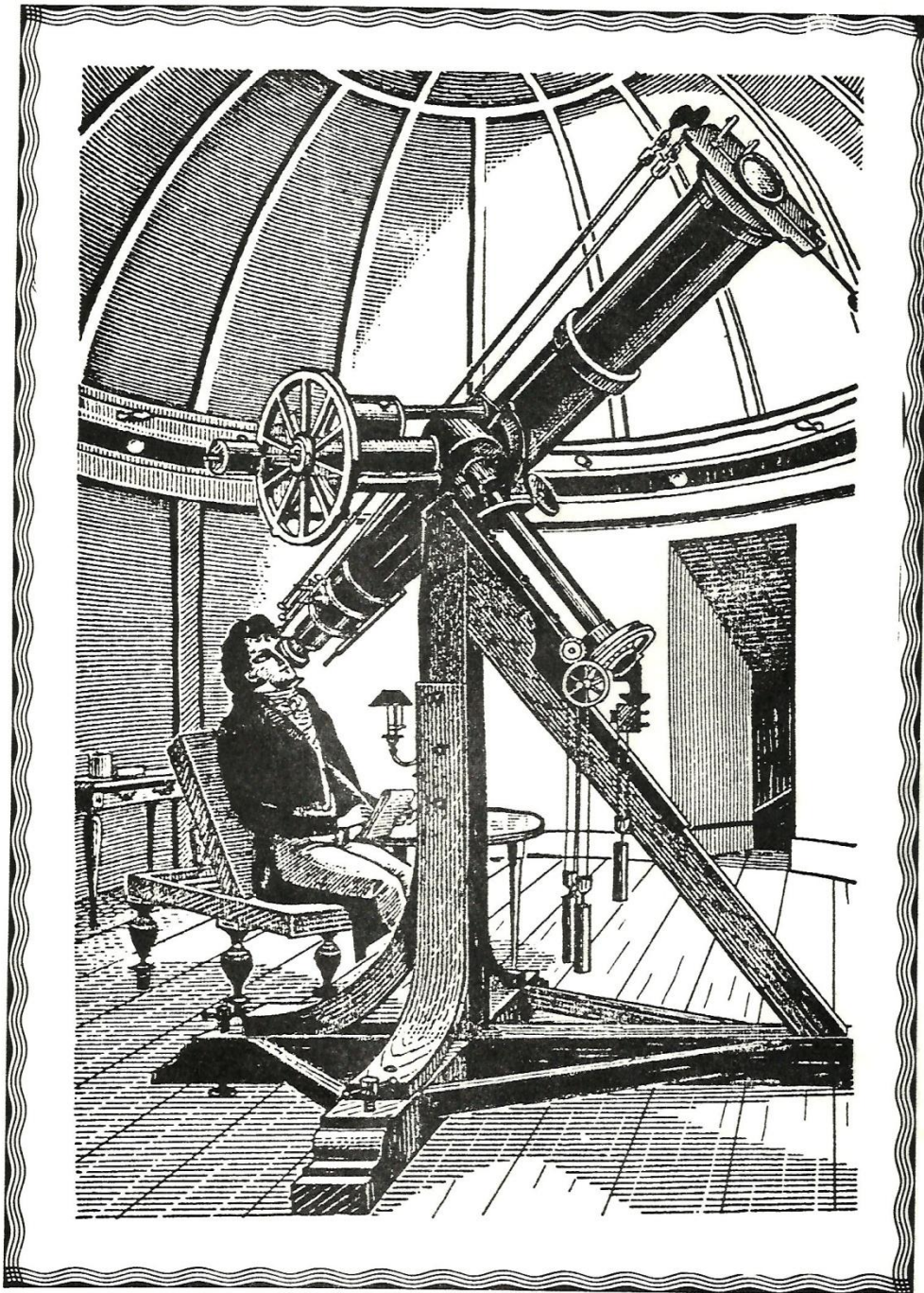


THE W.A.S.P.



NOVEMBER, 1972

The W.A.S.P.☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆**Nov. 1972**

For the preservation and intercourse of astronomy and journalism
which, walking hand in hand are bound to get
someplace if they are both facing
the same direction.

Front cover by Ken Wilson: A recent sketch made in the observing room of the Stargate Conservatory of Astronomy showing Mr. Dinster Mudgrave recording his impressions of various solar phenomena employing, a sun filter of his own recent invention. This amazing device consists of a kind of neutral density filter cut to shape, and placed directly over the eye's cornea in the manner of a contact lens. The results of his observations will be forthcoming in the WASP following his release from the hospital where he recently underwent a successful appendix transplant.

NEWS NOTES by C. J. Edsall

A UNIQUE OPPORTUNITY

A special meeting of the Warren Astronomical Society is planned for July 1, 1973 to be held in Dakar, Senegal concerning the solar eclipse to be observed the previous day off the coast of Mauritania. Members will arrive in Dakar aboard the H.M.S. Cranberry, a ship of the Cunard Lines -- owners of such worthy vessels as the Titanic and the Lusitania, after more than a week on the high seas. The principal address will be delivered by whoever is not outside looking at the Magellanic Clouds with binoculars, among the many other fine celestial objects visible at 15° north latitude. Other aspects of this excursion should prove interesting as well.

All members who harbor the slightest suspicion that they may be able to attend this unique event are urged to make their reservations immediately. The deposit is fully refundable until May 23.

