

STARDUST

Published Monthly
by the Edmonton Centre of the
Royal Astronomical Society of Canada

Vol. 7, No. 4

January, 1961

A HAPPY NEW YEAR TO ALL!

New Year's Day does not mean the same thing to all peoples, and throughout the centuries its meaning has changed even for people of particular countries. The Greeks and the early Romans began their year at the winter solstice, December 21 of our present calendar. The Anglo-Saxons used to celebrate New Year's Day on December 25 until a decree of William the Conqueror established the beginning of the year at January 1 as the beginning of the year, but England, now Protestant, waited a century and a half before adopting this reform. Ancient Egypt reckoned its year from the heliacal rising of Sirius, which came at about the time of the annual flooding of the Nile. The civil year of the Jews begins with the 1st day of the month of Tishri, coming in September or early October.

We have always felt that astronomically the year should begin with the winter solstice, marking as it does the beginning of the lengthening days and the approach of spring and summer, until the cycle of warming and cooling closes again with the next winter solstice. Denizens of the southern hemisphere, however, whose seasons are just the opposite of our own, might not find it so appropriate. So perhaps it's as well to accept the conventional date. Christmas gives us a festival near enough to the winter solstice, and January 1 affords us an extra holiday at a season when holidays are welcome. Let us hope that 1961 may prove a year of progress not merely in the astronomical realm, but in the far more important sphere of human relations, in the direction of a new vision leading to genuine peace.

NOTICE OF JANUARY MEETING

The program at the January meeting, to be held in the Queen Elizabeth Planetarium on Thursday, January 12, at 20.15 M.S.T., will be announced later. We hope to have a good attendance for this first meeting of the new year. Consider bringing a friend along with you.

The Evening Sky Venus still dominates the south-western sky for about three hours after sunset. Mars, in Gemini, is visible all night, and at midnight is in a splendid position for good observing. Jupiter and Saturn, now quite close to the sun, will be appearing in the morning sky to the south-east toward the end of February, just before sunrise.

Observing Sunspots One of the most dynamic fields in amateur astronomy today is the observation of sunspots. To follow their development from mere pores on the sun's granulated surface to huge storms which may cause havoc with radio communications on earth and possibly the beautiful shimmering aurora, is a source of never-ending pleasure. The beauty of sunspot observing is that little equipment is needed to "tune-in" to the sun, for anything beyond the naked eye is adequate to watch these solar storms. Even with the naked eye, suitably protected with a dark glass, the larger spots can be seen during sunspot maxima. Binoculars too provide a lovely sight. However, a small telescope is ideal to show the development of these swirl-

Observing Sunspots
By Franklin Loehde

One of the most dynamic fields in amateur astronomy today is the observation of sunspots. To follow their development from mere pores on the sun's granulated surface to huge storms which may cause havoc with radio communications on earth and possibly the beautiful shimmering aurora, is a source of never-ending pleasure. The beauty of sunspot observing is that little equipment is needed to "tune-in" to the sun, for anything beyond the naked eye is adequate to watch these solar storms. Even with the naked eye, suitably protected with a dark glass, the larger spots can be seen during sunspot maxima. Binoculars too provide a lovely sight. However, a small telescope is ideal to show the development of these swirling masses that continually change their sizes and shapes.

The most important pre-requisite is proper care. Since the sun is a brilliant object emitting not only light, but also heat-rays, care should be taken to protect your eyes. This can be done in several ways. A common amateur method is to project an image of the sun on to a piece of white paper held out from the eye-piece of the telescope. In this way, the sunspot groups may be drawn directly on a specially prepared form. Another method, although potentially more dangerous, is that of viewing directly through the telescope's eye-piece after reducing the sunlight drastically. This can be done by "diaphragming" down your telescope's objective or mirror so that the light-gathering power is reduced to a safe level. In addition, special filters such as "Velders's" glass No 12 or polaroid lens should be used to reduce the sun's brilliance to protect your eyes. If a Herschel prism is available, by all means use it.

The reporting form could be of your own design, but should contain such basic information as the name of the observer, the date, the telescope and its magnification, the weather and seeing-conditions, and if possible a drawing showing the spots and their positions relative to each other on the disk of the sun. Your own particular instrument and observing conditions may dictate a somewhat modified form from that used by the Solar Division of the Edmonton Centre (see diagram below). In any case, a continuous record is always a fascinating pastime, as often the solar observer is able to predict a coming display of northern lights a day or so in advance of its actual appearance.

Those of you who feel that sunspot observing might provide an interesting pastime feel free to call the writer, who has available the information you might want as well as sample forms.

Franklin Loehde, Phone Gr 7 - 5652.

