



# THE WASP

The Journal of the Warren Astronomical Society

## MAY, 1972

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COVER BY: Walter Roudebush

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The W.A.S. holds correspondence (sometimes intermittently) with the following organizations. Others are welcome to join this list:

DETROIT ASTRONOMICAL SOCIETY  
DETROIT OBSERVATIONAL and ASTRONOMICAL ASSOCIATION  
JACKSON ASTRONOMICAL SOCIETY (MISSISSIPPI)  
KALAMAZOO ASTRONOMICAL SOCIETY  
ASTRONOMICAL LEAGUE.

## NEWS ITEMS

By  
Ken Wilson

### LIFE FROM METEORITES?

In the last ten years, scientists have been attempting to create life in a laboratory environment containing all of the elements present on earth before life appeared. They were able to produce amino acids essential to life in their experiments.

Lately however, evidence has been uncovered to support an old rejected theory that life on the earth originated from meteorites striking the earth. A little over a year ago amino acids were discovered in the Murchison meteorite. And, more recently, Irving A. Bragen, Peter Zubovic, John C. Chandler (all of the U.S. Geological Survey) and Roy S. Clarke Jr. (of the U.S. National Museum of Natural History) found another element of life in a meteorite. They discovered formaldehyde, a precursor of carbohydrates in the Allende meteorite, which fell in northern Mexico on February 8, 1969.

They calculated that the amounts present in the two meteorites,  $0.5 \times 10^{14}$  gr. Of formaldehyde and  $3 \times 10^{14}$  gr. of amino acids fell to the earth on meteorites between the formation of the earth and the appearance of life on it. They believe that it is highly likely that life on earth have originated from a meteorite carrying its "seed".

### QUASARS UPDATED

Layers of gaseous cloud banks between earth and quasi-stellar object, or quasar PHL 957 (thought to be the second farthest known object in the universe at 9 billion light years) has been observed using a new modified SEC (secondary electron conduction) Vidicon television tube coupled to the 200-inch Hale telescope.

Six definite layers were discovered using this system. Two possible explanations for them have been proposed. One is that they are random collections of intergalactic dust and gas lying along the line of sight to this quasar. The other is that the clouds are shells or puffs ejected from the quasar. If these clouds can be proven to be at intermediate distances between us and the quasar it would add support to the idea that quasars are at immense distances as held by many.

Studies of the shifts in the absorption spectra of the clouds show them to be at different distances. Spectra of one or two layers are shifted almost as much as the quasar itself indicating that they are at the same approximate distance and thus probably have the same origin. It remains to be shown whether the remaining layers are at intermediate distances or not.

And, E. Daltabuit and D. Cox of the University of Wisconsin propose, in the April 1 "Astrophysical Journal Letters" a new theory on quasars. They propose that they are caused by the collision of two dense high velocity gas clouds forming shock fronts that could convert the kinetic energy of the clouds into the radiation observed from the quasars. These clouds may be generated in large numbers in the process of galaxy formation.

### A.M. TIME SIGNALS?

Mike Potter of the Kalamazoo Astronomical Society tells me that he has received, on modest equipment, WWV time signals on A.M. radio at approximately 1500 KHz. This is a somewhat fleeting signal and probably harmonic in nature. Anyone also receiving WWV on A.M. is urged to contact the editors.

As you may know, WWV is the government radio station constantly broadcasting time signals and other information of scientific interest. The broadcasts originate from Fort Collins, Colorado on 2.5, 5, 10, 20, and 25 MHz. If this new frequency of 1500 KHz can be received with any consistency, any amateur with a car radio would be able to receive time signals without purchasing a shortwave radio.



CLUB NEWS  
By  
Kenneth Wilson

New parts to repair the rack & pinion gear of the 12½ inch Cass. at Stargate Observatory are on order from California. They are due to arrive at any time now.

\*

We have found a new observing site with a very good southern horizon at the Island Lakes Recreation Area, a state park just south of Kensington Metro Park, and about an hour and a half drive from Warren. Several observing sessions have shown this site to be superior to the previously used ones. Campouts for the future are in the works. The Ranger tells us that should we decide to camp there (the fee for a four person tent site is only \$1.50) we will be able to observe from anywhere in the park.

\*

Deadline for articles for the regional paper is fast approaching. Articles are desperately needed. They may be submitted to any WASP staff members.

\*

Frank McCollough, myself and four members of the Kalamazoo Astronomical Society (Mike Potter, Eric Scheur, Jerry Hoogstraten, and Alan Otterson) drove down to Cape Kennedy to watch and photograph the launch of Apollo 16. When the slides and an 8mm movie taken by Eric Scheur are developed, they will probably be shown at the general meeting of the W.A.S.

At the Cape we met Rodney Norden of Norfolk, Virginia who had brought along a beautiful 8" RFT. He was working on his degree in astronomy and is an active AAVSO observer. He has plans to start an amateur society and we hope to keep in touch.

On the way down we stopped Saturday morning to do some observing in the country skies off the highway. I observed the North American Nebula and M81-82, for example, with just 7 x 50 binoculars. When we set up at Cape Kennedy Saturday evening, we observed the famous globular cluster, Omega Centauri, which looked its best in the binoculars. Early in the morning I finished the last three objects of the Messier Catalogue that I had not seen.