* * * * *

D. Gould

NEW SCIENTIST p. 170 April 15, 1971

... the still too common view that science is some kind of sacred cult whose mysteries should be kept for the personal gratification of its properly ordained priests and their chosen acolytes” - is “dangerous nonsense. Science and things of science are no one's private property. They are a central part of the common heritage of modern man. And anyone who obfuscates this truth is not only a traitor to his kind but a blazing idiot to boot.

RADIO ASTRONOMERS DISCOVER YET ANOTHER INTERSTELLAR MOLECULE

A team of radio astronomers from the Harvard College Observatory recently announced what they believe to be the first positive identification of extraterrestrial civilizations inhabiting remote planetary systems. This judgment of the significance of their discovery of the most unusual interstellar molecule yet detected - SO^2 - sulfur dioxide, was passed by Dr. M.Q. Aurelius, leader of the group.

The critical theoretical breakthrough that lead to this stunning analysis came after an intensive study to determine the possibility of the natural occurrence of this amazing molecule. In Dr. Aurelius' words, "When we realized we could find no plausible reaction mechanism for the formation of SO^2 in space, we were forced to examine more radical alternatives."

The two sources so far detected lie very near stars which are generally suspected to have extensive planetary systems orbiting them. In Aurelius' model, the only possible source of large amounts of sulphur dioxide within a planetary system would be as a result of a very high level of technical or industrial accomplishment of civilized beings, such as seems to be occurring as a result of world industrialization here on Earth. The possibility of future attempts at communication with these aliens appears to him remote however, since in his view a society which is capable of polluting their whole solar system must be so intensely dedicated to industrial production that the more esoteric pursuits of astronomy and searches for extraterrestrial life forms would be considered wasteful of much-needed financial resources.

THE UNIVERSAL FRAMEWORK: LINK NO. 6374b

It is not always easy to realize the usually devastating forces with which very early life forms on the Earth were forced to deal, and with what infinite tenaciousness and courage the first proto-cells clung to their frail existence. Anyone of a million fatal factors could have conspired to extinguish any possibility of further biological evolution. What with ultraviolet blasts from supernovas and glaciers, it's surprising that the life of pre-human antiquity was preserved at all. In so far as we are the heirs of whales and dinosaurs, we indeed got through by the skin of our teeth.

Early life survived because, although temperatures and air pressure may vary, the stability of the nucleus of beryllium-8 remains fairly constant.

The successful origin of life on this planet depended on a scarcity of oxygen. With too much oxygen in the atmosphere, the complex chemicals of primitive life would have "burned up" in an ecstasy of metabolic delight. The abundance of oxygen made, like other elements, inside stars, is limited by the fact that another nucleus, beryllium-8 is not stable. If this nucleus, which goes toward making oxygen, were only slightly more stable, the resulting excess of oxygen would have been fatal for life on the early Earth.

If regional variations in the laws of physics in the universe should cause beryllium-8 to be more stable in some places, there may be huge populations of apparently normal galaxies in which life as we know it is simply impossible. That's the way it goes.

THE BARNHOUSE EFFECT

During the first billion years after its appearance, the sun grew hotter until it reached the relatively stable temperatures of recent times. As a result of this increase in solar output and the development of an atmosphere on the planet Venus, the surface temperature of Venus also increased, eventually raising the global temperature above the boiling point of water. Before this however, the planet held whole oceans of liquid carbon dioxide which was being boiled off in tremendous proportions, forming in its accumulation the familiar cloud layers observed today. The clouds in turn absorbed more heat which further raised the temperature of Venus, resulting in a kind of "runaway greenhouse effect" which became responsible for the planet's present condition.

The prediction that similar conditions may develop on Earth during the next several billion years was made in a recent issue of the 'Review of Abstract Physics and Theatrical Astronomy' by Drs, I.M.A. Simian and Thomas Asp employing the method of Data Enrichment, familiar to most readers of that learned journal. Their calculations are based on predictions of the general evolutionary trend in solar development during which the sun will become a red giant, expanding in size to the orbit of Mars, and enveloping the Earth. Before this however, the oceans will boil off and the earth should look like Venus. Simian and Asp however, have taken into consideration the fact that before things get too hot, the earth will be teeming with life, all of which will eventually be destroyed, releasing tremendous quantities of organic debris into the steamy atmosphere until the whole world smells like a charnel house.

Similarly, in a more pastoral context, Simian and Asp have explained this condition in terms of a "runaway barnhouse effect" and are proceeding with further analyses of the situation.

NASA ANNOUNCES 'PROJECT KLONDIKE'

In an effort to conserve its much-butchered budget, NASA recently announced plans to launch the first satellite equipped with X-ray detectors to make extensive surveys of solar X-radiation. The probe will remain in orbit inside the earth's shadow opposite the sun, however, to record and produce X-ray photographs of the sun's X-ray transmission through the earth revealing, it is hoped, detailed pictures of the earth's interior.

An interesting side-result of these explorations, not unnoticed by space agency officials, may be the detection of buried artifacts of archaeological interest, sunken ships, precious mineral deposits, and buried treasure. If enough of these items are found in the right places, the satellite, and perhaps eventually the entire space program, may be able to pay for themselves, opening a whole new era of space speculation. NASA is betting on it.



Eclipse

73

African Eclipse Cruise!!

Ship will CRUISE TO CLEAR SKIES!

from \$450 to \$1,575 per Person

OVER 6 minutes of TOTALITY

GUARANTEED TO COME BACK ALIVE!

