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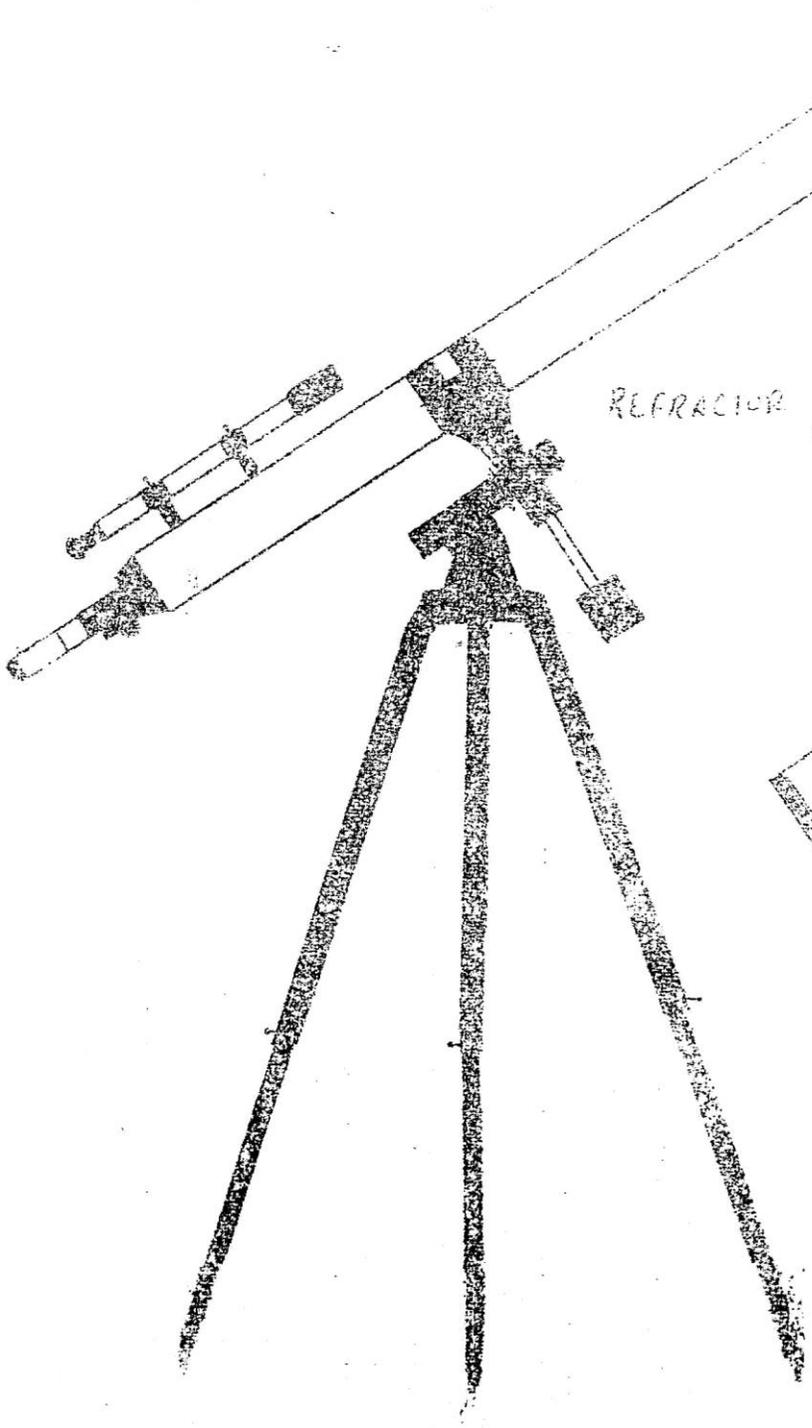
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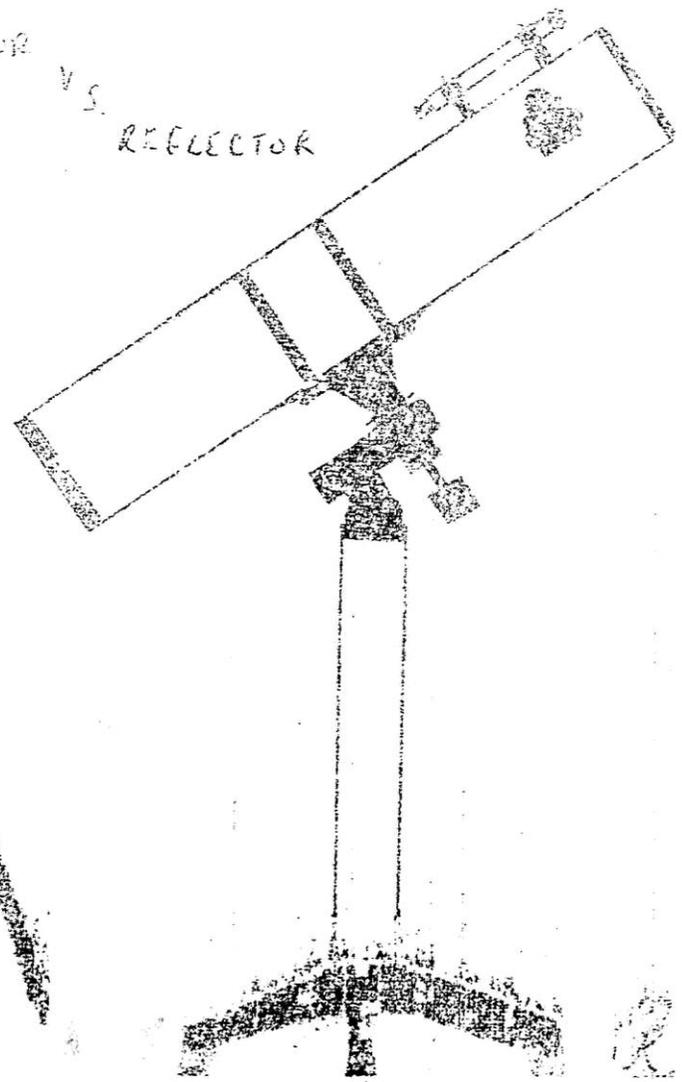
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EDITED BY: FRANK MCCULLOUGH, JAN FEB 1978



