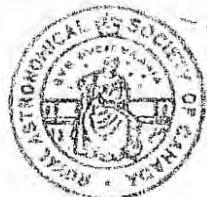


THE ROYAL ASTRONOMICAL SOCIETY OF CANADA



SASKATOON CENTRE

President: Halyna Kornuta

Editor: Greg Towstego

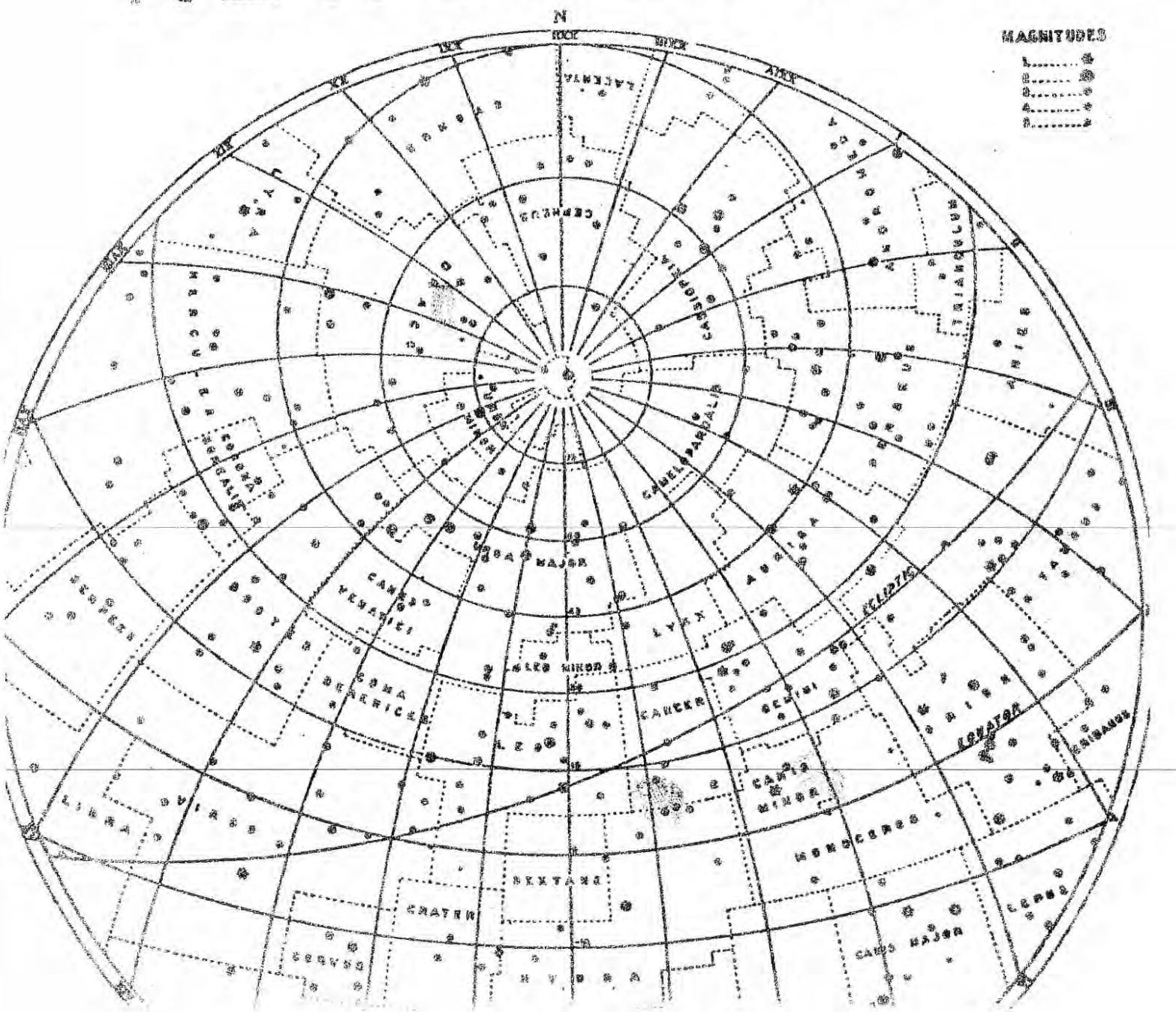
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NEWSLETTER

MAGNITUDES

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PRESIDENT'S REPORT . . . Halyna Komuta

It seems that change in the Observatory occurs in spurts and intervals of time totally unpredictable by all. That time of change is upon us now with noticeable renovations including hand rails, floor tiles, new lighting fixtures and a "room under the dome" for feature displays. Due to these happenings the Observatory will be closed for the last portion of April, and the April General Meeting will be cancelled. The May meeting falls on the 18th of that month and I would encourage all of you to attend to bid our Calgary Assembly participants the best of luck in their competitions.