\*

On April 12, Frank McCullough, Diane Bargiel, Janis Cottrell, Walter Roudebush, Chris Edsall and myself attended the Kalamazoo Astronomical Society's meeting. They had challenged us to a question and answer game on astronomy. We lost by only 10 points. Had it not been for the mistake of one of our team members over the difference between nitrogen and hydrogen, we would have had the twenty points we needed to win. The team member on question shall remain nameless. Otherwise the contest was most enjoyable for both sides and a rematch at an upcoming W.A.S. meeting is planned.

\*

The Regional Convention of the Great Lakes Region of the Astronomical League will be held in Toledo, Ohio on May 12-13. We hope to have a large turn out from the W.A.S. due to the short distance.

\*

The Practical Observation Group has gotten off to a slow start. Anyone interested in making observations of scientific value is invited to join us at the next meeting on April 27 at 7:30 P.M. at the Media Center (Library) of the Macomb Community College upstairs in one of the conference rooms.

\*

Frank McCullough is planning several exhibits at local shopping centers. These exhibits will probably be on weekends and may include star parties. If you would like to help, please contact one of the editors (Frank McCullough at 778-6022 or Ken Wilson at 268-9337).

\*

We would like to welcome Mr. and Mrs. William Schultz, Jr. of the Cranbrook Institute of Science to the W.A.S.

\*

There are still many openings for the Kalamazoo bus to the eclipse. Contact Mike Potter at 1-616-69-9413.

# Spring Messier Contest

May 5th, 1972



8:00 p.m. at StarGate  
OBSERVATORY

Entry Fee 60¢ girls 30¢

Awards for First, Second, and Third Place.

Rules for Contest in September 71 W.A.S.P.

Current Champs:  Ken Wilson

Runner Up: Walter Roudsbush

Prediction for this Springs contest Walter Roudsbush 1st

Can you make this prediction wrong? If so, bring your scope. If not, bring it any how and have a good time.

See ya There!!!

<u>Messier Object</u>	<u>MESSIER</u> <u>TYPE</u>	<u>OBJECTS</u> <u>CONSTELLATION</u>	<u>magnitude</u>
① M-44	OPEN CLUSTER	CANCER	4th
② M-67	OPEN CLUSTER	CANCER	6th
③ M-97	PLANETARY	URSA MAJOR	12th
④ M-108	GALAXY	URSA MAJOR	11th
⑤ M-3	GLOBULAR	CANES VENATICI	6th
⑥ M-51	GALAXY	CANES VENATICI	8th
⑦ M-81	GALAXY	URSA MAJOR	8th
⑧ M-82	GALAXY	URSA MAJOR	9th

It is recommended that people have  
no less than a six inch telescope for  
these objects.

Remember 8:00 MAY 5th  
ALL INVITED!!



## EPITAPH XII

Intended for Sir Isaac Newton,  
in Westminster Abbey<sup>1</sup>

ISAACUS NEWTONUS:

Quem Inmortalem

Testantur Tempus, Natura, Coelum:

Mortalem

Hoc Marmor fatetur.

<sup>1</sup>Nature and Nature's Laws lay hid in Night:  
God said, "Let Newton be!" and all was light.

\*\*\*\*\*

The Spacious Firmament on high,  
With all the blue Ethereal Sky,  
And Spangled Heavens, a Shining Frame,  
Their great Original proclaim:  
Th' unwearied Sun, from Day to Day,  
Does his Creator's Power display,  
And publishes to every Land  
The Work of an Almighty Hand.

Soon as the Evening Shades prevail,  
The Moon takes up the wondrous Tale  
And nightly to the listening Earth  
Repeats the Story of her Birth:  
Whilst all the Stars that round her burn,  
And all the Planets, in their turn,  
Confirm the Tidings as they rowl,  
And spread the Truth from Pole to Pole.

What though, In solemn Silence, all  
Move round the dark terrestrial Bell?  
What tho' nor real Voice nor Sound  
Amid their radiant Orbs be found?  
In Reason's Ear they all rejoice,  
And utter forth A glorious Voice,  
Forever singing, as they shine,  
"The Hand that made us is Divine."

-Joseph Addison

Primitive Astronomy

"The never-wearied Sun, the Moon exactly round,  
And all those Stars with which the brows of ample heaven are crowned,  
Orion, all the Pleiades, and those seven Atlas got,  
The close beamed Hyades, the Bear, surnamed the Chariot,  
That turns about heaven's axle tree, holds ope a constant eye  
Upon Orion, and all the cressets in the sky  
His golden forehead never bows to th' Ocean empery."

"The Iliad" (Chapman's translation)  
Submitted by Ken Wilson

The  
POETS' CORNER  
BY KATHARINE ROBERTS

The objects of the night sky have always dominated man's life. Our ancestors worshipped the stars and gave supernatural powers to their infinite forces. The planets regulated Man's temper and their movements wrote his earthly fate among the stars. The desire to develop his own personality until he became the touchstone of the universe was always the basic point from which all science began.

