a 10 gal. and a 30 gal. filled with colorful fish.

A "Renaissance Fair" was held at Orchard Park High School on December 13th with Steve Desmond, as Galileo, giving two lectures every hour from 1 to 6 p.m.

I'm sure most of you read the article by Larry Carling in the Consumer's Corner of the "Reflector". If not, take time to read it.

Rugged Orrin Christy has a special way of getting his Kayak into the canal when snow covers the ground. He parks his car, slides the kayak off the top, jumps into it and slides into the canal. He wears a "wet suit", but it's mighty cold in the water.

Bob Schneider is busy trying to rebuild a player piano. He has resurfaced the keys and has put in the bridle straps, but has many hours of work ahead of him before this monumental task is finished.

James Machowski's six year old son, James, and Ken Biggie's son, Kevin, are part of a football team being honored in January or February at a banquet celebrating a very successful season.

Ken Burke and wife, Sandy, have been cheerfully working at electrifying a 10 room, 4 feet long doll-house for their happy nine year old daughter, Lisa.

Olga Lindberg's successful vignette, "Through the Years", which appears in the Buffalo Evening News, takes endless hours of continuous research as she delves into the past.

May the New Year be a rewarding one for the B.A.A.

Edith L. Geiger

CARL T. MILAZZO

If there is anything of an astronomical nature going on in the area or beyond, you can be sure that Carl knows about it, and when speaking of deep sky objects you will hear him say, unhesitatingly. "You name it, I've seen it." This astronomy oriented young man was born in Buffalo where he lived for three years before the family moved to Getzville, their present home. He went to Dodge Elementary School and the Heim Junior High where he found the art courses to be especially appealing. The principal decided that Carl's 14" x 20" ink and pastel rendering of wild plants was worthy of hanging in the school hallway where it graces the wall to this day. When the Albright-Knox Art Gallery had an exhibit featuring art works of students in the public schools of the area, Carl's charcoal reproduction of a draped cloth was one of three student works chosen to represent the school. He continued to take art courses in high school and had some of his work displayed when the art classes held exhibits in the school gallery.

The school built a planetarium with teacher, Robert Rust, as director, and Carl joined the astronomical club in his junior year. This was the beginning of a whole new interest for Carl. He had a pair of 7 x 50 binoculars and was enthralled with what he saw as he looked at the moon. He purchased a 60mm K-Mart refractor which he still uses.

After graduating from Williamsville North, Carl went to work for two years as an electroplater for Platecraft in Cheektowaga. In high school he had taken some drafting courses which enabled him to become employed with a group of engineers at Fry, Carpenter, Dietz and Zack in West Seneca, mapping highways. He worked there four years. While in their employment, he, over a period of three years, took courses at Erie Community College in electrical and mechanical drafting, and welding. At present he has been working four years at Trainer Corporation in Buffalo doing electrical and mechanical drafting and some rendering for of instrument simulators for helicopters.

In 1970 Carl attended some of the public nights at the museum. He went to the Lockport Astronomical Society meetings and their public nights and became a member of their society. He had heard the B.A.A. mentioned at the museum public nights by Ernst Both, and also at Lockport. It was former member, Bill Chambers, who finally explained to Carl the meaning of the letters, B.A.A. In 1971, two lines in a newspaper concerning our meetings prompted Carl to come to our December meeting. What a disaster for a first encounter with the B.A.A. After the customary slide presentation showing the antics of our members, Carl was a little perturbed and inquired if all our meetings were like that. He was assured that they were not, so he joined our group shortly thereafter.

He was attracted to the Rochester Academy of Science Astronomy Section by its notable membership roster, and proceeded to become a member of that distinguished group in October 1973. In 1980 he joined the Niagara Frontier L-5 Society, a pro-space organization of about thirty members, which meets at the museum. He serves on the Board of Directors. Carl has been the vice-president and program chairman of the Lockport Astronomical Society for a one year term, and was recently re-elected for another year.