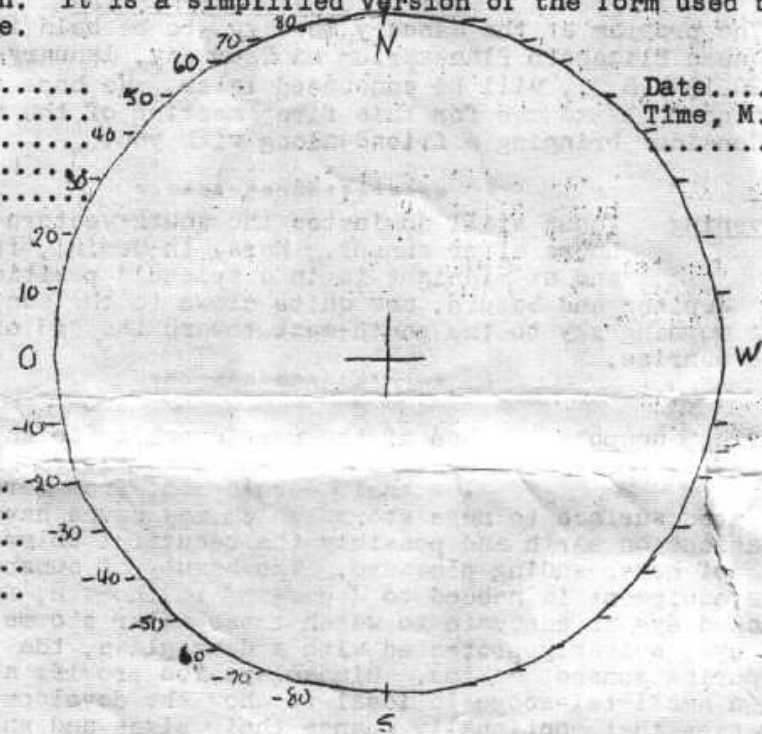
Wanted--an Observatory! The dismantling of the 12 1/2" telescope in the observatory and its removal into storage has been a severe blow to the observers who have relied on it for much of their finer work. It appears that the old building, instead of having been removed, is now being used by the University for the storage of odd materials. If there is no possibility of a new building being erected in the near future, can we not again have the twelve and a half inch installed in the little building near the Auditorium? We should be glad to know what plans the Observatory Committee of the University have in mind in order that we may carry on a constructive program during the coming year

The accompanying diagram shows the essential things to be recorded in sunspot observation. It is a simplified version of the form used by the Edmonton Centre.

OBSERVER.....
ADDRESS.....
.....
INSTRUMENT.....
POWER.....

Date.....
Time, M.S.T.....

Number of Spots
.....
Groups.....
Seeing.....
Remarks.....



DID YOU KNOW

That the year 45 B.C. was 445 days in length? That was the year in which Julius Caesar reformed the calendar, which had got so far out of adjustment to the real length of the year that it was a full 88 days out. That riots broke out in England in 1751 as a result of dropping 11 days to make the English calendar conform with the Gregorian Calendar already in use on the Continent? This year was only 364 days long. That Julian Day 2,437,301 begins at 12.00 noon on January 1, 1961?

Planetarium Christmas Show Great Success

Ian McLennan, Director of the Queen Elizabeth Planetarium, reports that the special programme which has been showing during the Christmas season has been a marked success, with practically overflow crowds attending.

During the first week of January, the Planetarium will be closed to the public while preparations are being made for a new programme on the stars of the Southern Hemisphere. In view of the fact that the Planetarium has only been open a few months, we feel that Ian and his associates merit our warmest congratulations on their achievements to date. There already seems to be evidence, too, that interest in the Planetarium is being transferred to the Society; it is an excellent recruiting centre for new members.

Lunar Occultation Clouded Out Dave Marven

One of the first occultations of the year was clouded out by 15 minutes Thursday night, Dec. 29/30.

Alpha Taurus, a first magnitude star in the constellation Taurus (the Bull) was easily visible to the unaided eye just to the left of the dark limb of the 12-day old moon. The occultation of a first-magnitude star is not often seen, and the Observers' Group had hoped to catch this one. The last such occultation occurred on Jan 10, 1960, oddly enough the same star, Alpha Taurus. Its latest occultation of Dec 29/30 was predicted for ingress at 22.3 and egress at 1.29.9

Echo 1 Returns Dave Marven

To Frank Page goes the honor of first sighting Echo 1 on its return to Edmonton skies. He first saw it about a week before our December meeting. Unfortunately

cloudy skies prevented any accurate timings of the satellite in the following days after his first two sightings, but after many long cold hours on the first clear night it was found again, though not at the expected times. The thing that threw the observers' group off was the change in the time correction from day to day. During September and October this correction had been roughly 22 minutes per day for a given revolution. Some quick calculations and comparisons of notes between Frank Page and Dave Marven led to a guesstimate of 33 minutes per day. On the evening of December 15 both observers waited with bated breath for a confirmation. Sure enough, Echo 1 passed over the meridian within 30 seconds of the predicted time. Leverrier and Adams couldn't have been happier.

Unfortunately Echo 1 has now passed from our view again. It seems that Echo 1 is visible to us for about one month and we had caught it in its last week. But Earl Milton figures it should be visible in the northern sky almost immediately, so it won't be long before it is in a favorable position in the evening sky again. It is hoped that it will be caught sooner this time, for accurate prediction of this spectacular object is a source of much free publicity for the society.

(Editor's Note: Dave is much too modest in the above report. It was he who twigged the increase in the daily time correction needed for the prediction of Echo's appearance. He undertook the "long, cold" wait; we merely went outside near the predicted times to confirm the observations. When we have secured another series of observations we hope some of our members will be able to develop some hypothesis as to why this time correction has changed to such an extent since the Sept.-Oct. observations)

(Editor's Note: Dave is much too modest in the above report. It was he who twigged the increase in the daily time correction needed for the prediction of Echo's appearance. He undertook the "long, cold" wait; we merely went outside near the predicted times to confirm the observations. When we have secured another series of observations we hope some of our members will be able to develop some hypothesis as to why this time correction has changed to such an extent since the Sept.-Oct. observations)

Editor, STARDUST: S. Frank Page, 8444 - 117 St. Edmonton
Secretary, EDMONTON CENTRE: Dr. D.R. Crosby, 7821 Sask. Dr.
Edmonton, Alta.