Those of you who missed the March meeting also missed a fine lecture and well-illustrated slide show by Mr. Alan Dyer of the Edmonton Centre. Our representative to Edmonton, Gordon Patterson, was quite enthused with his visit and will be giving a brief report on it at the May General Meeting.

As a final note, the Executice decided that single issues of Astronomy magazine should be made available to you, and consequently they may now be signed out of the Library, as is other material.

See you all at the May meeting!

G E N E R A L A S S E M B L Y

ALL MEMBERS PLANNING ON ENTERING A PROJECT IN THE GENERAL ASSEMBLY ARE URGED TO COMPLETE THEM WITHIN THE NEXT TWO WEEKS. WE MUST HAVE THEM SENT OFF NO LATER THAN THE 4TH OF MAY. ANY ENTRY, LARGE OR SMALL, WILL HELP OUR CENTRE REPRESENTATION. IF YOU HAVE ANY QUESTIONS REGARDING IT, PHONE GREG TOWSTEGO AT 362-4143. REMEMBER, YOU DON'T HAVE TO ATTEND TO ENTER A PROJECT.

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Exhibits Competition - R.A.S.C. General Assembly - Calgary 1975

NOTES ON THE CATEGORIES

Category 1 Projects in this category could include the observation of auroras, bright variables, meteor showers, the moon, constellation study, lists of objects visible to the naked eye, etc.

Category 2 Any size of binocular may be used in this category.

Category 3 Submit only one photograph (print). Make sure you state the time, and the "age" of the moon, when the picture was taken. Give the usual photographic details (camera used, stop, exposure time, type of film used).

Category 4 The three drawings do not have to be done during one lunar month; they can be done at any times within the competition's time limits. State clearly the "age" of the moon which each drawing represents, and the magnification used. Submit three drawings only.

Category 5 There is no maximum nor minimum number of photos or drawings; but they must all be of the same group of sunspots. If submitting photos, prints only, please.

Category 6 The report can be on one night's observing, or on several nights' observations of the same shower.

Category 7 This can be any kind of astronomical occultation, e.g. of a star by the moon, of a planet by the moon, of a star by a planet.

Category 8 Any observational or photographic project may be submitted, as long as it relates to Jupiter and/or its satellites - reports of observations, drawings, photographs (prints), timings, or whatever.

Category 9 Submit four prints only, each of a different Messier open cluster (see the 1975 R.A.S.C. Handbook page 75 for the Messier list).

Category 10 You are not required to draw every star in any globular! A general impression will do. Note that the globulars do not have to be from Messier's, though any or all may be if you wish.

Category 11 Field drawing here means the field of stars in which the galaxy is seen through a low power eye-piece. You may submit more than one drawing of any galaxy. Note that the galaxies do not have to be in the Messier list (though any or all may be if you wish), but they must all lie in the same constellation.

Category 12 Note that (1) the 'subjects' must be sky ones, not ground ones; do not submit slides of observatories, telescopes and the like; and (2) the slides must be of three different objects, not three different slides of the same one. It's your versatility we're interested in!

Category 13 This category is wide open, the only restriction being that the project must involve observation. If photos, prints only, please. No 'armchair' or 'table-top' astronomy can be accepted.

Category 14 Submit each proposal on a separate sheet of paper or card.

Photographs for all categories should be mounted for display. In all cases the judges' decision will be final.

REPORT ON ACTIVITIES

First I would like to welcome three new (and active) members to the Centre; Kevin Atchison, Robert M'Allister, and Michael Wesolowski. Their enthusiasm is astonishing. Last week one of these young members was sketching globular (and a few open) clusters with no more equipment than a 2-inch refractor placed upon a card table ! An altazimuth mount; no finderscope; a minimum of charts; Yet he was locating these objects and sketching them systematically, consistantly and quickly !