Submitted by C. J. Edsall

### The Burning Star

As I in hoary Winter's night stood shivering in the snow,  
Surprised I was with sudden heat, which made my heart to glow;  
And lifting up fearful eye, to view what fire was near,  
A pretty star all burning bright did in the aire appear;  
Who, scorched with excessive heat, such floods of sparks did shed,  
As though his floods should quench his flames with which his sparks  
were bred:  
"Alas!" quoth He, "but newly born in fiery heat I fry,  
Yet none approach to warm their hearts, or feel my fire but I;  
My faultless breast the furnace is, the fuel wounding thorns:  
Loud is the fire, and sighs the smoke, the ashes shames and scorns;  
The fuel oxygen layeth on; and friction blows the coals,  
The metal in this Furnace wrought, are Men's defied souls!  
For which as now on fire I am to work them to their good,  
So will I melt into a bath, to wash them in my blood."  
With this he vanished out of sight, and swiftly shrunk away,  
And swiftly I moved, with the earth into another day.

From St. Peter's Complaint

By Robert Southrell, 1561-95



Another Comment  
from  
TELESCOPE WORK FOR STARLIGHT EVENINGS  
by William F. Denning

*Wind.*-The influence of wind on definition has been much discussed in its various aspects, but it is scarcely feasible to lay down definite rules on the subject. The east wind is rarely favourable to good seeing, but the law is far from absolute. We must remember that several distinct currents sometimes prevail, and the air strata at various elevations are of different degrees of humidity and therefore exercise different effects upon telescopic definition. A mere surface breeze from the east may underlie an extensive and moist current from the south-west, and telescopic definition may prove very fair under the combination. Calm nights when there is a little haze and fog, making the stars look somewhat dim, frequently afford wonderfully good seeing. As a rule, when the stars are sparkling and brilliant, the definition is bad; planetary disks are unsteady and the details obliterated in glare. But this is not always so. I have sometimes found in windy weather after storms from the west quarter, when the air has become very transparent, that exceptionally sharp views may be obtained; but unfortunately they are not without drawbacks, for the telescope vibrates violently with every gust of wind and the images cannot be held long enough for anything satisfactory to be seen. The tenuous patches of white cirrus cloud which float at high altitudes will often improve definition in a surprising manner, especially on the Moon and planets. Of course this does not apply to nebulae or comets, -which are objects of totally different character and essentially require a *dark* night rather than good definition before they may be seen under the best conditions. As a rule, a steady, humid atmosphere is highly conducive to good seeing, and it is rather improved than impaired by a little fog or thin, white cloud. Some unique effects of peculiar definition, such as oval or triangular star disks, have been occasionally recorded, but we must content ourselves with a bare reference to these phenomena. "With regard to the general question it may, however, be added that the character of the seeing- often varies at very short intervals in this climate. In the course of a night's work the definition will sometimes fluctuate in a most remarkable manner. An observer who comes to the telescope and finds it impossible to obtain satisfactory images should not entirely relinquish work at the first trial. After an interval he should again test its performance, for it frequently happens that a night ushered in by turbulent vapours, improves greatly at a later period, and in the morning part becomes so fine that it is worthy to be included in the select 100 hours assigned by Sir W. Herschel as the annual limit. Those who reside in towns will usually get the best definition after midnight, because there is less interference than from smoke and heated vapours. It would greatly conduce to our knowledge of atmospheric vagaries as affecting definition, if observers, especially those employing large aperture, preserved records as to the quality of the seeing, also direction of wind and readings of the barometer and thermometer.

*Method.*-Nearly all the most successful observers have been men of method. The work they took in hand has been followed persistently and with certain definite ends in view. They recognized that there should be a purpose in every observation. Some amateurs take an incredible amount of pains to look up an object for the simple satisfaction of seeing it, But seeing an object is not observing it. The mere view counts for nothing from a scientific standpoint, though it may doubtless afford some satisfaction to the person obtaining it. A practical astronomer, with his own credit at stake and the interests of the science at heart, will require something more. In observing a comet he will either fix its position by careful measurement with reference to stars near, or critically examine its physical peculiarities, or perhaps both. In securing these data he will have accomplished useful work, which may quite possibly have an enduring value. In other branches of observation his aim will be similar, namely to acquire new materials with regard to place or to physical phenomena, according to the nature of the research upon which he happens to be engaged. Such results as he gathers are neatly tabulated in a form convenient for after comparisons. There have been instances, we know, where sheer carelessness has resulted in the loss of important discoveries. Lalonde must have found Neptune (and mathematical astronomy would have been robbed of its greatest triumph) half a century before it was identified in Galle's telescope, but his want of care enabled it to elude him just when he was hovering on the very verge of its discovery. Numerous other instances might be mentioned. Failure may either arise from imperfect or inaccurate records, from a want of discrimination, from neglect in tracing an apparent discordance to its true source, or from hesitation. I may be pardoned for mentioning a case within my own experience. On July 11, 1881, just before daylight, I stood contemplating Auriga, and the idea occurred to me to sweep the region with my comet eyepiece, but I hesitated, thinking the prospect not sufficiently inviting. Three nights later Schaeberle at Ann Arbor, U.S.A., discovered a bright telescopic comet in Auriga! Before sunrise on October 4 of the same year I had been observing Jupiter, and again hesitated as to the utility of comet-seeking, but, remembering the little episode in my past experience, I instantly set to work, and at almost the first sweep alighted upon a suspicious object which afterwards proved itself a comet of short period. These facts teach one to value his opportunities. They cannot be lightly neglected, coming as they do all too rarely. The observer should never hesitate. He must endeavour to at least effect a little whenever an occasion offers; for it is just that little which may yield a marked success---greater, perhaps, than months of arduous labour may achieve at another time.