He has led public nights at the museum, Lockport, Beaver Meadow, University of Buffalo, and Mees Observatory of the University of Rochester. He has also been helpful in phoning his astronomical friends concerning short-lived events such as auroras, comets, and solar activity. He has sent many notices to our local papers about our meetings, and has also sent announcements of our meetings which appeared in the September '73 and July '79 issues of Astronomy Magazine Astro-Mart. He enjoys getting a few friends or a small group together to go to various astronomical centers or singular points of interest such as the Dunlap Observatory in Toronto, and his recent group trips to the Marshal Martz Memorial Observatory in Frewsburg, N.Y. He worked on a committee repairing our former Newstead Observatory, and laid concrete blocks and helped with the painting during the construction of our Beaver Meadow Observatory.

He has journeyed to numerous places to see telescopes and observatories. His travels have taken him all over western New York; to the Cleveland area to see a 16" and 31" telescope, and to Mt. Evans Observatory, 40 miles west of Denver, at an altitude of 14,100 feet. He had the good fortune to be invited by former Buffalonian, Clifford Stoll, to visit Kitt Peak Observatory at night, where he had the opportunity of getting into all of the buildings and walking on the catwalk to overlook the 4 meter scope. While in the southwest, he was very pleased to have been able to see most of the stars in the Southern Cross.

Among the multitudinous objects which Carl has observed, he is elated over having seen: 11 comets, 11 asteroids, roughly 200 double stars, about 1000 meteors, all of the planets, Uranus and Vesta with the unaided eye, Neptune with binoculars, seven of Saturn's moons, Venus during the day, a meteor as bright as the full moon, Quasar 3C273, the companion of Sirius, Barnard's Star, supernova in the NGC 5253 galaxy in Centaurus, several Seyfert galaxies, a nova in Cygnus, galaxy NGC 6822, 500 deep-sky objects which includes all of the Messier, occultation of Pallas with a star, and a grazing occultation of Z.C. 2352 (mag. 6.7) with the moon on September 16, 1980. Recently he has been focusing his attention on the dark nebulae. Someday he would like to purchase a 5" f5 refractor or a 16" or 20" reflector.

Besides astronomy, Carl is interested in geology and nature in general. He also enjoys the magazines he finds at the library, such as Science News and those on geology and particle physics. He is very concerned over light pollution, and in November 1978 he sent a convincing editorial to the Buffalo Evening News which helped in the decision to remove the light standards from the Amherst section of the Youngman Expressway.

Carl is a very faithful member, having missed only one meeting since he joined in 1971. He is quiet and easily makes numerous friends in his affable conversations. He asks many questions in his endless quest for facts, and confers with other members on objects seen. For all he is not on our Board of Directors, he helps in suggesting programs and in lining up summer star parties. He is always interested in an actual observational program for the B.A.A. We admire his enthusiasm and steadfast support of all we try to accomplish in our organization.

Edith L. Geoger

5 YEARS AGO

Ernst Both presented a slide show entitled "Grand Tour of the Universe" at the January 1976 meeting. The February 1976 meeting featured Dr. Antoinette Paterson speaking on "Social and Political Dimensions of Astronomical Theories". An article in the Spectrum by Tom Dessert described the new observatory at Beaver Meadow.

10 YEARS AGO

The January 1971 meeting consisted of the Christmas program which had been snowed out. Edith Geiger did her expose on the groups behavior during the previous year, and the Lindbergs spoke on "Clocks Around the World". Dr. Fred West moved his talk up to the February 1971 meeting and spoke on "Double Stars".

15 YEARS AGO

The January 1966 meeting program was conducted by our instrument section. Ed Lindberg and the other section members showed pictures and described the building of the club observatory. Not to be outdone, Darwin Christy described the construction of his Honey House Observatory at the February 1966 meeting.

