



TEXAS OBSERVERS

AMATEUR ASTRONOMY

1010 ~~XXXXXXXXXX~~ Morningside Drive
FORT WORTH, TEXAS

OSCAR E. MONNIG

1942, Mar. 1.

Dear Dr. Stenzel:

I mentioned you and an incident you related on p. 2 of the enclosed "Bulletin", which I trust was entirely satisfactory to you. Possibly I should have asked your advance permission, but the matter was not one of research and I felt you wouldn't object.

We tried to run down a daylight, detonating fireball over West Texas Nov. 14, and I think I know the general end-region where something should have fallen. The sub-final point seems to have been between Seminole and Seagraves, and west of them (there might be some pieces to the east). Later I got a report of an unaccountable hole near the highway 12 miles north of Andrews, but it is so far from any point under the meteor's path as we worked it out that I felt it could hardly be the object for which we searched. The land owner said he was in touch with the "University" (perhaps some of the field group at Odessa) and that they were coming to inspect the matter, so I thought I'd let it rest at that.

With kindest personal regards, I am

Yours sincerely,

THE INNER PLANETS

Both inner planets are now in the morning sky. Observers have no doubt noticed the rapid exit of Venus from our western evening sky, and its equally rapid entrance into the eastern morning heavens. The very rapid apparent motion of the planet as it thus goes thru inferior conjunction is due to the fact that it is then closest to the earth. Venus will reach its greatest brilliancy of mag. -4.3 on Mar. 9, and its western elongation of over 46° from the sun on Apr. 13. Its brightness will steadily decline after March until the late summer, then reaching mag. -3.3. This magnitude will change but little as the planet gradually becomes inconspicuous due to its decreasing angular distance from the sun; finally it will pass almost unnoticed thru superior conjunction Nov. 16, to begin a similar gradual reappearance in the evening sky.

The planet will be only 2° N. of the moon (3.3 days before new) at 9.22 a.m. C.S.T. on Mar. 13, thus presenting a good example of a daylight conjunction. The April conjunction at 10.03 a.m. C.S.T. on the 11th will be very close, with Venus only 7' N. of the moon's center as seen by the "geocentric man". The limiting parallels of latitude within which an occultation will be visible are 25° N. and 42° S., which leave out the continental U. S. But this close approach to a moon almost 4 days before new will be worth watching with binoculars or a small telescope (a "bright" instrument with low power is best); remember that the time of nearest approach may be some minutes different from 10.03 because your position on the surface of the earth is different from that of the supposed standard observer at its center. The moon and Venus (dec. about -9°) will be high in the sky, not far from the meridian, so that haze and absorption troubles will be at a minimum. The scattered daylight will make the moon harder to see than Venus.

Mercury comes out to a western elongation of over 27° on Mar. 8--not far enough to catch Venus. Remember the points set out by Haas in T.O.B. 119, according to which the planet will actually be easier to view for some days after the elongation date (on the gibbous side of elongation). Try following it for a week or two after Mar. 8; Mercury's stellar magnitude of 0.4 at elongation will brighten to 0.1 within two weeks thereafter.

THE A. A. A. S. MEETING

The A.A.A.S. meeting at Dallas in December has been reported, as to Sec. D (Astronomy), by Dr. C.C. Wylie, Secretary, in "Science" for Feb. 6, 1942 (p. 139) and in "Pop. Ast." for Feb., 1942 (p. 67). Attendance of professionals at the meeting was hurt by war conditions. Amateurs present included Mr. and Mrs. Walter J.C. Weiss of San Antonio, Mr. and Mrs. W. S. Athey and Mr. O. A. Schumann of Houston; Miss C. M. Noble of Ft. Worth and Leroy Pietsch of Dallas. Others from Ft. Worth and Dallas attended, including Mr. Dan Taulman and your editor, but most persons find it difficult to take the time off for attending all sessions during the Christmas-New Year's interval when these conventions are customarily held.