BE AMONG FELLOW ASTRONOMERS

W.A.S. MEMBERS GOING SO FAR.

FRANK McCULLOUGH

DIANE McCULLOUGH (of course)

PETE KWENTIS

WALTER ROUDE BUSH

CHRIS EDSALL

TIM SKONIECZNY

DAVE HARRINGTON

for INFO.

CALL - TRAVEL AGENT

OR

FRANK McCULLOUGH

791-8752

SOME RECOMMENDED BOOKS ON ASTRONOMY

Below are listed some recommended books on astronomy covering a wide range of interests in astronomy: from the layman or beginner, who know little about astronomy, to the amateur astronomer, who would like to learn more about his hobby. This list is not intended to be definitive or complete in any way. Emphasis has been placed on books that are currently available in your local book store or public library.

FOR BEGINNERS

Astronomy by Iain Nicolson, in paperback by Bantam Books. A good book for the beginner, covering mostly general astronomy with a small section on amateur astronomy.

Discover the Stars by Gaylord Johnson and Irving Adler, in paperback by Sentinel Books. A good book for learning the constellations, some basic astronomy, and simple observing with field or opera glasses.

Stars by Herbert S. Zim and Robert H. Baker, in Paperback by Golden Press. This is one of the better books on general astronomy for the beginner. It is packed with many excellent illustrations as well as a very readable and understandable text.

Star Maps for Beginners by I. M. Levitt and Roy K. Marshall, in paperback by Simon & Schuster. A unique system of star charts for the beginner just learning the constellations.

FOR THE BEGINNING AMATEUR ASTRONOMER

The Amateur Astronomer by Patrick Moore, hardcover by W. W. Norton & Co., Inc. A good book for the beginning amateur astronomer, mixing the basics of telescope use and general astronomy with observations.

Field Book of the Skies by William Olcott, in hardcover by G. P. Putnam & Sons. An excellent guide to the constellations, their mythology and objects of interest for the owner of a small telescope or binoculars. Good chapters on telescopes and general astronomy.

The Observer's Book of Astronomy by Patrick Moore, pub. By Frederick Wayne & Co., Inc. Excellent book for the beginner covering the constellations, some general and amateur astronomy. Excellent pictures.

The Sky Observer's Guide by R. Newton Mayall, Margaret Mayall and Jerome Wyckoff, in paperback by Golden Press. This is one of the best books available for the novice. Its lucid illustrations and text make many difficult concepts understandable. It includes instructions on using a telescope, lists of objects to observe, star charts and much more on a wide variety of subjects that make astronomy such a fascinating and enjoyable hobby. Ironically, this excellent book for all ages is often placed in the children's book section.

GENERAL ASTRONOMY

New Handbook of the Heavens by Herbert Bernhard, Dorothy Bennett and Hugh S. Rice, in paperback by Signet Books. Excellent non-mathematical book on general astronomy. Includes chapters on the telescope and astrophotography.

Stars and Planets by James Muirden, in hardcover by Thomas Y. Crowell Co. Very good book on general astronomy with a back section on amateur astronomy.

The Universe by Isaac Asimov, in paperback by Discus Books (Avon). An excellent non-mathematical book covering man's present view of the universe.

FOR AMATEUR ASTRONOMERS

The Amateur Astronomer's Handbook by James Muirden, in hardcover by Thomas Y. Crowell Co. This is an excellent book for the amateur astronomer, containing sections on equipment, the solar system, stars and nebulae, and some very good appendices.

A Handbook of Practical Amateur Astronomy by Patrick Moore, in hardcover by W. W. Norton & Co., Inc. An excellent collection of articles of interest to the active and advanced amateur on observing, photography, equipment, etc.

Telescopes for Skygazing by Henry E. Paul, in hardcover by Chilton Books. Excellent book on telescopes for the amateur. It covers such topics as: whether you should buy, build or assemble a telescope; reflectors vs. refractors; and an introduction to astrophotography.

Star Gazing With Telescope and Camera by George T. Keene. A good book for the amateur astronomer covering the making of a telescope; choosing a telescope or binoculars; using the telescope; and astrophotography. In paperback by Amphoto.

ON TELESCOPE MAKING

Amateur Telescope Making (Books 1, 2, 3) compiled by Albert Ingalls, in three hardcover volumes. This is the classic "bible" for the amateur telescope maker constructing any sort of telescope. These books can be found in some libraries.

How to Make a Telescope by Jean Texereau, in paperback by Anchor Books.. This book takes the reader through the step by step process of grinding his own 8" mirror and constructing a telescope to house it. Also included are sections on eyepieces, photography and telescope use.

Standard Handbook for Telescope Making by N. R. Howard, in hardcover by Thomas Y Crowell Co. This is one of the better books on telescope making. It gives very detailed instructions on grinding an 8" mirror and constructing a telescope. Also included is a section on astrophotography.

This list was compiled by Kenneth Wilson for the Warren Astronomical Society. Your comments or suggestions are welcome.