REFRACTOR



V.S.
REFLECTOR

Celestial Traffic Jam

On the day of January 23rd, a phenomenal and striking event will take place. The moon, an asteroid named Vesta, Neptune, Jupiter, Mars and Venus will steal the celestial show for morning observers. This show will take place in or near one of the Zodiacal favorites, Scorpius. While in the neighboring constellation of Sagittarius, Mercury will make its appearance. To the west in Virgo, Uranus roams. All may be seen without binoculars except Uranus, Neptune, and Vesta.

Venus we may see entering its quarter phase such as the moon does. Venus is the brightest of the objects. Next in brightness is Jupiter which will appear with its interesting surface features and its four moons. Following in brightness is Mars, a shimmering red star just west of Jupiter. Because of its distance from the earth at this time, a disk will be about all you can hope to pick out. Neptune will be slightly northeast of Jupiter, and at this time it will offer a great opportunity to amateurs viewing it for the first time. Look for a greenish star. Vesta will require knowledge of the surrounding stars to pick it out. The moon may offer some attraction for it may be partially illuminated with earthshine, which is always a pretty sight.

Early Saturday morning an outing will be attempted if weather permits. The use of the large telescope will be one of the main reasons for this sight. For the details see me or call.

(778-6022) (The site will be at Camp Rotary).

Frank McCullough

(See next page for map).

VESTAL

17hrs

VENUS

*Central
Traffic
Jam*

16hrs

-10°

NEPTUNE

JUPITER

MARS

-20°

Arcturus

← ORBITAL PATH of MOON



-30°

SCORPIUS

-40°

17Hrs

16Hrs

(cement lines get rechecked)

OPEN-AIR OBSERVING

from

TELESCOPIC WORK FOR STARLIGHT EVENINGS

by

William F. Denning, F.R.A.S.

