

A Monthly Newsletter of the
Royal Astronomical Society of Canada
Edmonton, Centre

Stardust

March-April, 1968

MEETINGS: Monday, March 25th- Dr. E.R. Milton "Aurora Over Alberta 1952-62"
Monday, April 8th- Dr. A.W. Harrison "The Physics of Aurora"

Aurora Over Alberta 1952-62 Our March 25th speaker Dr. E.R. Milton of the University of Lethbridge distinguished himself as an amateur astronomer by organizing a network of observing stations across Alberta and provided the National Research Council of Canada and Cornell University in the U.S.A. a substantial portion of the statistical material on the distribution of northern lights in Canada. Born in Montreal Dr. Milton joined the Society in 1949 and soon became active in the observers group of the Montreal Centre. Three years later Dr. Milton moved to Edmonton and was instrumental in organizing many of the observing programs prominent in our Centre at the time. Later his work with aurora during the International Geophysical Year brought him the coveted Chant Medal of the Society.

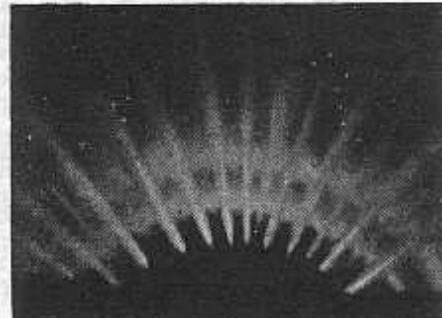
He comes to Edmonton to offer thanks to the many amateur observers of the area who devoted so many evening hours in compiling an impressive survey of aurora from 1952-62. He will certainly have some interesting things to say.



Dr. Milton

The Physics of Aurora Our Calgary-Edmonton exchange speaker this year will be Dr. A.W. Harrison of the Department of Physics at the University of Calgary. Dr. Harrison will accompany his talk with a film by Dr. N.R. Parsons of DRB of aurora at Cold Lake. The film will be in colour and show the motion of the northern lights.

Change of Meeting Day At our February meeting the majority of the membership substantially voted in favour of moving the regular meeting day from Thursday to Monday. It was felt that the Monday slot was more convenient for a variety of reasons. Therefore except in special cases such as our meeting of the 25th of March the normal meeting day will be the second Monday of each month. This does not prevent the Executive from calling special meetings from time to time as the need arises.



A rayed arc of unusual form

Secrets of the Universe Revealed Franklin Loehde, editor of Stardust, spent the February meeting revealing the universe as revealed through the spectroscope. Making use of hand spectroscopes the viewing audience had the opportunity to see that each glowing gas and incandescent solid had a characteristic set of bright lines which made it very easy to identify the various elements from the great distances of the stars. He indicated that in addition to determining the composition of the stars the spectroscope is able to do a multitude of other things. Easily the highlight of the meeting was when a younger member, who shall remain nameless, donated some of his own rich blue blood so that another function of the spectroscope could be demonstrated.

Observing Notes by David Roles

I hope the chart opposite will be helpful to our potential Messier hunters. So far the only official report that has reached me is from Jenny Rusch who has found about a half dozen of the objects although I've heard many rumours to the effect that many of our younger observers have spotted a number. Let's get on the ball boys- don't let a girl run off with the prize! (Editor- During our recent clear weather I was able to spot 19 Messier objects within an hour with binoculars alone. Some of them were spectacular even with the binoculars.)

I strongly suggest that observers concentrate on the Messier objects I've shown on the chart and marked with an "x", otherwise it will only be a matter of time before they leave the winter sky. Although I've shown all of the constellation Puppis on the chart, only the upper portion is visible from Edmonton.

Comet hunters should have tried to look for Comet 1967n which was visible in binoculars near the head of Draco in early March. While looking for the comet it would have been an easy task to find the lovely globular cluster Messier 92.

Planetary enthusiasts might be interested in the February issue of Scientific American which featured a fascinating article on Jupiter's Great Red Spot.

Lunar "bugs" are no doubt excited about the new evidence of water on the moon discovered by Dr. Jack Green of North American Aviation. Some of our members will remember that Dr. Green was an Edmonton visitor about five years ago.

For those that may have missed the last meeting, McBain Camera Stores has offered a prize for the year's best astrophotograph. Consideration will be given to the equipment used in taking the photograph so don't feel that you need a Questar and a Nikon to win.

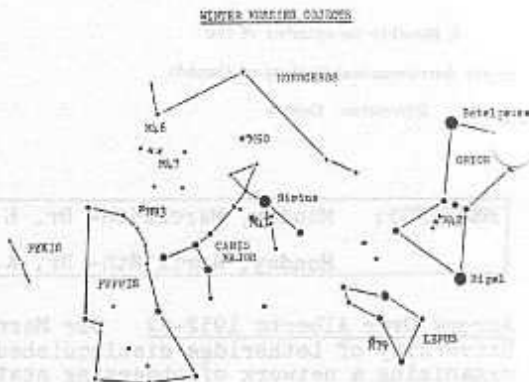
Again, there are no meteor showers or eclipses this month so I will expect dozens of Messier reports to float in!