CONSTELLATION OF THE MONTH

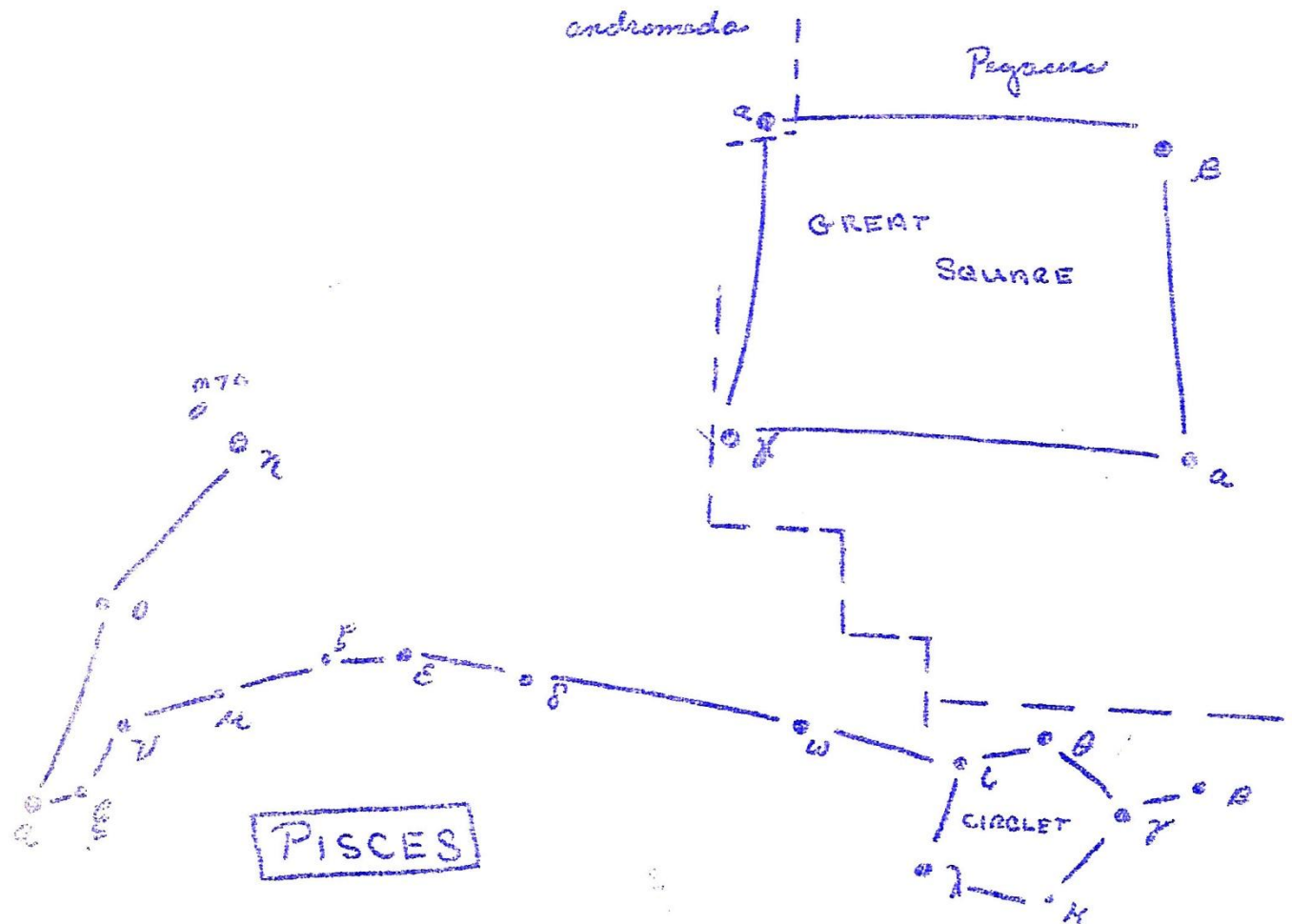
By
Frank McCullough

Pisces: The Fishes

Last month we were given the background on Pegasus, this month Pisces will be the fall constellation honored.

Pisces is the last constellation of the zodiac, though it contains the vernal equinox. There is a mythological legend according to which Venus and Cupid once escaped from the giant Typhon by throwing themselves into the river Euphrates and changing themselves into fishes. Subsequently, Minerva commemorated their escape by placing two fishes in the sky. This legend has also been associated with the southern fish, Pisces Australis.

Pisces consists mainly of a line of faint stars running below the square of Pegasus. It is one of the good tough naked eye constellations.



note: brightest star no brighter than 4th magnitude.

THINGS OF INTEREST



It should be known to the reader that the last issue of the W.A.S.P. could not be published due to circumstances beyond our control. The editors and the regular staff thank you for your patience.

It should be brought out that our paper has been published without a hitch for over one year now. We hope you have liked what we've had to offer to the reader and anything you would like to see added to or taken out of the publication will gladly be considered upon your recommendations.

The W.A.S.P. has also been printed for a remarkable 4 years, the first dating back to the March 1969 issue. We've come a long way since then.

We also would like to welcome to our literary circle the Oglethorpe Astronomical Association, the Royal Astronomical Society of Canada and the latest, the Lansing Astronomical Society.

The Oglethorpe club has a paper called the Mercury, headed up by Mr. Chester S. Spell who has been kind enough to allow us to publish the articles from their paper into the Star, the regional publication. I have had the pleasure of communicating with him by letter and would like to say he is a credit to himself and his organization.

The exhibits at the Macomb Mall were a big success, for we sold over \$30.00 worth of Star Charts and were introduced to many people who were looking for an organization such as ours. I certainly hope these people find their way to our meeting October 19th. Also, many thanks are in order for the following people who worked so hard and diligently at the mall. Mr. Kwentus, who came in with only a couple of hours sleep, watched the area and then went back to work. Roger Civic, who was there every day and night and also showed people the sun with his 4" refractor. Tim Skonieczny who came after school and spent the rest of his hours at the exhibits. Walter Roudebush spent many hours at the exhibit and also went out with Diane McCullough to show the scouts through the observatory. Many thanks to my wife and Larry Kalinowski and Mr. Polus for their time. Thanks to Chris Edsall for the use of his projector during the short crisis we had. I hope I didn't miss any body, but thanks again to the hard core!

