

**FROM**

HALIFAX CENTRE R.A.S.C.  
1747 SUMMER ST.  
HALIFAX, N.S.

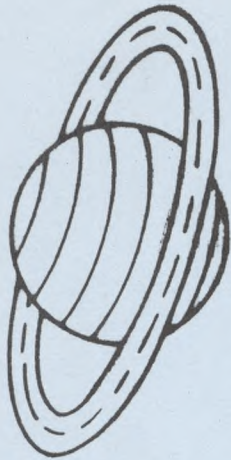
**TO**

ROYAL ASTRONOMICAL SOCIETY,  
252 COLLEGE ST.,  
TORONTO, ONTARIO.



*Sep 17 72*

# NOVA NOTES



44° 38' N  
63° 35' W

HALIFAX  
CENTRE



## Notice of Meeting

**Date** Sept. 15, 1972

**Place** The Theatre  
Nova Scotia Museum  
1747 Summer Street  
Halifax, Nova Scotia

**Time** 7.30 p.m. sharp

**Speaker** Dr. Ravi Ravindra

**Topic** "The Evolution of Man's View  
of Himself in the Universe"

All members and guests welcome

The Nova Notes are printed thanks to the goodwill

of The Nova Scotia Museum

The monthly meeting of the R.A.S.C. was held on July 21, 1972, in the Nova Scotia Museum. The topic for this meeting was the Eclipse and proved to be very interesting. The attendance was very good. Both members and guests showed the pictures they had taken of the eclipse. The meeting ended at 9.45 p.m. and informal discussions were held.

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#### Notice

Members who have in their possession books belonging to the R.A.S.C. Library, please return them at the next meeting. Anyone interested in writing an article for the Nova Notes may get in contact with the secretary, Marian MacArthur. Any contribution will be greatly appreciated.

## THE EDITOR'S PAGE

Woudn't you like to be editor of this NOVA NOTES?  
In the recent past your hard working secretary has acted as editor publisher, typsetter and all for this journal and the time has come for someone to take this on as a particular responsibility. Many little journals like this are fun to read and can be very useful. We will look for you in November!

As a first step, lets try and regain an actively participating membership. To this end we propose a\*\*\*\*

### \* CONTEST\*

PRIZES: There are some twenty or so lenses, prisms, brass fittings and one old telescope donated for this contest.

No member of the executive allowed.

All who contribute to the society as listed are elegible.

#### TYPE OF CONTRIBUTION:

1. A photograph of astronomic interest. More credit will be given to simple equipment if it illustrates a point.
2. A short prepared statement at one of our meetings.
3. A short article for NOVA NOTES.
4. A technical point of value to the membership.
5. Etcetera.

So you see we want everyone to join in this "contest"  
The prizes in some cases are very worthwhile. For example who will win the two inch achromat?

The judges for the moment will be the executive.

Let's have fun and all join in!

Marion MacArthur

## REPORT FROM THE EXECUTIVE

*This little space will be for the exchange of thoughts between the executive of the society and its executive. We will welcome "letters" for an exchange of views on all matters relating to our society.*

*The new season gets off to a good start on September 15th with the guest speaker Dr. Ravi Ravindra. Many of the other speakers have been chosen and we will let you know when the programme is confirmed.*

*The tiny executive have met several times during the summer and we look forward to the society elections at the November meeting. We want a larger executive. The addition of some new offices will, we hope, make this body much more useful to the membership. We are reviewing the constitution to see that all is legal, Here then are the new positions we had in mind\*\*\*\*\**

*EDITOR\*\*\*\* This person will take on NOVA NOTES and develop it into a useful little monthly newsletter.*