## "TANTALIZING TIDBITS"

### MAY THE BEST MEN WIN . . . AND THERE'S ALWAYS NEXT TIME!

Recently six of our members visited the April 12th general meeting of the Kalamazoo Astronomical Society. What took place was an astronomical "quiz bowl" between the two clubs (similar to the "College Bowl" on television). This competition was restricted to astronomical questions only. The battle was rough but the K.A.S. members managed to win by ten points: 195 - 185.

At any rate it was a lot of fun, even for our club cheerleaders, and we hope to have another match in the near future. And by the way, Frank, "Hydrogen is the most abundant element in the universe ... not NITROGEN!!"

### CAPE KENNEDY FOR THE WEEK-END?

Would you believe a four day week-end? Two of our club members, Frank McCullough and Ken Wilson, accompanied Mike Potter and three other members from the Kalamazoo Astronomical Society to view the Apollo 16 launch.

In spite of sunburns and driving fatigue, they all agreed that it was a fantastic experience and are looking forward to the final Apollo 17 blast-off.

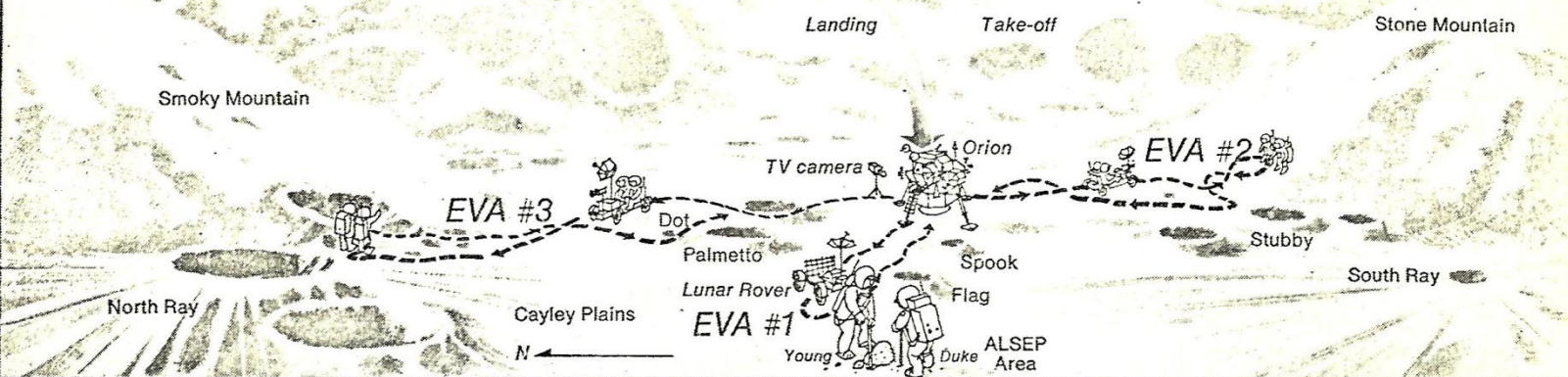
### 1972 SOLAR ECLIPSE OR BUST! ? !

Are you ready to "bust," because you need transportation to the July 10<sup>th</sup> solar eclipse? The Kalamazoo Astronomical Society has the perfect solution. The club is offering a package deal which includes lodging (a two-day stay in a Montreal hotel and camping facilities), all your food, and complete transportation on a chartered bus to and from the eclipse. The price is approximately \$100.00 per person. So start saving your pennies by cutting lawns, charging small fees to neighborhood children for presenting star parties in your front yard, or by pan-handling at your nearest department store. If there's a will, there's a way!

### BE PREPARED!

The Great Lakes Regional Convention is coming up on the week-end of May 12, 13, and 14th. Articles are needed for the trial league paper that will be distributed at the convention. Also, any interested member is welcome to submit a paper (speech) or presentation to the Toledo Astronomical Society. So let's all get busy and show a good representation from the Warren Astronomical Society,

Submitted by:  
Diane Bargiel



Ib Ohlsson

Exploration routes for Apollo 16: A rough and bumpy road, but Galileo would have loved it

## The Moon Drivers

When Galileo peered at the moon through his first telescope more than 350 years ago, he discovered that its surface was heavily cratered—a condition he promptly attributed to lunar volcanoes. That assumption stood unchallenged until the middle of the last century, when some astronomers suggested that the craters were really shell holes blasted out by meteors striking the moon. The argument goes on still, despite the onsite investigations of four American manned expeditions and a dozen or so unmanned probes. And this week the crew of Apollo 16 is to head for the moon in search of more evidence, hopefully to help prove Galileo was right.