Open-Air Observing. Night air is generally thought to be pernicious to health; but the longevity of astronomers is certainly opposed to this idea. Those observers who are unusually susceptible to affections of the respiratory organs must of course exercise extreme care, and will hardly be wise in pursuing astronomical work out of doors on keen, wintry nights. But others, less liable to climatic influences, may conduct operations with impunity and safety during the most severe weather. Precautions should always be taken to maintain a convenient degree of warmth; and, for the rest, the observer's enthusiasm must sustain him. A wadded dressing-gown" has been mentioned as an effective protection from cold. I have found that a long, thick overcoat, substantially lined with flannel, and under this a stout cardigan jacket, will resist the inroads of cold for a long time. On very trying nights a rug may also be thrown over the shoulders and strapped round the body. During intense frosts, however, the cold will penetrate (as I have found while engaged in prolonged watches for shooting-stars) through almost any covering, As soon as the observer becomes uncomfortably chilly he should go indoors and thoroughly warm his things before a fire. He may then return fortified to his work and pursue it for another period before the frost again makes its presence disagreeably felt, On windy nights a knitted woolen helmet to cover the head, anti reaching 'to-' the shoulders, is an excellent protection; but an observer had better, not wear it more often than is imperative, or it becomes a necessity on ordinary nights. It is a great mistake to suppose that a "glass of something hot" before going into the night air is a good preventive to catching cold. It acts rather in the contrary way. The reaction after the system has been unduly heated only renders the observer more sensitive, and the inhalation of cold air is then very liable to induce affections of the throat.

A telescope permanently erected in the open, and exposed to all weathers, must soon lose its smart and bright appearance, but it need lose none of its efficiency, which is of far more importance; for it is intended for service, not for show.

The instrument should be kept well painted and oiled.

I find Vaseline an excellent application for the screws and parts controlling the motions, as it is not congelative, like common oils. The observer, before a night's work and before darkness sets in, will do well to examine his instrument and see that it is in the best condition to facilitate work. Whole tribes of insects take up their habitation in the base or framework, and even in the telescope itself if they can effect no lodgment; and I have sometimes had to sweep away a perfect labyrinth of spiders' webs from the interior of the main tube. On one occasion I could not see anything through the finder, try how I would. I afterwards discovered that a mason-wasp (*Odynerus murarius*) had adopted the vacuity in front of the eyelens as a suitable site for her nest; and here she had formed her cells, deposited her eggs, and enclosed the caterpillars necessary for the support of the young when hatched. On another night I came hurriedly to the telescope to observe Jupiter with my single-lens eyepiece, power 252, but could make nothing out of it but a confused glare, subject to sudden extinctions and other extraordinary vagaries. I supposed that the branches of a tree, waving in the wind, must be interposed in the line of sight, but soon saw this could not possibly be the explanation. Looking again into the eyepiece, I caught a momentary glimpse of what I interpreted for the legs of an insect magnified into gigantic proportions and very distinct on the bright background formed by Jupiter much out of focus. On detaching the eyepiece and carrying it indoors to a light, an innocent looking sample of the common earwig crawled out of it. The gyrations of the insect in its endeavors to find a place of egress from its confinement had clearly caused the effects alluded to. Telescopic observers are thus liable to become microscopic observers before they are conscious of the fact, and perhaps also in opposition to their intention. Other experiences might be narrated, especially as regards nocturnal observing in country or suburban districts, where the serious student of the skies may, like myself, find diversion to his protracted vigils by the occasional capture of a too inquisitive hedgehog or some other marauding quadruped.

For those who found this excerpt interesting and amusing it is most unfortunate that the book is very old (1891) and thereby difficult to find. The above is from a copy that was found by Gene Francis in the U of M astronomy library. It is hoped that more of Denning's comments can find their way into future issues.

TAURUS: THE FORGOTTEN BULL

by Timothy Skonieczny

Well above the horizon after sunset, Taurus can be seen just below Auriga and can be viewed for most of the night. This splendid constellation always struck me funny because it is often forgotten to Orion and Auriga, even though it contains far better things to view. Two Messier objects and countless fine double stars make Taurus a true winter spectacular.