TEXAS OBSERVERS' BULLETIN

Oscar E. Monnig, Editor

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a Year

1010 Morningside Drive
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"WAR TIME" (DAYLIGHT SAVING)

The introduction of a daylight saving plan complicates predictions of times for astronomical publications. Tho this "Bulletin" is not of a fundamental or advanced type, we feel it will be best as a matter of policy to continue the use of the former standard time (we will continue to label it C.S.T., of course). This plan will prevent additional editorial work and confusion, and will leave the matter of conversion to the reader in each case. Since our clocks are an hour ahead of the former standard time, the worst any one can do is to expect some event an hour too soon (there will be no danger of missing it by being an hour too late); the mistake having been discovered, the disgruntled amateur will be time-wiser when he witnesses actual occurrence of the phenomenon an hour later! Since we advanced our clocks an hour when the change went into effect, the rule is simply to take the predicted time in terms of C.S.T. and advance it an hour to get C.W.T. Thus when we say the moon will rise at Ft. Worth on 1942, Mar. 2 at 6.24 p.m. C.S.T., the reader should add an hour and make this read 7.24 p.m. C.W.T.

Aside from all questions as to the political or economic expediency of the quick legislation putting daylight saving time into effect in the winter month of February, there is a basic maladjustment existing in the western half of Texas which the new time brings into prominence. The central longitude meridian of the C.S.T. zone is 90° , which runs thru the extreme eastern tip of Louisiana (practically thru New Orleans). The theoretical western limit of the zone should be at $97\frac{1}{2}^{\circ}$, which runs barely west of Ft. Worth (in the same county), just east of Austin (thru part of Travis County) and almost exactly thru Brownsville. This leaves more than half of Texas theoretically in the Mountain Time zone, but practically all of this area uses C.S.T. (El Paso uses M.S.T.) Thus along the 102° meridian, which runs very close to Amarillo, Lubbock and Midland, sunrise on Feb. 10 occurred within a few minutes of 7:37 a.m. C.S.T., which C.W.T. advanced to 8.37! And next summer, during the latter part of June, sunset will come in that region at about 8.00 p.m. C.S.T., which C.W.T. will advance to 9.00! Except for the internal disturbance in Texas affairs, it would be much more logical in many ways for the western half of the state to observe Mountain Time.

THE FIRST 1942 LUNAR ECLIPSE

The moon will pass deeply into the earth's shadow on the evening of 1942, Mar. 2, but the middle of the eclipse, coming at 6.22 p.m. C.S.T., will occur just a few minutes before moonrise over the central regions of Texas. The sun will not set until 6.26 in the region of Ft. Worth. (There are only a few minutes

difference in the times of sunset and moonrise for other latitudes and longitudes in the state; allow 4 minutes of time for each degree of longitude and about $\frac{1}{2}$ minute for each degree of latitude.) The essential effect is that the moon will rise totally eclipsed and will be surprisingly hard to find! Even if the sky is clear, absorption at low angular altitudes plus the dimming if not complete obliteration of the fully eclipsed moon will make it hard to detect in the sunlit sky. Note that its declination is plus 7° , and watch for it in a region about 7° N. of the due east point on the horizon, but allow for its southward swing as it rises. If you remember where either Procyon (dec. 5° N.) or Altair (dec. 9° N.) rises on the horizon from your observing station, this will be the place to watch.

At 7.10 p.m. C.S.T., total eclipse will end, but some of the umbral shadow will remain on the moon (partial eclipse) until 8.12 C.S.T. Even thereafter (for a period of minutes depending to some extent on the skill and sensitivity of the observer), the penumbral shadow will continue to show, since the moon will not entirely leave it until 9.15 C.S.T. Most persons, however, will see no effect after 8.20 or 8.30 at best. Cameras will record the penumbral shadow even a few minutes beyond direct visual observation, especially if the exposure is correctly timed.