"Apollo 16 will be the first landing in the moon's highlands," said Navy Capt. John W. Young, 41, the commander of the fifth U.S. manned journey to the surface of the moon. "Here we hope to find definite evidence that the moon once had volcanoes."

If all goes according to plan, Young and his co-pilot, Air Force Lt. Col. Charles M. Duke Jr., 36, will steer their lunar module (LM) landing craft to the mountainous Descartes region of the moon Thursday, April 20, and beach it on what is presumed to be a smooth patch of terrain called Cayley Plains. There, in the ensuing 73 hours, Young and Duke will explore their surroundings while their colleague, Navy Lt. Comdr. Thomas K. (Ken) Mattingly, remains in lunar orbit aboard the mothership, the command and service modules (CSM). The radio code names of Orion (for the constellation) and Casper (for a TV cartoon character) have been chosen for the LM and CSM, respectively.

This is the astronauts' planned itinerary on and about the moon:

■ **THURSDAY, APRIL 20.** After landing at 3:41 p.m., Eastern Standard Time (EST), the crew members intend to set about readying themselves for the first of three extra-vehicular activities (EVAs).

Young will shinny down Orion's access

ladder and step out on Cayley Plains at 7:34 p.m.—a scene that is to be transmitted back to earth by a color-television camera mounted on the side of the 18-ton, four-legged spacecraft. Duke will follow Young down to the surface five minutes later and, together, the two men will begin unloading the 1,228 pounds of equipment stowed aboard their cosmic V-Haul—including their 457-pound electric runabout, the Lunar Rover. Viewers watching all this back on earth will be able to tell Young from Duke quite simply: the mission commander's spacesuit has red stripes around the arms and legs, as well as on the helmet. After setting up an array of scientific instruments some 300 feet due west of Orion (chart), Young and Duke should be ready to take a spin in their Rover, with the color-TV camera transferred from its stationary tripod to the front end of the moon buggy. "John drives," Duke joked recently, "and I just hang on. We'll have no trouble getting around boulders. The way John drives, we'll clear them with a single bound." The crewmen intend to pick up soil and rock samples around Flag and Spook craters before returning to Orion after seven hours on the surface.

■ **FRIDAY, APRIL 21.** Space-agency doctors hope that Young and Duke will get at least eight hours of deep sleep (in hammocks strung across the cramped cabin of the LM) and a good solid meal before starting their second EVA at about 6 p.m. The crewmen will load their geological tool kit onto the Rover and drive off, this time heading south. Their primary objective during this excursion will be a point about halfway up the side of the 1,500-foot tall Stone Mountain, some 2.6 miles south of the landing site. Stone Mountain, some scientists think, was formed eons ago when a lunar volcano erupted; they hope that the two astronauts will find matter on the slopes that once was 500 feet or so below the original surface of the moon: After tooling around on the slopes of Stone Mountain for nearly two hours, the two astronauts will turn back toward Orion

making stops at Stubby Crater and South Ray Crater at the base of the mountain. South Ray is marked by a spray of bright, ejected material which suggests to geologists that it is a comparatively young crater that may have been formed only 100 million years ago. By the time Young and Duke finish this EVA, it will be almost 1 a.m. on Saturday.

■ **SATURDAY, APRIL 22.** Refreshed, it is hoped, by another night's sleep, the two crewmen will set out on the third and final EVA at 5:34 p.m. This time, they will turn the wire-mesh wheels of the Rover to the north and head for another bright spot that they have labeled, appropriately enough, North Ray, some 3.3 miles north of their landing site. There, they expect to encounter fields of large boulders, but Young does not expect any difficulties, "We've got some real off-the-road driving to do," he conceded before the flight, "but my personal opinion is that if it [the Rover] holds together, people are going to be surprised at how well we get around in this rough kind of terrain." The astronauts will spend almost three hours around North Ray, gathering samples and taking photographs, before shoving on to Smoky Mountain and such other craters as Dot and Palmetto. This final EVA is to end nineteen minutes after Sunday, April 23, has begun.

Young and Duke will launch themselves from Cayley Plains at 4:39 p.m. on Sunday, April 23, to rejoin Mattingly aboard Casper almost two hours later. During the three days that his colleagues are on the surface, Mattingly will be busy enough flying the flagship and operating the various scientific and photographic experiments mounted in the service module of the big ship. When asked if he might not get lonely, Mattingly answered: "I have something to read. It's called the flight plan." The crew is scheduled to splash down into the Pacific Ocean near Christmas Island at 3:30 p.m. Friday, April 28. Mattingly, whose wife is expecting their first child any day, is hoping he may get home before the baby arrives.

## THE MOON HOAX

Submitted by

Walter Roudebush

In 1835, the daily New York Sun published a series of articles dealing with the exploits of Sir John Herschel in Cape Town, South Africa. Titled, "Great Astronomical Discoveries Lately Made by Sir John Herschel, LL. D. F. R. S. &c. at the Cape of Good Hope," the essays conveyed to the reader that he was being let in on wonderful discoveries of which even the Royal Astronomical Society had little knowledge.