Also, when Comet West was at its brightest, these young members were out in the frosty morning twilight taking photographs. Nice going, fellas !

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A reminder to everyone - Although the Saturday night sessions at Pattersons are primarily for the astrophotography group, it is still being used as a meeting place for the observers as well. (many are members of both groups)

On examining a list of the membership one can see the names of quite a number of formerly active members but for some reason seem to have dropped out of sight. What's wrong, people? The Centre's active core is now advancing technologically at a rate unprecedented in its history. Don't let yourselves get too far behind.

With the active core having achieved the level it now enjoys, it is interesting to speculate on the nature of our field trips this spring and summer. Plan to attend them if you can; or better, be a contributing participant.

All current activities, of course, are being directed toward the fast-approaching General Assembly at Calgary. For anyone desiring information on these activities, contact a member of the executive; or come to a Saturday evening session. See you there.

Your Activities Co-ordinator

THE INNER PLANETS Blair Petterson

The two inner planets, Mercury and Venus, have been known to man ever since he first gazed into the night sky. Mercury has recently been visited three times by flyby missions of NASA spacecraft. The vehicle reported that Mercury was heavily cratered, much like our moon, but with no seas, the like of which are found on the moon. This leads some to believe that no major volcanic activity has occurred there for some time.

The equatorial diameter of Mercury is 3, 100 miles or 4,865 kilometers. Its mean distance from the Sun is 0.387 Astronomical Units or 36 million miles. Its year is 88 days long. Compare this to the Earth at 1 A.U. mean distance from the sun (93 million miles) with a $365\frac{1}{4}$ day long year. Mercury's orbit is quite elliptical, varying from 28.6 million miles to 43.5 million miles from the Sun's center.

Both planets inside of the Earth's orbit around the Sun show phases, unless they are on the far side of the Sun, in which case they would rise and set with the Sun. Because of this, pretty well all observations of the two inner planets are made when they are crescents. The unfortunate fact of observing these planets is that the closer they get to the Earth, the smaller the illuminated portion visible.

It was found by the above mentioned satellite that Mercury has three days for every two years. This was completely unexpected to most people in the scientific world.

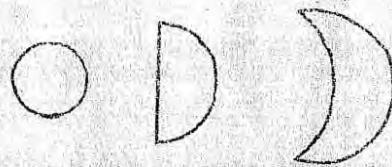
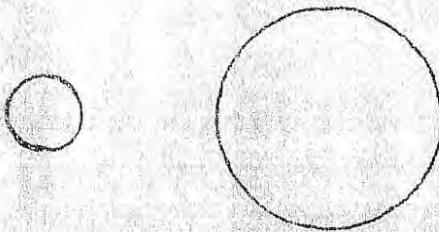
Venus is the second planet from the Sun and has a diameter of 7,500 mi., only a few hundred smaller than that of the Earth. All other planets spin counterclockwise on their axes of rotation. Venus on the other hand spins very slowly clockwise, and therefore the Sun actually rises in the west and sets in the east. Venus' day is longer than its year! Another strange fact about Venus is that whenever the planet is closest to Earth, it always has the same face toward us. One reason for this may be that Venus could have a number of mascons, or concentrations of matter, that cause it to behave abnormally.

Venus has a very dense carbon dioxide atmosphere hiding a surface heated to over the boiling point of lead. Carl Sagan has suggested seeding the atmosphere with micro-organisms in order to convert the carbon dioxide into free oxygen, thus transforming Venus into a second Earth. Personally, I think the idea holds promise, however, I doubt if I'd retire there.

As far as observing the inner planets telescopically, I feel that there is not much enjoyable viewing to be had. Venus, like Mercury, shows little if any detail. The best photos of the planets are those taken by NASA space-

craft which were published in "Sky & Telescope".

In conclusion, I feel that the inner planets are interesting visual objects as far as the naked eye is concerned, but unrewarding through amateur telescopes.