Time is running out for your preparations to the Apollo 17 launch in early December. If interested, call 791-4752, ask for Frank.

Many nights this summer will be cloudy. Want something to do? Well there is a good chance of organizing a chess tournament for interested members. Contact Frank. If we get tired of playing between me and you, who knows, we may be playing a match with the men of KAZOO!

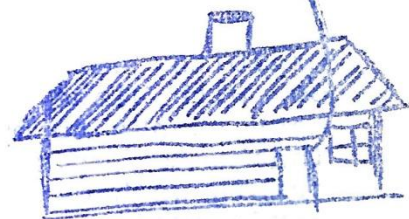
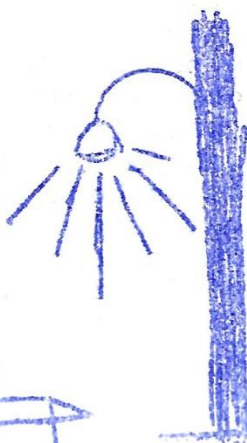
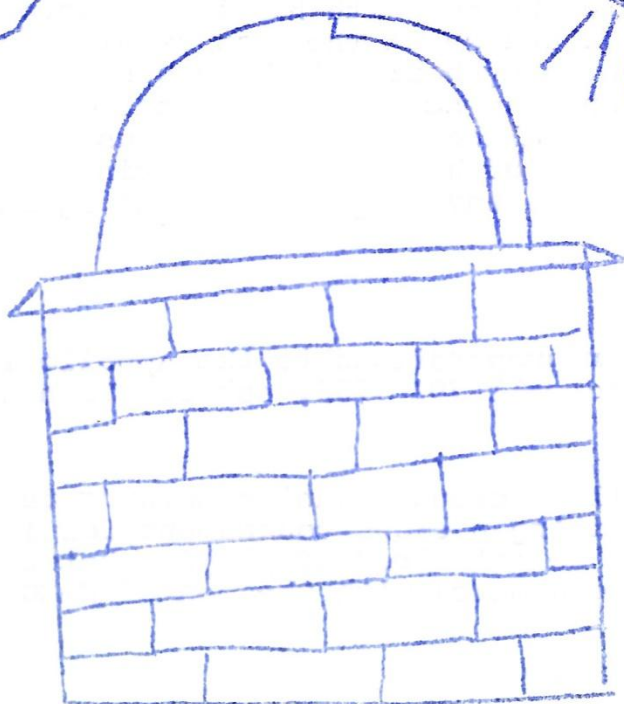
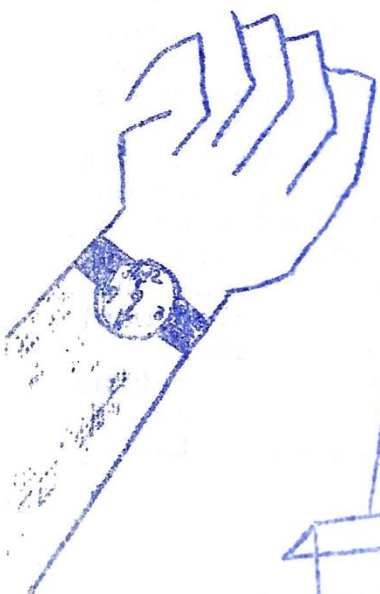
ROTARY NEWS

^{Mr. B}
Hello Mr. Blom, where will
be a few of us out to see the
observatory.

^{Mr. B}
You sure picked a hell of a time
to call !!!

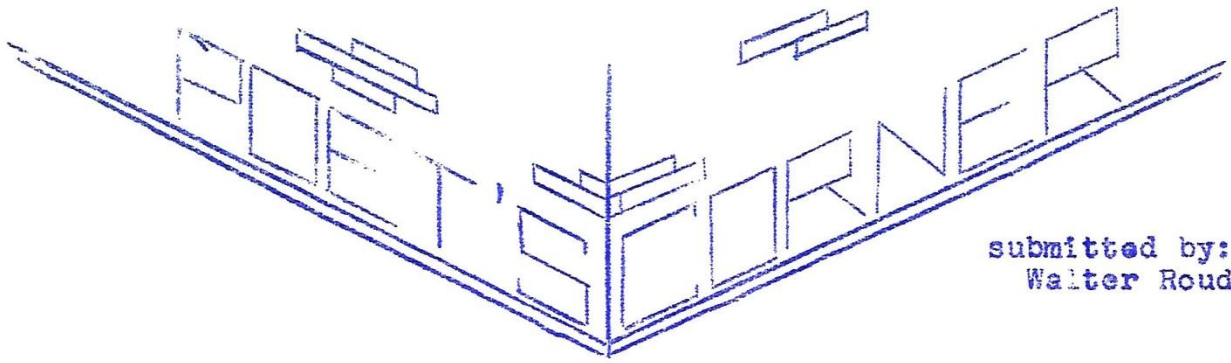
SOLUTION

Don't CALL



Q. J. M.

The



submitted by:
Walter Roudabush

Ode to Heaven

1st Spirit

Palace roof of cloudless nights!
Paradise of golden lights!
Deep, immeasurable, vast,
Which art now, and which wert then!
Of the present and the past,
Of the eternal where and when,
Presence-chamber, temple, home,
Ever canopying dome,
Of acts and ages yet to come!