The first day's installment was somewhat dull, at least by present day standards. It described the telescope with an astonishing expenditure of wording which was just "thick" enough to persuade the reader to accept as fact what was in print. Herschel's journey had, of course, been under the strictest government secrecy.

The next day's installment got around to the moon. Several observations were as follows:

...At the base of another rock mass they were at length delighted to perceive that novelty, a lunar forest. "The trees," says Dr. Grant (Herschel's assistant), "for a period of ten minutes, were of one unvaried kind, and unlike any I have seen, except for the largest class of yews in the English church-yards, which they in some respects resemble. These were followed by a level green plain which must have been more than half a mile in breadth; and then appeared as first a forest of firs, unequivocal firs, as I have ever seen cherished in the bosom of my native mountains. Wearied with the long continuance of these, we greatly reduced the magnifying power of the microscope, without eclipsing either of the reflectors, and immediately perceived that we had been insensibly descending, as it were, a mountainous district of a highly diversified and romantic character, and that we were on the verge of a lake, or inland sea... The water, wherever we obtained a view of it, was nearly as blue as that of the deep ocean, and broke in large white billows upon the strand...

Having continued this close inspection nearly two hours...Dr. Herschel proposed that we should take out all our lenses, give a rapid speed to the panorama, and search for some of the principle valleys known to astronomers...Presently a train of scenery met our eye, of features so entirely novel, that Dr. Herschel signaled for the lowest convenient gradation of movement. It was a lofty chain of obelisk-shaped, or very slender pyramids, standing in irregular groups, each composed of about thirty or forty spires...In the shade of the woods, on the southeastern side, we beheld continuous herds of brown quadrupeds, having all the external characteristics of the



bison...It had, however, one widely distinctive feature, which we afterwards found common to nearly every lunar quadruped we have discovered; namely, a remarkable fleshy appendage over the eyes. We could most distinctly perceive this hairy veil...lifted and lowered by means of the ears. It immediately occurred to the acute mind of Dr. Herschel, that this was a providential contrivance to protect the eyes of the animal from the extremes of light and darkness to which all the inhabitants of our side of the moon are periodically subject.

The next animal perceived would be classed on earth as a monster. It was of bluish lead-color, about the size of a goat, with a head and beard like him, and a single horn, slightly inclined forward from the perpendicular. The female was destitute of the horn and beard, but had a much longer tail. It was gregarious, and chiefly abounded on the acclivitous glades of the woods. In elegance of symmetry it rivaled the antelope, and like him it seemed an agile sprightly creature running with great speed, and springing from the green turf with all the unaccountable antics of a young lamb or kitten. This beautiful creature afforded us the most exquisite amusement.

The lunar unicorn ended the second installment. By that time New Yorkers besieged the offices of *The Sun* and every copy was snatched from up. *The Sun* had suddenly become the biggest newspaper in the world exceeding the *Times* of London.

There were several other installments, one concerned with the discovery of “rational beings” on the moon. These rational beings were “large winged creatures...engaged in conversation”. Another was concerned with the near destruction of the big telescope; and finally one in which Sir John Herschel established the true nature of Saturn’s rings.

All of these articles had been written without Herschel’s knowledge but he was flattered by the American interest in his “discoveries”. Of course, he had no idea he had discovered life on the moon or had discovered lunar forests as these stories had been entirely perpetuated upon the public by *The Sun*. Herschel, though, was amused.

Most Europeans, however, did not accept the hoax as light-heartedly as did its chief victim. That this “contribution” to astronomy had come from an English astronomer was obscured in the distance but for decades to come, astronomical news from America was received with great caution in Europe. The skepticism did not die out because American astronomers made more and more genuine and valuable contributions; it ended because the moon hoax itself was gradually forgotten.

## CONSTELLATION OF THE MONTH

By Frank McCullough

Centaurus- The Centaur

Location- South of the constellation Hydra

MYTHOLOGY- An original constellation. It is said to represent Cheiron, the wise Centaur--- half man, half horse-who was to tutor to Jason, leader of the Argonauts, as well as Hercules.

Centaurus is one of the most splendid of all the constellations, and Northerners never cease to regret that it is invisible from the Northern regions. Its leaders  $\alpha$  and  $\beta$ , are close together-purely fortuitous, since Alpha is the nearest of the bright members (Proxima is a faint member of its system, and is our closest of our stellar neighbors) and Beta is a very luminous B-type giant nearly 500 light years away. Alpha has no recognized name; air navigators call it Rigel Kent, while Beta is known as Agena or as Hadar.

Alpha is a superb binary with a period of 80 years; Menkent is also double with a period of 80 years, though its components are much closer together. Here too is the globular cluster Omega Centauri, the finest in the sky, and easily visible to the naked eye as a nebulous patch of about the fourth magnitude.

