

11-71

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THE PRAIRIE ASTRONOMER

Meeting Announcement

Our next meeting will be at 7:30, Tuesday, November 30, in the Olin Hall of Science on the Nebraska Wesleyan Campus. The program will be a discussion of telescope optics and designs by Ed Woerner. In addition, we may have something on the Mariner 9 space craft which is presently orbiting Mars. Of course anything anyone wants to bring up can be discussed, and naturally we will have refreshments.

At our last meeting, an auction was held at which several members sold a wide variety of items. Afterwards we watched a film on Apollo 11 brought by our program chairman, Larry Stepp. In addition, we discussed the location for the 1973 national convention of the Astronomical League, now definitely to be held at Creighton University in Omaha.

On November 11, a highly successful star party for the University of Nebraska astronomy classes was held at Earl Moser's. For more details see the president's report below.

In the past few months two members, Brian Rugg and Donn Baker have observed over 70 Messier objects and thus are eligible for membership in the Astronomical League's Messier Club. These two will join the three in our club who are already members-- Monte Cole who has seen all 107, Brian Dodson, and Steve Kunkee, plus former members Scott Coatsworth and Richard Johnson.

About this time of the year, skies are apt to be clear. Many bright stars can be seen, and the weather, although possibly cold, is usually tolerable. In addition, the amateur astronomer's best guide to the Messier objects chooses to begin with the winter sky. Copies of this guide, Observe, may be purchased for \$1 through the club treasurer, Monte Cole.

Anyone knowing the whereabouts of a set of apparently ownerless Amateur Telescope Making books is asked to call Monte Cole.

Any of the younger members interested in learning the techniques of observing should get in touch with the observing chairman, Brian Rugg.

The President's Report

Last month I suggested the possibility of changing the time and day of our meeting if the majority of club members felt a need for it.

Since there has been no one wanting a change and a few that said that the last Tuesday evening of the month was the best time for the meeting, then we'll let things go on the way they have been.

On Thursday evening, November 11, our club was host to about 30 NU astronomy students and faculty for a star party at my place. I want to

thank the 12 club members who came out with their telescopes and helped to make the event a success.

You wouldn't believe, unless you were there, what an interesting, enlightening, and rewarding time can be had when you get 4 professional astronomers, 25 students and a dozen amateur astronomers with their telescopes together for a party.

Even though some of the deep-sky objects were partially obscured by high, thin clouds, a fine time was had by all and we look forward to similar events in the future.

Earl Moser

The Sky for December

Mercury--At inferior conjunction on the 12th, by month's end it is visible in the east before sunrise.

Venus--At magnitude -3.4, this planet is visible low in the evening sky.

Mars--Westward at sunset, Mars sets about midnight. During December, this planet moves from Aquarius into Pisces.

Jupiter--Unobservable as it is in conjunction on the 9th.

Saturn--At magnitude -0.1, this planet is well placed for observation, being high at sunset.

December meteors include the Geminids which reach maximum on Dec. 9, at an hourly rate of 50; and the Ursids on Dec. 23, at around 15 per hour.

Several asteroids are visible now. For more information see the November Sky and Telescope or the 1971 Observer's Handbook.

Observing

One interesting way to observe solar system objects is to try to record as much detail as possible, either by attempting to describe what is seen in words or by making a drawing. The point, of course, is that when trying to consciously describe what is seen, one must look more closely hence missing less.

For example, Saturn is visible soon after dark this month; how much detail can you see on it? I find a comment made in my observing notebook some time ago stating that in a 2.4 refractor I saw dark polar bands, a light equatorial zone, a black shadow caused by the rings, plus Cassini's division. Also I saw three of its moons in the same instrument. Of course, in a larger telescope more detail is visible, and in an 8-inch reflector the surface seems covered with detail. In a 10-

inch I have seen a number of the minor divisions within the ring system.

Similarly, the detail on the moon can be noted. One interesting experiment is to draw the moon without any optical aid. Probably the best time for this is a few days before or after full phase when the sun is low but above the horizon. You'll be amazed at the amount of detail visible under such circumstances. In the same way telescopically one can check out a small area for detail, such as a single crater and the area surrounding it. For example, my observing notebook records that the crater Ptolemy appeared to have a smooth floor with low walls. It is the largest crater in the area. On its floor is one small craterlet and no other detail. All this in a 2.4 refractor. Imagine the wealth of detail visible in a larger instrument. Has anyone in the club ever at-

tempted detailed drawings of the moon and planets? If so, perhaps they would make a good program.

Good observing and we will see you at the meeting

Immanuel Velikovsky
a discussion

A number of members are somewhat familiar with the theories of Dr. Immanuel Velikovsky. The following is an objective account of his ideas, and then a commentary on them consisting of my own evaluation. Anyone desiring further reading on this subject is asked to contact me.