Glorious shapes have life in thee,
Earth, and all earth's company;
Living globes which ever throng
Thy deep chasms and wildernesses;
And green worlds that glide along;
And swift stars with flashing tresses;
And icy moons most cold and bright,
And mighty suns beyond the night,
Atoms of intensest light.

Even thy name is as a god,
Heaven! for thou art the abode
of that power which is the glass
Wherein man his nature sees.
Generations as they pass
Worship thee with bended knees.
Their unremaining gods and they
Like a river roll away:
Thou remainest such alway.

2nd Spirit

Thou art but the mind's first chamber,
Round which its young fancies clamber,
 like weak insects in a cave,
Lighted up by stalactites;
 But the portal of the grave,
Where a world of new delights
 Will make thy best glories seem
 But a dim and noonday gleam
 From the shadow or a dream!

3rd Spirit

Peace! the abyss is wreathed with scorn
At your presumption, atom -born!
 What is heaven? And what are ye
Who its brief expanse inherit?
 What are suns and spheres which flee
With the instinct of that spirit
 Of which ye are but a part?
 Drops which Nature's mighty heart
 Drives through thinnest veins! Depart!

What is Heaven? A globe of dew,
Filling in the morning new
 Some eyed flower whose young leaves waken
On an unimagined world:
 Constellated suns unshaken,
Orbits measureless, are unfurled
 In that frail and fading sphere,
 With the millions gathered there,
 To tremble, gleam, and disappear.

--Percy Bysshe Shelley

Through worlds unnumbered though the God be known
'Tis ours to trace him 'only in' our own.
He who through vast immensity can pierce,
See worlds on worlds compose one universe.
Observe how system into system runs,
what other planets circle other suns,
What varied beings people ev'ry star,
May tell why Heav'n has made us as we are.

--Alexander Pope

NEWS ITEMS

By
Kenneth Wilson

Astronomers Not Alone

It appears that astronomers are not the only ones who have noticed the deterioration of the night sky in urban areas.

It seems that some rangers of the Everglades National Park were running a test program of bringing city children out into the wilderness environment of the park to learn about nature and the environment. According to park ranger James Sanders, the program has been a fantastic success.

"We had a group of kids from one of the inner city schools in Miami here for a night visit," said-Sanders. "When we took them outside to begin the nature trail walk, they all stopped short and just stood there, gaping at the sky.

"Then one little guy said, "The stars, man, there's millions of 'em!" explained Sanders, "They'd never seen the heavens before."

I think this is a sad testimonial to the state the night sky is reaching in the city. Soon only those living far in the country will be able to see the stars any more. When this time comes it will be a sad day indeed for the amateur astronomer.

Law Against Light Pollution

On a more optimistic note, it has come to my attention that a new ordinance has been pawed in Tucson, Arizona requiring reflective shields to be installed on all new street lights. These reflectors must come down to a point at least even with the lighting element of the street lamp. Also, all Mercury-Vapor lamps radiating above a certain wavelength must have filters.

How on earth did this miracle law come about and why not in Detroit where it is needed far more than in Tucson? Well, there are more observatories around Tucson than Detroit for one thing. This fact plus the efforts of a few city council members (who recognized that if Tucson skies continued to get worse, the observatories would have to be moved) with the backing of the large astronomical community around Tucson pushed the new ordinance through.

Can this be done in Detroit? Yes, if we can get as many observatories built around Detroit as there are in Tucson, and get the Common Council to support it. Impossible, you say? Well ... maybe, ... but then again look at Tucson.

Martian Hunters in Texas?