## OBSERVATIONAL ASTRONOMY

By Frank McCullough

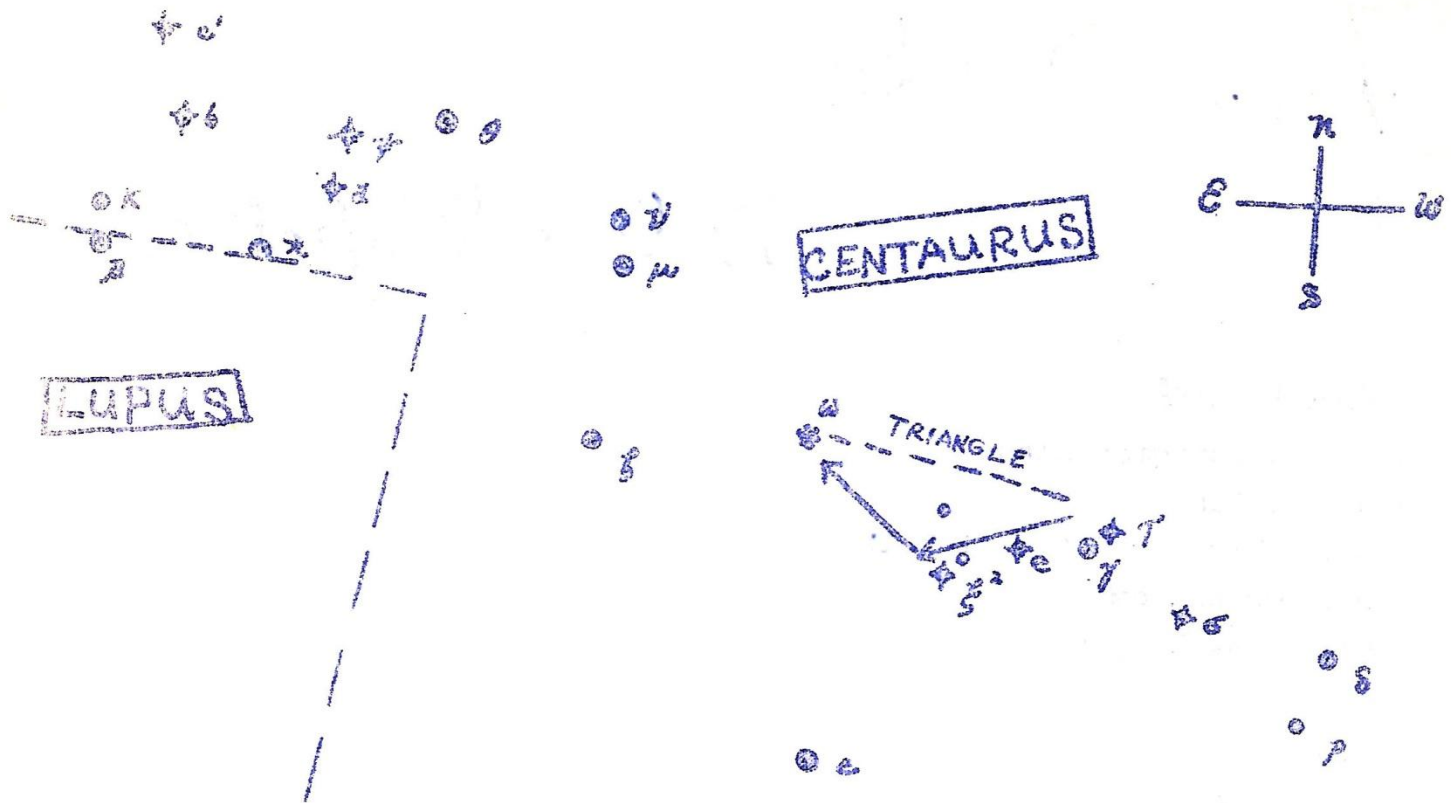
Omega Centauri—NGC 5139

One evening, while I was 12 miles away from the Apollo 16, I had a rare opportunity to observe the most splendid and brightest globular cluster in the night sky. It was Omega Centauri!

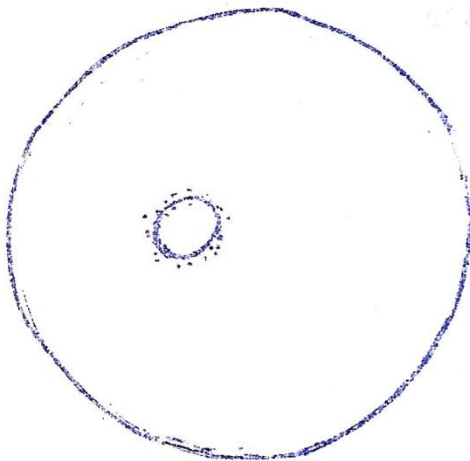
There was much talk of the object on our way down to Cape Kennedy to see the blast off. It was said that from parts of Michigan the object can be observed a few minutes a year as it breaks the horizon.

Ken Wilson brought the cluster to my attention when he observed the object through binoculars. After I looked at it, I went over and used my 6" reflector and found it easily. Due to poor skies, the resolvability of the object was almost zero. The globular was large and round and one of the giants of our galaxy. People from Michigan

# Constellation of the month and Observational map



Notes from previous Atlas and The Observer's Book of Astronomy.