POEMS

by Alfred Marx Ricciuti

A GENESIS TANKA

IN THE BEGINNING
THERE WAS NOTHING,
BUT NOTHING
AND, GRADUALLY,
BUT VERY, VERY SLOWLY
VERILY, MUCH MORE - NOTHING

A HAIKU

ACRID, THE SPARK SMELL
OF SCULTED FLINT REKINDLING
STARS PRIMEVAL FIRE

TEACHING BULLFROGS (This was written at the time of the President Kennedy -
Krushchev nuclear missile confrontation)

CROAK BIG

CROAK LONG

CROAK IN THE EAR OF ARISTOPHANES

PERHAPS YOU MAY YET ESCAPE

THE PRONGS OF MARTALITY

BUT IF A MESSAGE FAR YOU WOULD SEND

MAKE SWIFTER HASTE

THAN THE SPEED OF LIGHT FOR,

SOON OUR FRIENDS MAY BURN OUT EARTH BRIGHT

BLAZING FOREVER THROUGH THE UNIVERSE ETERNAL LIGHT.

MILLING KINE*

ACROSS THE SKY

GRAZING NEAR, AFAR

INFINITE PASTURES ENDLESS

COUNTLESS SHINING KINE

WHOSE THE HERD

WHERE THE HERDSMAN

*KINE is an old Scottish term for
cattle. The Kine refers to galaxies
and their multiplicity.

And, now to help clear up the confusion,
A jiggle of tenses:

TO FIND YOURSELF

YOU HAVE LOOKED

WHERE YOU THINK YOU ARE

BUT, THAT IS WHERE YOU WERE

PERHAPS, WHERE YOU ARE NOT

IS THE PLACE YOU MAY BE

PHASEMAN, FOOL, AND DREAMER, YES
DIGGER OF THE EARTH
PLOWMAN TOO OF WINKING STARS
ALL THE THINGS WE SEEM
AND WHO CAN SAY, WHAT ELSE???

STUDY SECTION

The November study section meeting had as its topic the first four planets, Mercury through Mars. Yours truly was not able to attend (First club function I've missed) Reports are that the meeting went smoothly. The group will not meet for December due to its close proximity to Christmas. The topic for the January meeting will be a discussion of the causes of cratering in the solar system led by Dr. Price. If it appears that Dr. Price will not return from England in time for the January meeting, I will announce another topic at the January general meeting.

JOURNEY TO A DISTANT PEA

Astronomers study objects that are enormously distant. Not just planets and the nearer stars, but much more remote objects like star clusters in our Milky Way, globular clusters outside it, and galaxies out to the edge of the universe. We talk about their distances in terms of light years, and are often more impressed by the time required for light to travel from them to us than by the incredible distances these numbers signify. It's not that we aren't aware that these distances are huge - it's just that we can't appreciate their physical meaning.

Authors of astronomy books delight in illustrating this vastness by scaling the universe to dimensions we understand. A common approach represents the sun as some small but familiar object like a pea a quarter of an inch in diameter. On this scale the earth is a speck 2 feet away from the pea. Pluto, if you still count it a planet, is a smaller speck nearly 80 feet away. Eighty feet is a fair size lot in suburbia these days. Imagine how empty the solar system is with a pea and a few specks in an area so large.

Extending this model to the nearest star places a second pea just about 100 miles from the first. Actually two peas are needed because our nearest neighbor, Alpha Centauri, is a multiple star system with two major components. Because their orbits are very eccentric the two peas in this model could be placed anywhere from 20 to 70 feet apart. A third and much smaller companion is somewhat closer to us and could be represented by a dot almost four miles from the two peas.

What an incredible distance between our sun and its nearest neighbor, a distance typical of that between stars in the spiral arms of galaxies. A hundred miles is something we can readily understand, and it's a formidable distance. Especially so when you reflect that the only significant objects to be seen in this expanse are a couple of peas --

My purpose in giving this example was to illustrate a common approach designed to impress readers with the immensity of space, but with the intention of giving a better example next. But I have to admit in coming up with these figures I've impressed myself. A hundred miles is a long way and peas, to say nothing of specks, are very small.

For the other example, imagine an astronaut traveling from the sun to Alpha Centauri at the speed of light. In just over eight minutes he has passed the orbit of earth and in $5\frac{1}{2}$ hours the orbit of Pluto. (Never mind the detail that at the speed of light the astronaut's clock stops and as far as he is concerned he travels in no time at all. We'll pretend we can measure his progress using time on earth as a reference.)