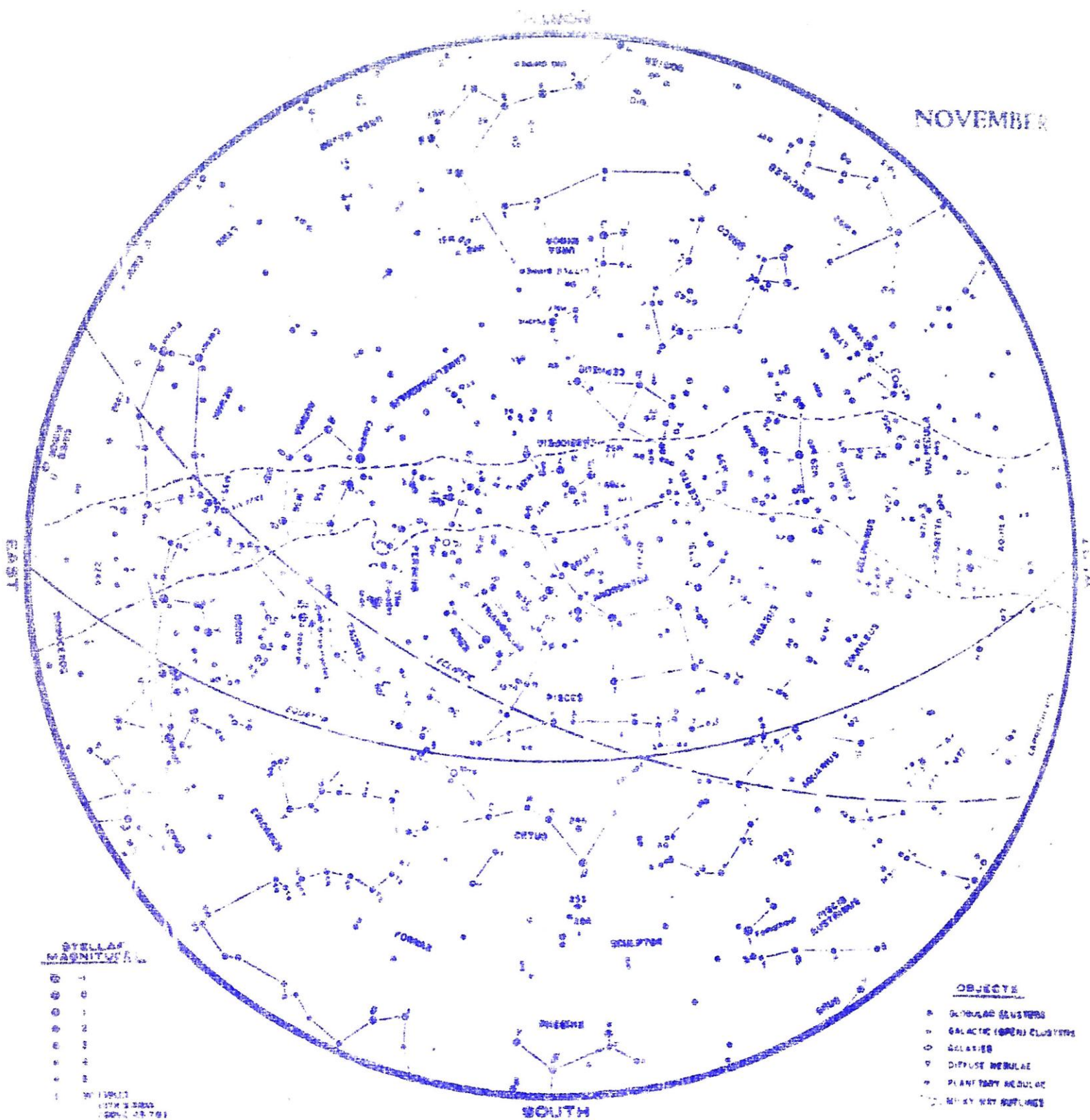
Astronomers from Cornell University got more than they bargained for when they recovered the two-ton gamma ray telescope that they launched, suspended from a balloon, from Palestine, Texas a few weeks ago.

When the Cornell scientists recovered the instrument package, 500 miles away at Pecos, Texas, they found the aluminum covering riddled with buckshot.

Due to tire tracks that were found leading to and away from the balloon, it is theorized that someone found the instrument package but was frightened by the sound of a small motor inside.

"We guess the person took a shot at it and left when he found he couldn't kill it," a spokesman said. "Luckily, the telescope suffered only superficial damage."

So, somewhere in Texas, there is a would-be Texas Ranger telling all of the men back at the ranch about his harrowing experience with a Martian flying saucer, and how he almost single handedly prevented the earth from being invaded by "bug-eyed monsters".



SKY MAP FOR NOVEMBER
 Nov. 1, 10:30 p.m. Nov. 15, 9:54 p.m. Nov. 30, 8:30 p.m.
 (Local Standard Time)

THE SKIES FOR NOVEMBER

Can you see the Big Dipper? Even for Northerners, Ursa Major is low and difficult on the northern horizon now as it dips down for a fresh start. Gemini and Orion bring proof of winter with them in the east, and we twist our necks to the western horizon for a moment to bid "auf wiedersehen" to Vega, Altair and Pegasus. In the small hours of November, we have a preview of spring skies, although they will be a long time in coming at the normal hours of evening. Hat, brave the chill — what's a little frostbite among friends?

ASTRO-ALMANAC

By
Ken Wilson

NOV. /	EVENT
1	
2	Moon 7° S. of Venus at 18 hrs.
3	Mercury 4° S. of Neptune at 22 hrs., beginning of e Taurid meteor shower, thru 15 th , (radiant: 032022); very slow and bright.
4	Mercury at greatest hel. lat. S. Moon 6° S. of Uranus at 2 hrs., Mars 3° N. of Spica at 2 hrs., mars 6° N. of Moon at 6 hrs.
5	Venus at perihelion, Mercury at greatest E. elong. (23°) at 5 hrs., New Moon at 20:21, Twilight begins: 5:03-ends: 18:23 L.M.T.
6	Juno in conjunction at 18 hrs.
7	Lunar apogee (252,600) at 8 hrs., Moon 5° S. of Neptune at 16 hrs., Moon 0.5° S. of Mercury at 23 hrs.
8	Mercury 1.8° N. of Antares at 7 hrs.
9	
10	Moon 0.9° S. of Jupiter at 8hrs.
11	
12	
13	Beginning of Leonid meteor shower (thru 15 th) radiant: 100022; max. Nov 16 at 19 hrs.; very fast meteors.
14	First Quarter Moon at 00:01.
15	Mercury stationary at 19 hrs., Twilight begins: 5:14-ends: 18:13 L.M.T. Mercury at 164224 28, Venus at 131005 29 (-3.5 mag.), Mars at 135010 38, Jupiter at 183323 20 (-1.5 mag.), Saturn at 051321 19 (-0.1 mag.), Uranus at 131807 33, Neptune at 161119 30.
16	Venus 1.3° N. of Uranus at 12 hrs., General Meeting of the W.A.S.
17	Venus 4° N. of Spica at 12 hrs., Beginning of Andromedid meteor shower, thru 27 th , radiant: 014045, very slow.
18	
19	
20	Full Moon at 18:07, Lunar perigee (221,500) at 18 hrs.
21	
22	Moon 4° N. of Saturn at 2 hrs.
23	Mercury at ascending node.
24	
25	Mercury in inferior conjunction at 23 hrs., Twilight begins: 5:25-ends: 18:07 L.M.T.
26	Venus greatest hel. lat. N., Neptune in conjunction at 22 hrs.
27	Last Quarter Moon 12:45
28	Mercury at perihelion
29	
30	Vesta at opposition at 15 hrs.