1. The Sun as seen from the Earth and Mercury.

2. Comparative apparent sizes of Mercury as it changes phase.

Statistics of Mercury and Venus

	Mercury	Venus
Mean dist. from Sun	0.387 A.U.	0.723 A.U.
Period of revolution	88 days	224.7 days
Eccentricity	.206	.007
Inclination of orbit	7.0°	3.4°
Equatorial diameter	4,865 km.	12,110 km.
Mass (Earth = 1)	0.055	0.815
Mean density (water = 1)	5.46	5.23
Surface gravity (Earth = 1)	0.38	0.90
Rotation period	58d 16h	243d (retrograde)
Inclination of equator to orbit	7°	approx. 179°
Albedo	0.056	0.76

EDITOR'S COMMENTS

I was rather shocked recently when a member, upon telling me that he had a possible Newsletter article, thought that the Newsletter was only designed for high caliber articles, written by highly qualified people. This is not the case! On the contrary, your Newsletter is designed for articles at all technical levels. Articles at all levels are appreciated, and you can be sure that there are many other members of your age group and/or technical level. There is an endless list of topics to write about. You may choose to write on a planet, a constellation, personal observing experiences, types of stars, the

list goes on and on. Length does not matter either. No matter how short or long your contribution is, it is still a contribution, which will only serve to better your Newsletter. So all of you would be contributors, drag out pencil and paper and get busy. Grammatical errors can be corrected, but do get your facts correct. You will be amazed at how much you will learn about a topic by writing about it.

All members are also encouraged to take an active part in Centre activities, as we are all amateurs, and all have something to learn from each other. The basic idea of a society like ours is to get discussion and crossfeed between members, as this is one of the best ways to learn and solve your queries at the same time. It is my opinion that a member of any organization should be willing to give and take. If you want to get something out of the club, you must be willing to put something into it. Only this type of involvement will build a strong Centre. If you ever have any questions about Centre activities or otherwise, feel free to call an Executive member, as that is what they are there for.

From what I have been told, our Centre is not the only one with the problem of "chronic inertia". In fact, it would appear that we have a higher "hard-core membership to general membership" ratio than many other Centres. Out of about 45 members, we have about 10 to 15 seriously active ones, which means that roughly one third of the Centre is active. We must also realize that a good part of our membership lives out of town, which makes it difficult for them to make it to various meetings. Also, interest in the Astrophotography class seems to be picking up. So perhaps after all, we are not doing as bad as we thought.

As you probably already know, the dome at the University Observatory is to be replaced. From what I hear, it is to be motor driven, both for rotating and opening the slit. This should make things much easier, especially in winter, when things tend to get stiff. I have been told that the old dome is coming off on Monday 26 April, with subsequent events following. Some of you who are able to may be interested in watching this and taking pictures, as it should be a very interesting procedure.

I would also like to remind you that the General Assembly is fast approaching, and we are running out of time. If you plan to enter a project, you should be started by now. All entries must be mailed in and post-marked not later than the 4th of May.

Greg Tawstego

REPORT ON EXCHANGE VISIT WITH THE EDMONTON CENTRE - G.N.Patterson

A first was established, for the Saskatoon Centre at least, with the exchange of guest lecturers between the Edmonton and Saskatoon Centres.

Edmonton's meeting was held on March 8th. I was met at the airport by Mr Anthony Whyte, Centre Secretary and driven to Mr & Mrs Franklin Loehde's home where I was being accommodated for the night. After lunch I was taken to tour the Astrophysics Department at the University where I was shown the 20-inch reflector under construction by University staff. A visit followed to the Optics Shop run by Mr Barry Arnold, President of the Edmonton Centre. Mr Arnold is doing the grinding and polishing of the 20-inch mirror. After dinner with several Centre members, we went to the Queen Elizabeth Planetarium where the Centre meeting was being held. Following a short business meeting the members were shown a film on the Russian Moon-Rover, Lunakod, a video tape view of Comet West, and some color slides of the Comet taken by Mr Alan Dyer. My talk , illustrated with several slides was on the Activities of our Centre followed by slides showing the construction details of both my own and Doug Beck's observatories. The talk ended with showing a few slides taken by various Centre members. After the lecture and question period, we adjourned for refreshments.

Mr Alan Dyer, Edmonton Centre and Educational Director for the Queen Elizabeth Planetarium, arrived in Saskatoon in the late afternoon of March 16 so we had no time to give him any tour, - just time for a quick dinner and off to the meeting. Mr Dyer's talk on Astrophotography, liberally illustrated with slides, was excellent, and opened up a completely new vista on this subject together with methods to improve the techniques and capabilities of our Centre members. Those members who did not attend missed an excellent presentation. Following the lecture and question period we adjourned to the Observatory for refreshments, where Mr Dyer was shown the 7-inch Clark Refractor.