In this quarter of the first day of his voyage he has reached the outer limit of the solar system as we usually regard it. He has nearly 1600 days to go to get to his destination. As he looks back on our solar system from his new vantage point he sees it vastly changed from what we are familiar with here on earth. The sun has shrunk to an object less than a minute of arc in diameter, and has lost eight magnitudes of brightness. It is only one sixteenth hundredth as bright as seen from earth but is still too bright to be viewed with the naked eye. A quick glance, however, would show only a point of light because the eye cannot resolve an object so small. Jupiter as seen from earth has about the same diameter as the sun seen from the orbit of Pluto. There would still be plenty of light, about 250 times the light of the full moon, but no warmth. Our astronaut would have no trouble seeing here, but would require his own supply of heat.

From this distance it would be difficult to identify the members of the system. Jupiter, the brightest of the planets, would go through phases as Mercury does when seen from earth. But where Mercury can be as far as 28 degrees from the sun at greatest elongation, Jupiter remains less than 8 degrees from the sun when

from the edge of the solar system. It's around third magnitude, nearly 60 times dimmer than we see Mercury at its brightest. Jupiter could probably be observed near greatest elongation provided the sun's glare doesn't interfere, but it would not be a conspicuous object. As for earth, it's never as far as two degrees from the sun and is only a little brighter than fifth magnitude. It certainly would never be seen except by telescope.

By the time our astronaut completes the first day of his journey, the sun has faded in intensity to where it is only about 15 times as bright as the full moon. The planets, even Jupiter, are so dim and close to the sun that they are lost despite its diminished glare. A telescope would still find sixth magnitude Jupiter and even earth, though earth is now closer to the sun than the sun's diameter appears on earth.

After a month of travel at the speed of light, the sun appears as just an extremely bright star of magnitude -8 or about 30 times brighter than Venus as we see it. Jupiter has faded to thirteenth magnitude and is separated from the sun by a little over 200 seconds of arc. Can an object 21 magnitudes dimmer than its companion be seen when they are so close? Perhaps it can with a large telescope in space where no atmosphere obscures the view provided the brighter component is artificially occulted.

With only 2% of the trip to the nearest star finished, our solar system has shrunk to the point where its family of planets may no longer be visible. The astronaut might still deduce the existence of Jupiter by observing that the position of the sun changes with respect to the background stars by a little less than $\frac{1}{2}$ second of arc in a twelve year period. This wobble is caused by the sun and Jupiter revolving around a common center of gravity that lies just outside the sun's surface. Since the sun's diameter and the size of the wobble are nearly identical, considerable uncertainty may develop in the measurement. Were Jupiter more massive or further from the sun, the wobble would be greater and it could be measured more accurately.

At last a year passes, our solar system lies far behind the speeding astronaut. Imagine the distance he has traveled -- 186,000 miles every second for a year, nearly 6 million times a million miles. The sun is still the brightest star in the heavens; at magnitude -2.7 it is more than three times brighter than Sirius. The planets have long faded into obscurity. Nineteenth magnitude Jupiter huddles a mere 17 seconds of arc from the sun, the earth is five times closer. Scientists from another world approaching the sun could not determine that it is accompanied by planets from this distance. Yet, it is the closest star around.

Our astronaut might now look ahead to his destination. To his despair, Alpha Centauri appears almost the same as it did when he left the solar system. If he's a keen observer, he will note it has brightened a little over a half magnitude and the two components are slightly wider apart. He breathes a sigh of relief, he is getting somewhere after all -- almost a quarter of the way to the nearest star. And that if only a year at the speed of light.

ON SOLAR ENERGY

Warm summer sun
Shine kindly here
Our winters are
so long and drear,
Teach us how
to tap the tree
of your vast solar energy,
Help us to store it
in man-made jars
each with his own
rock pile of stars.