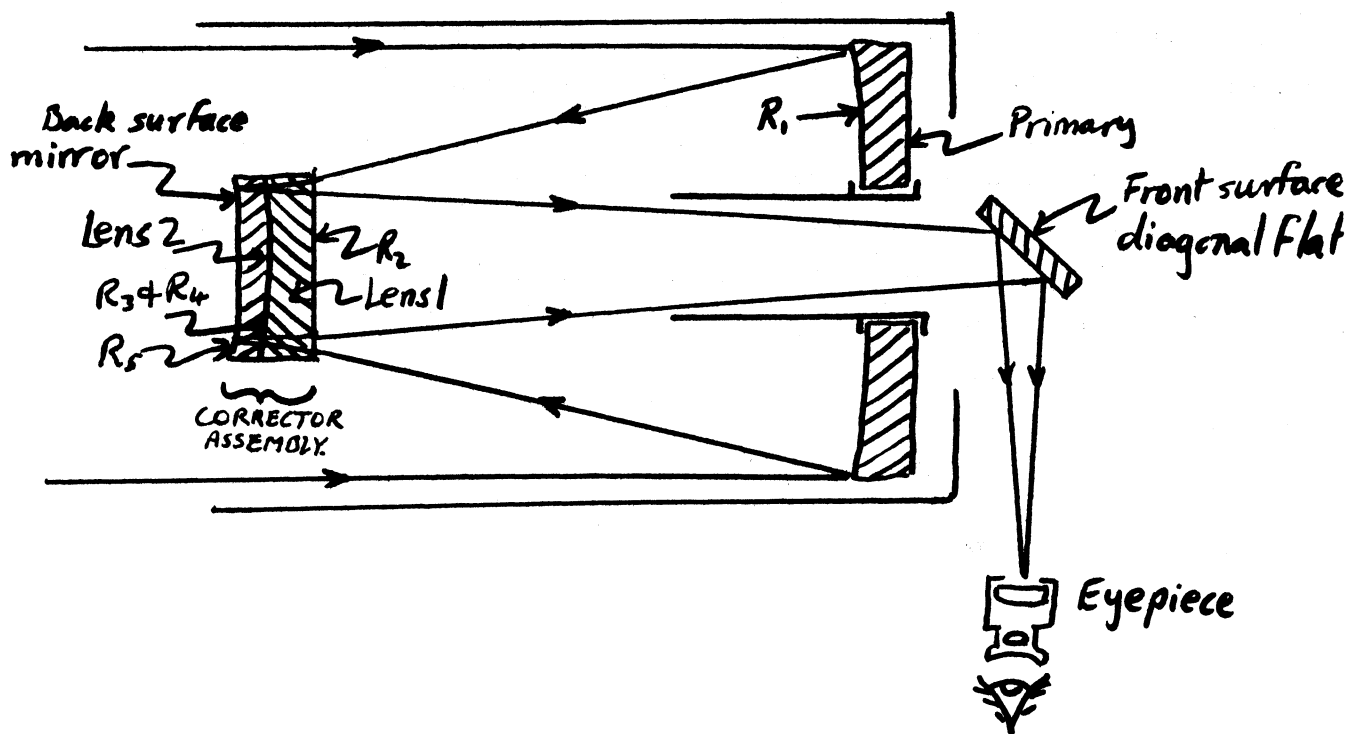
*LIBRARIAN\*\*\*\* This person will look after our collection of books and journals and encourage the reading and distribution of these. Another responsibility will be the care of the society's telescopes. These instruments should be used and we propose a TELESCOPE LOAN to members so that all members can develop skills in the use of these.*

*There will be an observing night each month. The location will be the roof of the Oceanography building at Dalhousie.*

*FIRST FRIDAY (OCT. 6th) \* \*\* \* \*\* \* \*\* \* Murray Cunningham*

FOR AMATEUR TELESCOPE MAKERS.

In recent years it has become almost a status symbol among amateur astronomers to have a telescope which has a substantial aperture, <sup>yet</sup> which fits neatly into a box scarcely larger than a shoe box. The best of these telescopes is, without doubt, the Questar Corporation's version of the Maksutov-Cassegrain. There is, however, one drawback to this telescope which the amateur can rarely ignore, its price tag. In order to get around this problem, a surprisingly large number of amateurs have managed to successfully grinding a Maksutov corrector plate and almost make themselves a Questar. These people, however, are exceptional; the grinding of a corrector plate is not, in general, a project for the amateur. Recently an article was published in Scientific American which described a new type of catadioptric telescope. Though not as good as the Maksutov it does embody many of the features which made the Maksutov system so attractive. All optical surfaces are spherical, which is good news for amateur builders; the corrector assembly, analagous to the Maksutov corrector plate, is comparatively small, and could be tackled by far more amateurs than could the Maksutov. The optical system is sketched below:-





The new telescope system was designed by a Mr. Robert J. Magee, who is the owner of a home made 4 1/4 inch version of this telescope. The optics were made according to the following parameters:-

Primary, 4.25" diam., radius of curvature  $R_1 = 19.25"$

Lens 1, 1.75" diam.,  $R_2$  is flat,  $R_3 = 6.88"$ , index of refraction 1.517, thickness = 0.489" (leads to dispersion of 64.5)

Lens 2, 1.75" diam.,  $R_4 = 6.88"$ , refractive index = 1.649, thickness = 0.297"

Lens 1 and lens 2 are stuck together with Canada Balsam.

The entire telescope is about 6 inches long, but has an effective focal length of 33.47 inches.

At first sight it would appear that the problem of matching the two surfaces  $R_3$  and  $R_4$  together with identical radii of curvature would exceed the patience of any amateur. In fact there is a relatively simple way of ensuring a perfect match, and that is by grinding exactly as any instructions to make a Newtonian telescope would say, except that you stop before the parabolising stage, and the tool turns into lens 1 and the 'mirror' turns into lens 2.

Mr. Magee claims that, unlike the Maksutov system, there are no intrinsic difficulties. Great patience is required with some surfaces however, namely the flat  $R_2$  and the back surface  $R_5$ .

Despite the use of a lens corrector, the telescope is limited in resolution only by the Rayleigh criterion, and it is achromatic. Spherical aberration is entirely eliminated, even though all surfaces are purely spherical.

For further information see:-

'A compact short-focus telescope with spherical optical surfaces.'  
Scientific American - August 1972 pages 110 to 117

Howard Freeland



## HAVE YOU READ?

SKY AND TELESCOPE August 1972?

There is a real centre fold just like you know what magazine and this shows a detailed photograph of Mars. The old canals have nothing on this canyon!

In the same is an article on the aurora.

SCIENTIFIC AMERICAN August 1972?

On page 48 there is an article that is a "must" for all members on The Birth Of Stars. This is easy to read and puts in perspective many of our notions of cosmology.

In the same issue on page 110 are the plans for a simple cassegranian telescope that functions in much the same way as a Maksutov.