This exchange of speakers has given both Centres a chance to exchange ideas, discuss common problems, and opens up new areas in amateur astronomy for members to explore. There is no doubt that the active members of our Centre benefitted a great deal from the visit of Mr Dyer, and as such the exchange was a definite success.

MINUTES OF A GENERAL MEETING, SASKATOON CENTRE, RASC,

HELD IN ROOM B-110, HEALTH SCIENCES BUILDING, U of S, 8:00 PM, 16 MARCH, 76

Present:

Halyna Kornuta..... President
 Mr Jim Young..... Vice President
 Mr G.N. Patterson.... Centre Rep.
 Greg Towstego..... Editor

Mr Hugh Hunter.... Librarian
 Lillia Wilcox..... Secretary
 Doug Beck..... Sub-councillor

Absent:

Mr Alan Blackwell.... Treasurer

Merlyn Melby..... Activities

Minute	Subject	Action
68.	Meeting called to order at 8:00 pm.	H. Kornuta
69.	Moved that the February minutes be adopted as published. Carried	J. Young G. Towstego
70.	The last "Physics for Fun" show will be held on Wed. 24 March, 1976.	G.N. Patterson
71.	Moved that April General Meeting be cancelled due to exams and replacement of Observatory dome. Carried	G.N. Patterson J. Young
72.	Slides received from Calgary Centre in reference to General Assembly were shown.	H. Kornuta
73.	Entry forms for Calgary exhibits were discussed and cannot be post marked later than 30th April, 1976.	G.N. Patterson
74.	G.N. Patterson gave a brief report on his trip to Edmonton.	G.N. Patterson
75.	Guest speaker Alan Dyer of the Edmonton Centre was introduced. He then gave a slide-illustrated talk on Astrophotography.	
76.	"Graphic Timetable of the Heavens" charts have arrived. Cost is increased due to duty fee to \$3.50 each.	H. Kornuta
77.	Meeting adjourned to Observatory for coffee at 9:45	Tony Wilcox

Minutes prepared by

Lillia Wilcox
(Lillia Wilcox, Secretary)

MINUTES OF AN EXECUTIVE MEETING, SASKATOON CENTRE, RASC,

HELD IN RM. B-110, HEALTH SCIENCES BLDG., 9:50 PM, 16 MARCH, 1976

Present:

Halyna Kornuta..... President
 Mr Jim Young..... Vice President
 Mr G.N. Patterson.... Centre Rep.
 Greg Towstego..... Editor

Mr Hugh Hunter.... Librarian
 Lillia Wilcox..... Secretary
 Doug Beck..... Sub-councillor

Absent:

Mr Alan Blackwell.... Treasurer

Mr Merlyn Melby.... Activities

Minute	Subject	Action
78.	Meeting called to order at 9:50 pm.	H. Kornuta
79.	Centre subscription to "Sky & Telescopa" to be renewed. Carried	G.N. Patterson G. Towstego
80.	"Astronomy" magazine can be borrowed from the Library individually. Carried	H. Kornuta H. Hunter
81.	Meeting adjourned to Observatory at 10:00 pm.	L. Wilcox

Minutes prepared by *Lillia Wilcox*
(Lillia Wilcox, Secretary)

APRIL GENERAL MEETING CANCELLED

Due to two factors working against us, the April General Meeting has been cancelled. First, the dome at the University Observatory is to be replaced in April, which means that we will not be able to meet there. Secondly, university exams are being written at that time, which means that there will not be a meeting room available in the Health Sciences Building. It would appear that Murphy's Law is working against us again, (if something can go wrong, it will, and at the most disadvantageous time). The next General Meeting will be on Tuesday 18 May, and that will be the last time we will be able to get together before the General Assembly. If you want to keep up to date as to Centre activities meanwhile, I suggest you attend the B.O.T. meetings on Saturday nights at G.N. Patterson's. *The Royal Astronomical Society of Canada, SASKATOON CENTRE, THE B.O.T., AND DOMO*

GRAPHIC TIMETABLE OF THE HEAVENS

The "Graphic Timetable of the Heavens" charts have arrived and can be purchased from Halyna Kornuta (or another tour guide) during Open Houses at the University Observatory on Wednesday evenings, or from Gordon Patterson at Astrophotography meetings. The price of each is \$3.50. (no profit is being made here) They are about 30 by 45 inches.