Esther L. Goetz
From SORRY ABOUT THAT collection

January Constellation

From the comic strips many years ago, I find that one sticks out in my mind but is no longer in the maps of the heavens. If any one is old enough to remember, they will recognize the cartoon 'Felix the Cat'. This constellation was formed by LaLande out of the stars between Antlia and Hydra, and was first published in his Bibliographie Astronomique of 1805. The inventor of it was quoted as saying, "I am very fond of cats. I will let this figure scratch on the chart. The starry sky has worried me quite enough in my life, so that now I can have my joke with it."

In 'Die Gestirne', the 2nd edition of Bode's maps, it appears as 'KATSE', with about twenty stars. Secchi included it in his planisphere of 1878 as "GATTO". Since these, the constellation has been discontinued in the maps and catalogues. Proctor assigned this title to Canis Minor, but no one has followed him in this change.....

February Constellation

'Mons Mensas, the Table Mountain' is not to be seen here in the northern hemisphere. The constellation is bounded on the south by Octans; on the east by Chamaeleon and Volans; on the west by Hydrus; and on the north by Dorado. Its northern boundary is through the Large Magellanic Cloud.

Gould found about 44 stars in the constellation which are considered naked-eye. The brightest star is only 5.3 magnitude which leads one to believe it seems almost impossible that there would be that many naked-eye stars.

Its name, 'Mensa', was formed by La Caille, who did so much for our knowledge of the southern heavens. The title was suggested by the fact that the Table Mountain, back of Cape Town, (which had witnessed his nightly vigils and daily toils), also was frequently capped by a cloud.

A WORD OF THANKS

I wish to extend my appreciation and thanks to Elaine Deazley for having printed the "SPECTRUM" for the past few years. I know that I speak, not only for myself, and the other editors, but also for the members of the B. A. A.

THANK YOU ELAINE

From the Editor --

The response to the "Questionnaire" thus far is below expectations. I do not expect 100% but did expect to have about 50 to 75% at this time. When I have had all the returns, I will publish the results in the next "SPECTRUM." The deadline for the return of the questionnaire is the February 13th meeting. So--- those of you who have not as yet made it out, please do so and hand it to me on or before that time. Thank you.

I am still looking for feature articles. It seems no one wants to help the cause. I know most of you like to read the "SPECTRUM" and learn what some one may write but did you ever think that maybe someone else would learn from what you may have to write in a feature article or even some short note or observation you may have made?? PLEASE open your minds and send me that article you may have locked up in your thoughts to be published in your newsletter, "The SPECTRUM."

There has been in the past, a group of members who were interested in a so-called 'call-out'. This 'call-out' was set up so that if an observer was cheating on his/her sleep and saw a spectacular phenomenon, he/she would have a list (of members) to call so they too, can observe this phenomenon. They in turn would have their list of two or three members whom they would call-out. This enabled members to see what might be interesting in the line of astronomy. I made mention of an Aurora which I saw one evening to the membership at one of our meetings. I heard a few oh's and ah's. This is what prompted me to mention this at this time. Anyone who is hardy enough and wise to be in a 'call-out', please fill in the following form. I will attempt to try and initiate this third and exciting satellite group of the B.A.A.:

NAME _____ PHONE _____

Phenomenon interested in _____

Are you willing to be called anytime throughout the night Yes _____

Answers

- 1) a, The Big Bang Theory; b, the Steady State Theory; c, the Pulsating Universe
- 2) a, perhaps the expansion is the result of some kind of a catastrophic explosion which blew everything apart.
b, perhaps the universe has always been expanding at the present rate, thus known as the steady state, or uniformitarian theory.
c, perhaps the universe alternately expands and contracts, with periods of many billions of years between successive contractions and expansions.
"Astronomy and the Origin of the Earth" by Theodore G. Mehlin
- 3) They were all club presidents.
- 4) The stars in the Big Dipper, starting with the bowl of the dipper and continuing through to the handle are: DUBHE, MERAK, PHECDA, MEGREZ, ALIOTH, MIZAR (ALCOR) & ALKAID.
- 5) A galactic cluster has from a few stars to hundreds of stars and are within the boundary of the Milky Way. Globular clusters contain thousands of stars tightly packed and are so-called satellites outside of the Milky Way.

-10-

The Buffalo Astronomical Assn., Inc.
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FIRST CLASS

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