Regards from President Thompson Your Editor recently received a letter from Mr. Malcolm Thompson commenting on the January issue of Stardust which among other things recalled the December meeting at which he spoke. Mr. Thompson was especially interested to hear that Dr. Crosby and Professor Keeping were to address the Centre on its colourful history. "May I commend Messrs. Keeping and Crosby in their task of putting into writing the history of an active group of amateur(?) astronomers." he stated.

Report from Librarian Mr. William Cable Mr. Cable reports that although the Centre Library is at the Queen Elizabeth Planetarium and is available to all members very few books have been taken out recently. He suggests that the following books would be of interest to our members:

<u>Space Nomads</u> by Lapoz	<u>The Individual & the Universe</u> by Lovell
<u>Explorer of the Universe</u> by Wright	<u>The Exploration of Outer Space</u> "
<u>A Planet Called Earth</u> by Gamow	<u>Practical Amateur Astronomy</u> by Moore
<u>And There Was Light</u> by Thiel	<u>Music of the Spheres</u> by Murchee

Mr. Cable requests that all members or former members who still have Centre books in their possession please return them at our Monday, March 25th meeting. Let's keep them circulating.



Progress on Mount Kobau



Dr. Richardson

A surprise visitor to our February meeting was Dr. Harvey Richardson of the Dominion Astrophysical Observatory in Victoria. Fortunately for us Dr. Richardson was in the city for a speaking engagement at the University of Alberta and this allowed time to drop in. Dr. Richardson is presently in charge of instrument planning for the new National Observatory which is to be set atop Mount Kobau at the southern end of British Columbia's Okanogan Valley.

He reports that the giant 150 inch mirror of fused quartz had been poured by the Corning Glass Company of New York and was likely to be that prestigious firm's last large mirror attempted. They state that this mirror, although smaller than the Mount Palomar 200 inch disc, is far superior to it in quality primarily due to its low coefficient of expansion.

At present the mirror is in storage pending funds being made available so that grinding and polishing of its surface can be started. When finally completed and operational in the mid-'70's, it will

rank as one of the world's finest instruments for probing the depths of space.

We hopefully look forward to the day when Dr. Richardson will return with a full dissertation on this new probing eye of Canada's.

Variable Star Observing by Robert Allin Stars that appear to change their brightness from time to time are called Variables and for the purpose of amateur observing can be divided into two categories. The Intrinsic Variable is a star that is undergoing physical changes causing a change in the amount of light given off while the Eclipsing Variable is really two stars revolving around each other the fainter of the two occasionally passing in front of the brighter companion. In order to make observations of these fascinating stars one needs only to be interested as there are many variable stars which can be observed with the unaided eye.

One must know where the variable star is and how bright some of the neighboring stars are to the nearest tenth of a magnitude. For example on page 88 of this year's Handbook there is a map showing the variable star Delta Cephei. The numbers by some of the surrounding stars are their brightness in magnitudes measured to the nearest tenth (The decimal place is not shown). With the aid of this chart one can find the star and then compare its brightness with that of the surrounding stars whose brightness is given. One tries to find a pair of comparison stars, one brighter and one fainter than the variable. The observer then has to make an estimate of how bright the variable star is to the nearest tenth of a magnitude and record this along with the time and date. A graph of the estimated brightness of the variable can be made as new observations are made. For further information there are several copies of the American Association of Variable Star Observer's Manual distributed among members of our Centre.

Of the two types of variable stars the Intrinsic Variable is the more interesting to observe because many of these are completely unpredictable. There are hundreds of these stars to choose from and charts can be obtained at a reasonable price. The amateur astronomer can select stars that will allow him to make a very valuable contribution to the professional astronomer. It is best to start by observing a few stars well and then with more experience additional stars can be added to ones list.

Further information can be obtained from the American Association of Variable Star Observers at 187 Concord Avenue, Cambridge, Massachusetts 02138

Comet Ikeya-Seki 1967n by Angus Smith Those of you who do not spend all your nights in bed have a treat waiting for you at the telescope or binocular. This comet, discovered by two Japanese amateurs in 1967, is at about 7th magnitude and appears as a diffused oval with a brighter area in the head. You certainly won't see a fireball with a great long tail but still it is an interesting object and I hope that at the next meeting all observers will be able to say they have seen it. Who knows that with this practice you may discover your own someday!

On the 25th, 26th, and 27th of February and also the 1st of March I rose early in the morning between 2 and 4:00 a.m. and tracked the comet through Hercules and near Messier 92.

For those of you who would like to follow the comet here is reproduced from Sky and Telescope the Right Ascension and Declination for the rest of this month and part of April:

March 15	17hr 15m.8	56° 52'
March 20	17hr 08m.8	72° 14'
March 25	16hr 48m.2	79° 24'
March 30	15hr 19m.0	85° 34'
April 4	9hr 02m.4	86° 12'
April 9	7hr 16m.0	81° 31'

Tennant's
Comet. The Great
Comet of 1881



If you make a sketch of the object make sure you make a copy for David Roles.

The year 1967 was by far one of the most active discovery years in a long time. Unfortunately many of the new "finds" were quite faint. Maybe the next one will be another Halley's Comet.