By far, the finest object in Taurus is M45, the Pleiades. This unmistakable naked-eye cluster makes any other Messier object look like a 12th magnitude diffuse nebula. Six, possibly seven stars can be spotted with the naked-eye, although 7x50 binoculars can spot more than 50 stars, even in Warren on an average night. This object is an easy target for astrophotography. With my 135 mm telephoto lens at f 2.5 in Warren, I have reached the 10th magnitude with a 15 second exposure on Tri-X film.

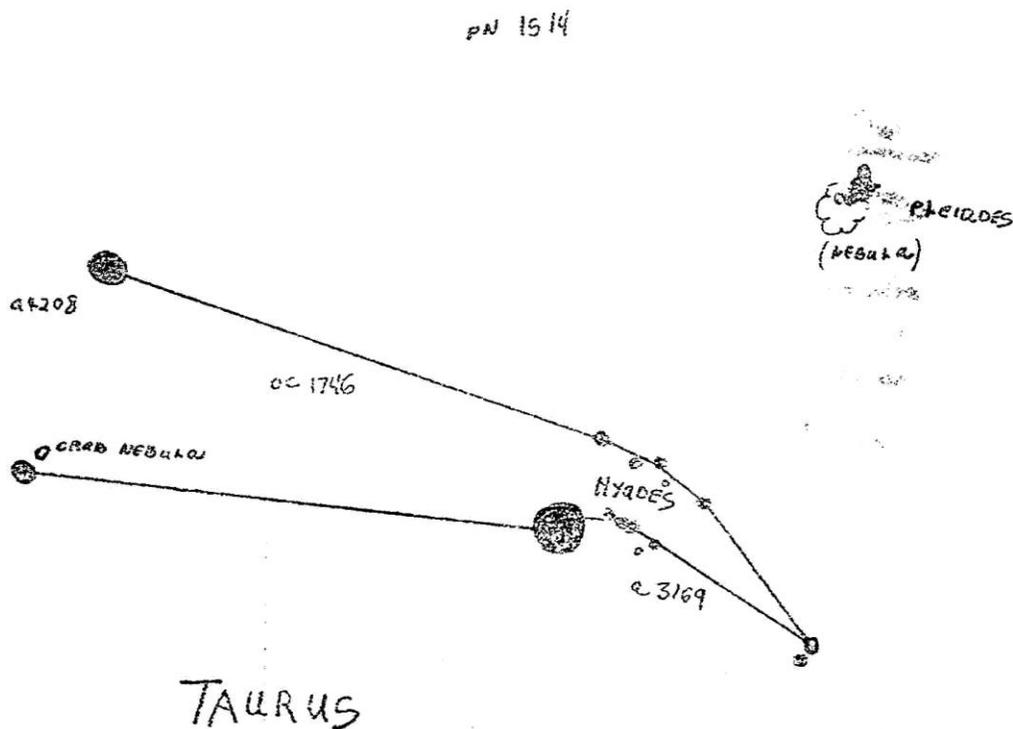
The Hyades, another naked-eye open cluster, will fill the field of 7x50 binoculars. It contains Aldebaran, a 1st magnitude reddish star. This also is an easy target for astrophotography, although it is considerably larger but contains fewer stars than the Pleiades. It possesses no Messier number.

Only 1° from ζ Taurus lay M1, an 11th magnitude planetary, the Crab Nebula. This sounds like an extremely difficult object,

but is quite the opposite. On a clear night at Stoney Creek, I found it easily with my 2.4" refractor at 39x. It appeared as a faint elliptical patch with a conspicuous dent at one end. It is a binocular object, but don't spend too much time on it. Even a perfect night far away from Detroit would still make it difficult in binoculars.

As I mentioned, Taurus is rich in double stars, A 3169 at R. A. 4h 11m and Declination 14 .56, have magnitudes 7.2 and 9.2 with large separation of 18". A 42808 have magnitudes 6.4 and 6.5 at a tight separation of only .9".

PN 1514 is an 11th magnitude planetary that is slightly larger than the Ring Nebula. OC 1746 is a faint star cluster with 60 stars of which the brightest is of the 9.5 magnitude.



*Taken from Hallwag Star Atlas