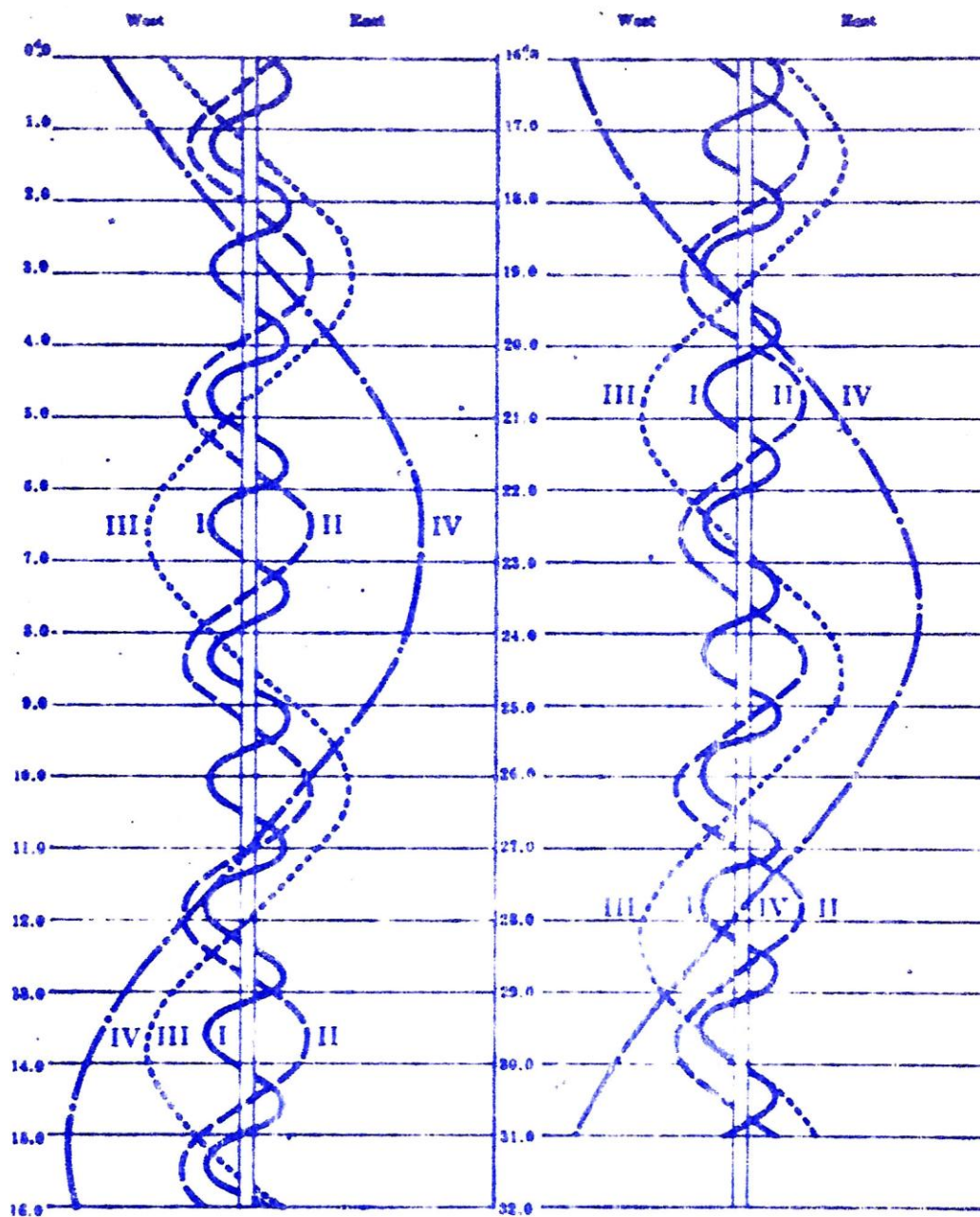
All times, unless otherwise noted, are in 24 hr. E.S.T.

Configurations for Jupiter's satellites are on the next page.

ASTROPHOTOGRAPHERS

Save time and film. Twenty-page booklet (8½ by 11 in.) contains exposure data for the sun, moon and planets, and has a recently expanded eclipse section for the sun and moon. Seventeen exposure guides list shutter speeds for all films (4 to 2000 ASA) and f ratios (1.4 to 256.0). Includes instructions for first focus, afocal, negative and positive projection telescope photography. Send \$2.00 to Larry F. Kalinowski, 15674 Flanagan Ave., Roseville, Mich. 48066. Phone (313)-776-9720. SPECIAL OFFER: \$1.00 off regular price of \$2.00 for all Warren Astronomical Society Members.

CONFIGURATIONS OF SATELLITES I-IV FOR NOVEMBER
UNIVERSAL TIME



PHASES OF THE ECLIPSES

I				III			
W			E	W			E
II				IV			
W			E	W			E