6" Reflector - 40mm eye piece

DATE 4/15/72 11:05 p.m.

(cont.)

will have a rough time observing it, but it may be worth the effort rather than driving south to see it.

The Co-ordinates are as follows: RA -13 hours 23 min. 7 sec. DEC. -47° 2'. Draw a line from  $\gamma$  Centauri to  $\zeta$  then a line from there to an area marking a third point of a triangle. Your object should be close.

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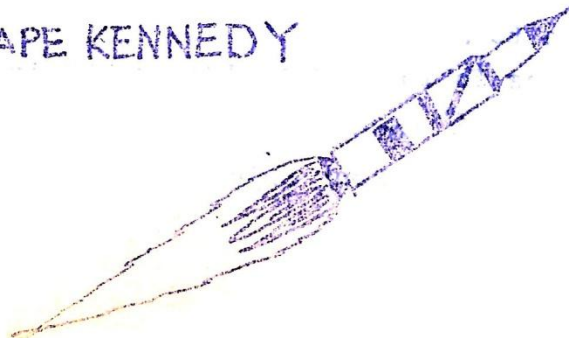
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TRIP TO CAPE KENNEDY



NEXT  
MONTH



## ASTRO-ALMANAC

By  
Ken Wilson

MOONS OF MAY / JUPITER <sup>1</sup> /		EVENT
1	41203	Beginning of May (γ) Aquarids, thru 6 <sup>th</sup> (max. 4 <sup>th</sup> ), radiant: 22 <sup>h</sup> 16 <sup>m</sup> , -2°. Usually very fast with long tails, Assoc. With Halley's Comet.
2	40132	
3	3104d	Moon 2° South of Jupiter at 7 <sup>h</sup>
4	32014	
5	3024*	
6	1024*	Last Quarter Moon at 7 <sup>h</sup> 26 <sup>m</sup>
7	20134	
8	21034	
9	01324	Twilight begins: 2:37-ends: 21:19 L.M.T.
10	13024	
11	32041	Greatest brilliancy of Venus at 6 <sup>h</sup> ; Moon 8° North of Mercury at 14 <sup>h</sup> , Beginning of ζ Herculids, thru 24 <sup>th</sup> , radiant: 16 <sup>h</sup> 28 <sup>m</sup> +28° (Fast, White)
12	34102	Greatest hel. lat. S. of Mercury, Lunar Perigee (221,000 mi.) at 12 <sup>h</sup> , New Moon at 23 <sup>h</sup> 08 <sup>m</sup> , Regional Convention at Toledo, Ohio May 12-13
13	4302d	
14	12013	Moon 5° North of Saturn at 1 <sup>h</sup>
15	42103	Moon 2° South of Venus and 1° North of Mars at 5 <sup>h</sup> , Mercury at 2 <sup>h</sup> 17 <sup>m</sup> +10°14', Venus at 6 <sup>h</sup> 09 <sup>m</sup> +27°22' (mag.-4.2), Mars at 6 <sup>h</sup> 07 <sup>m</sup> +24°37' (mag.+1.9), Jupiter at 18 <sup>h</sup> 33 <sup>m</sup> -22°57' (mag.-2.1), Saturn at 4 <sup>h</sup> 25 <sup>m</sup> +20°05' ( ), Uranus at 12 <sup>h</sup> 56 <sup>m</sup> -5°12', Neptune at 16 <sup>h</sup> 10 <sup>m</sup> -19°19'
16	40123	
17	41302	Mars 3° South of Venus at 1 <sup>h</sup>
18	43201	Monthly General Meeting of the Warren Astronomical Society at 8:00 pm
19	3410*	First Quarter Moon at 20 <sup>h</sup> 16 <sup>m</sup> , Twilight begins: 2:16-ends: 21:40 L.M.T.
20	3042d	
21	20134	
22	21034	
23	01234	Moon 6° South of Uranus at 19 <sup>h</sup>
24	10324	Neptune at opposition at 19 <sup>h</sup>
25	32014	Lunar apogee (252,350 mi.) and Juno stationary at 10 <sup>h</sup>
26	3104*	Venus stationary at 19 <sup>h</sup>
27	30124	Moon 6° South of Neptune, Full Moon at 23 <sup>h</sup> 28 <sup>m</sup>
28	2403*	Moon .8° North of Antares (Occultation), at 4 <sup>h</sup>
29	42103	Twilight begins: 1:58-ends: 21:59 L.M.T.
30	40213	η Pegasids radiant: 20 <sup>h</sup> 0 <sup>m</sup> +28° (Very fast with persistent trails)
31	41032	Mercury at ascending node, Saturn in conjunction at 3 <sup>h</sup>

<sup>1</sup>"O" represents the disc of Jupiter, "d" means the moon is on Jupiter's disc, \* means the moon is in shadow or behind the disc. The configurations are for the inverting telescope at 5h E.S.T.

( All the above listed times, unless otherwise noted, are in 24 hour Eastern Standard Time.)

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## ASTROPHOTOGRAPHERS

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