Thesis:

The solar system seems a quiet enough place, yet Immanuel Velikovsky asserts that twice within historic times great celestial catastrophes have occurred which have greatly effected our earth and all life upon it.

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The crux of Velikovsky's arguments lie in a denial of the "doctrine of uniformity" as first stated by Charles Lyell and Charles Darwin. The doctrine of uniformity states, in essence, that natural changes occur very slowly and nothing abrupt can occur naturally; that is, nature may be described as a continuous, even process. Obviously the doctrine of uniformity rules out anything catastrophic ever happening.

Yet, claims Immanuel, obviously catastrophic events have occurred on earth as is apparent from a study of the historic and geologic evidences. This evidence is presented in his books, Worlds in Collision and Earth in Upheaval.

In the middle of the second millenium before Christ, he states, cometary material was expelled by the planet Jupiter. This new com-

et followed a very eccentric orbit which twice brought it close to the earth where powerful gravitational forces were experienced causing major changes to occur abruptly. Both approaches are described extensively in the literature of early civilizations, particularly in the story of the exodus in the Old Testament. Among historic events explained by such a hypothesis are the various tragedies which befell the Egyptians while the Israelites were held in captivity, the dividing of the waters of the Red Sea, the long periods of darkness described in the Bible, the sun standing still for an hour during the siege of Jericho, and assorted other earthquakes, noises, clouds, and storms documented by many ancient peoples around the world. Note that ultimately the comet assumed a stable circular orbit and be-

came the planet Venus.

Similarly, about seven hundred years later another, lesser cataclysm occurred -- Mars had not yet taken on its present orbit. During close approaches to the earth disasters happened some of which are assumed to be those predicted by the Hebrew prophets Amos, Isaiah, and Ezekiel as told in the Bible. In addition some of the activities of the gods in the Iliad may be explained as a literal description of celestial events actually witnessed by the Trojan War participants.

Geologic studies indicate the occurrence of upheavals in eras consistent with the above. A rock may be found in an area completely devoid of any similar rocks -- a rock not worn by any glacial action. The ice ages too are explicable by considering that the polar inclination could easily have been altered by gravitational influence of nearby masses. Indeed certain signs indicate the last retreat of glaciers towards the poles occurred about thirty-five hundred years ago. Evidence of rapid glacial advance is supplied by mammoths, frozen intact upon death with tropical vegetation undigested in their stomachs. Fossil records indicate a very dramatic change in life occurred at the time hypothesized for the close approaches of

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Anything any member wants to see printed in the newsletter should be sent to Ed Woerner. I am always needing ads, articles, book reviews, news items, announcements, etc.

Remember, the library has references of all kinds. Donn Baker is the club librarian.

There has been some discussion of starting a mirror grinding class. Any comments on this should be addressed to Earl Moser, Jess Williams, or Brian Dodson.

Many member's dues are falling due at this time of year. Have you paid Monte yours yet?

Venus--elephants and horses abruptly disappeared from the new world at that time.

Finally, perhaps changes very basic to life were brought about by these celestial events. Maybe unusual radiation and temperature effects caused mutations resulting in abrupt evolutionary changes. Perhaps certain regions were so devastated that whole populations of animals became extinct. Perhaps even changes in human life were brought about.

Comment:

Generally a geologist considers the present epoch to be representative of the norm with abnormal periods at intervals in the past. Dr. Velikovsky, on the other hand, appears to believe the present is a mere respite from a normality of cosmic disturbances; that is, events which we would consider highly irregular are the norms of all change, and hence should be made the starting points of any theory of the history of the earth. Perhaps this is a valid point. After all, no theory will ever be complete until it can explain those frozen elephants with the tropical vegetation in their stomachs which modern science really can't do.

I believe Dr. Velikovsky's work is a good attempt to explain various facts with an unconventional theory, but there are a number of shortcomings which lead me seriously to doubt it. For one thing, a comet massive enough to cause the effects described is pretty much out of the question. Moreover, the manner in which this comet could suddenly assume a circular orbit is never made clear. Certain changes in our chronologies would have to be made if this theory is to be adopted, although dates are not known with such precision that this would be too unreasonable. One is led to wonder how reliable are the ancient reports of the events described. In addition to these major points, I find some speculations considered, to be absurd--e.g. Venus and perhaps Jupiter may be populated by vermin; Worlds in Collision, page 187.

Thus, while I do not reject the possibility of catastrophes within historical times, I cannot be convinced that these theories explain them. Nevertheless, I feel that Dr. Velikovsky's books are interesting, provocative, and well worth study. Certainly they raise many questions and must lead to much profitable discussion. Ultimately, however, I feel that his theories must prove deficient, but still they will serve as models for future attempts.