Novices at observing or photographing the eclipse should regard it as a good chance for practice for the coming eclipse of next summer, when the moon on the evening of August 25 will go into the umbral shadow to the extent of 1.541 of the lunar diameter. The present eclipse, magnitude 1.567, is theoretically slightly better in that respect, but is so essentially a twilight phenomenon that the advantage is lost. Astronomical twilight at Ft. Worth will not end until 7.49, C.S.T., well after the total phase.

When the moon is in the umbra, some part of it is generally a coppery-red color--sunlight refracted around the earth thru its atmosphere, and stripped of the bluish colors by absorption. Just how noticeable this effect will be in the twilight sky is hard to predict, but it will be interesting for each observer to watch.

TEKTITES--TRUE AND FALSE

With T.O.B. 116 we issued the 107 pp. reprint on "North American Tektites", by Virgil E. Barnes (from "Contributions to Geology, 1939, Part 2" of the Bureau of Economic Geology, University of Texas). This told of the discovery of tektites in Texas. The most amazing thing about these little pieces of natural glass of unexplained origin is how long they have been here in Texas unrecognized. Dr. H. B. Stenzel, who was the first actually to identify them as tektites, tells of an interesting experience: one was brought to the geology department by a student at Texas A. & M. College some years ago, but it happened to be one of the "smoother" specimens without the "characteristic" deeply etched furrows of most illustrated tektites, and hence was naturally taken by those who examined it (including Stenzel himself!) to be a piece of stray water-worn obsidian!

The writer once made a talk on meteorites at Weatherford College, Weatherford, Texas, and afterwards one of the students told of certain "black diamonds" found near his former home. (This is a common local name for the Texas tektites.) He promised to submit a sample, but the writer kept no notes and made no follow-up, so that nothing came of an incident which may have been a lead to these same tektites.

An amusing side-light is the appearance of some glassy objects in several regions of Central Texas at about the same time the true tektites came into their scientific own. These other objects were encountered by the writer in the hands of collectors at Taylor, Salado and Johnson City, and the University of Texas likewise obtained some. They were reputedly very hard, one collector averring seriously that they had been tested by the Smithsonian Institution and found to be harder than diamonds! There were all sorts of mysterious stories about them; e.g., they were found in a certain cave on the Rio Grande River in great numbers; they had come from limestone cavities in the Edwards Plateau region west of Austin; they were old Spanish beads of great value and had been found in a river bed where they had washed in from buried treasure locations--and so on with variations. Most of these objects tended to be cubical, with rounded corners and "frosted" surfaces; they were translucent and showed internal purplish streaks. The general color and these streaks (indicating melting) were well shown on one which had been cut and polished as a gem stone. They were not easy to procure as most collectors had but one and did not wish to part with it. An explanation of the indicated artificial origin was finally furnished by Dr. Virgil E. Barnes of the Bureau of Economic Geology at Austin:

"The little glass cubically spheroidal objects have been taken out of the realm of speculation and laid to rest. Through a Mr. Williams, an engraver here in town, I found that they are 'lithographers marbles'. These objects were originally glass marbles which were placed above zinc etchings and caused to roll by agitation. This motion keeps the etching solution uniform and allows the etching to proceed evenly. During this rolling, some of the marbles become lodged and drag, thus causing the squared faces. I find that the Steck Company here in Austin uses this process and that they discard the squared marbles usually into the alley at the rear of the establishment. The small boys of the community find these marbles to be excellent 'nigger shooter' ammunition, and thus the wide distribution is easily accounted for."

FOR TEMPORARY USE

Hard-pressed amateurs often find themselves with but a few minutes in which to contrive some temporary means for attaching diaphragms, sights or other light weight auxiliary devices. At such times, "Scotch Cellulose Tape" or similar product is a quick reliable fastening medium. Sun glasses that do not fit eyepieces can thus be held in place. Light leaks in camera boxes used for astronomical photography can be effectively sealed with heavy black paper held in place with "Scotch tape".