Photography Contest McBain Camera Specialty has kindly agreed to donate to our Centre a trophy to award to the winner of an ASTROPHOTOGRAPHY CONTEST. This trophy is to be awarded at our annual banquet meeting to the member of our Centre that submits the best photograph to the judges by September 30th of the year. Judging will be on the basis of overall quality, but will bear in mind the age and experience of the entrant together with the equipment used. Further details can be obtained from your President Allan.

Here and There in the R.A.S.C.

- Toronto- SCOPE mentions that the Toronto Centre's successful summer programs of Star Nights in various suburban communities will be continued this year with five on tap. The Toronto Centre is to be congratulated on this fine public relation job they are doing. I hope that more centres would become active in this field in the future.
- Ottawa- An interesting feature of Ottawa's newsletter ASTRONOTES is the monthly astronomical problem submitted by various members. The full answer appears the following month. The problem for March is- "Using the necessary data from the Handbook, calculate how long it should take for Io, Europa, Ganymede, and Callisto to pass into(or out of) Jupiter's shadow?" I wonder if our members would be able to solve this problem????
- Calgary- This Centre is still preparing for the big event in May when it will play host to the R.A.S.C. General Assembly. With a brand new planetarium to show off and a style of architecture that will leave everyone gasping the Assembly is bound to be a success.

It's a New Projector at the QEP by William Cable The Queen Elizabeth Planetarium is closed- there is no projector in the theatre. The changeover to the new Goto 'Venus' projector is now underway. The projector is manufactured by the Goto Optical Company of Japan and is being supplied by AstroDome of Canton, Ohio. The wait for the instrument has been long(it was expected in October) and as a result considerable changes in the program were necessary during the winter months.

The projector could be referred to as a small copy of the larger and more elaborate Zeiss projectors. The stars are optically projected by 32 lenses and the motions of the 5 closest planets are reproduced. Also the Sun and Moon can be shown in their annual and monthly motions.

Unlike the dumb-bell form of the Zeiss projector the northern and southern globes on the Goto are set close together and the planetary cages extend at either end.

There will also be one other major change carried out. The operating console and lecturer will now be located at the back of the theatre at the north entrance. When the installation is completed the flexibility of our programs will be increased. We will have new motions to "play with", but it is my intention that these new features will only be used for specific purposes. For example at the present time we have watched Jupiter in its retrograde motion relative to Regulus. This is a feature that can and is being folloed and should be included in our program but not used to show the capabilities of the projector.

Present plans are for the planetarium to re-open April 1st with a program entitled "A Star and It's Family" to be followed with "The Conquest of Space". Do drop in and see the presentations.

Total Eclipse of the Moon April 12 With McBain's Camera Specialties offering a trophy for the best astronomical photograph the coming eclipse will provide an excellent opportunity to members to start 'clicking' This total lunar eclipse is very well placed in the sky and takes place BEFORE midnight for a change!

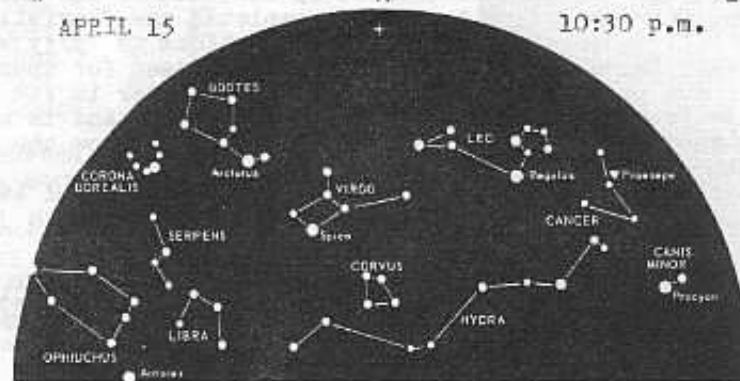
Eclipse	Times	
Moon enters penumbra	19hrs 11mins MST	Preparation for the observ- parties will be made at the March 25th meeting. Bring along your camera and get tips to help you take better photo- graphs of the eclipse.
Moon enters umbra	20hrs 10mins MST	
Total eclipse begins	21hrs 22mins MST	
Middle of eclipse	21hrs 47mins MST	
Totality ends	22hrs 12mins MST	
Moon leaves umbra	23hrs 25mins MST	
Moon leaves penumbra	00hrs 24mins MST (13th)	

Information Sheet for R.A.S.C. Members Information sheets are inclosed with some copies of STARDUST sent out. When a person becomes a member of the Edmonton Centre we would like to know as much about the person as possible. Of special interest is whether the new member has any special equipment such as a telescope, binoculars or cameras. If one has been sent to you please fill it out and send it to our Secretary R. Haeckel at 13323- 140 Street or bring it along to the meeting on the 25th.

3" Unitron Equatorial Refractor For Sale
For details and price
contact
Robert Allin at 434-7185



W APRIL 15 N E 10:30 p.m.



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STARDUST EDITOR
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 Edmonton

MEETING
 Monday, March 25th
 Physics Building
 V107
 8:15 p.m.