

FROM

HALIFAX CENTRE R.A.S.C.
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HALIFAX, N.S.

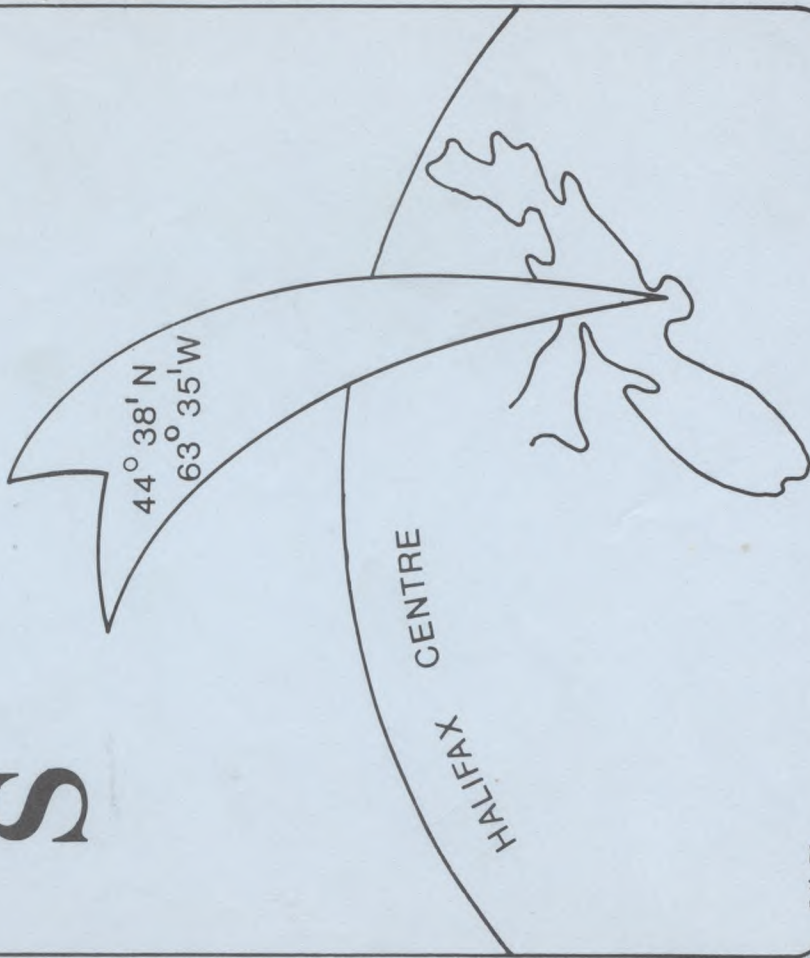


Jan 73?

TO

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

NOVA NOTES



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NOVA NOTES

is a

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Editor's Page

What a response! Your Editor is piled up to his heels, with articles for Nova Notes. While sorting through the page for this month, I couldn't help thinking that someone out there must have had one good look at the sky lately and was just wanting to tell others about it. Perhaps some brave Astro-photographer would like to see his/her work published. If the above cases or any case remotely similar fits you, then send, take, or throw it in, around, under, or on to our locker, in the basement of the museum, in the societies room. Anyone can direct you once you're inside the building. That's at the Nova Scotia Museum, 1747 Summer Street, Halifax, N.S.

The Observer's Handbooks have been sent to the centre and are available to all paid up members, get your copy soon. February is up and coming, so you have already lost one month of what you paid for.

February's meeting should be back at the usual date (hopefully).

I've heard nothing on future star parties, the one we did have was rather enjoyable, but the more, the merrier! Watch for them to return.

Peter Edwards

The Editor

Minutes of R.A.S.C. Meeting

December 8, 1972

Peter Reynolds opened the meeting. It was noted that 1973 Observer's Handbooks were now available for members. A short discussion on transferring check-signing authority took place, and a motion was read by Peter Stokoe, moved by David DuPuy, and seconded by Howard Freeland, to permit checks to be written by either the President or the Treasurer. The motion passed unanimously.

The January meeting was discussed in relation to the visit by Dr. Iwanowska to the Halifax Centre. A motion by Howard Freeland, seconded by Peter Stokoe, was passed, setting Wednesday, January 3, 1973 for the next meeting of the Centre. Dr. Cunningham then displayed a copy of the Skelnate Pleso Atlas Coeli, donated to the Centre by Mrs. R. Aikens. Members may borrow the Atlas for their own use.

The speaker was Dr. Murray Cunningham, who spoke on "A Tale of Two Stars--7 B.C. and 1054 A.D." A short scholarly review of the historical background was given first, investigating what scholars might have seen the Christmas star. This was followed by a short inquiry into the reasons that the 1054 A.D. supernova was not recorded as seen in Europe, only in China. Questions followed, and the meeting adjourned at 9:30. About 30 people were present.

NEW OPTICAL PULSAR DISCOVERED

In the November 1, 1972 issue of the *Astrophysical Journal Letters* to the Editor, an exciting announcement is made: the second optical pulsar has been discovered! About 60 pulsars are now known, but they are observed with radio telescopes and locating the star at visible wavelengths is difficult indeed. Three short articles which have just appeared deal with new x-ray observations of Her X-1 (first x-ray source in Hercules), optical studies of HZ Her (a variable star in Hercules which appears to be the optical counterpart of Her X-1), and the identification of HZ Her as an optical pulsar.

The x-ray observations showed variations of three types: a) short-duration pulses of 1.24 seconds; b) eclipses repeating every 1.70017 days; and c) a 36-day variation in which the x-rays turn on and off. These variations can be explained by the following model: an eclipsing binary system, having an orbital period of 1.70017 days, is made up of one relatively normal star and one neutron star (a star which no longer shines and which has collapsed from perhaps 1 million miles in diameter to perhaps 10 miles in diameter). The eclipses supply the 1.70017 day variations, and amount to 1.8 magnitudes in blue light.

The flashes every 1.24 seconds have now been seen in visible light, although they are weak compared to the steady light from the companion star. These flashes originate with the neutron star, which rotates once every 1.24 seconds, and a "hot spot" on the neutron star is seen once every rotation. The only other optical pulsar known, NP 0532 located in the Crab Nebula, rotates and hence flashes once every 1/30 second. The source of the 36-day variation is more uncertain, but it could be caused by precession of the neutron star.

David L. DuPuy

HAVE YOU READ ???

SCIENCE Dec. 8 1972 Page 1087

There is water frost on the surface of the Gallilean satelites of Jupiter. You know those big satelites that you see with a small telescope.

NATURE Dec. 1 1972 Page 250

Please would one of our members please visit ^{Chile} Chile because that is or will be where the action is in optical astronomy. Within a few miles there are many large telescopes and almost every major country is participating.

Same issue- Page 251.

To learn the real nature of the sun and what its interior is made of you must go into a deep mine and count neutrinos. The question is- Is the sun a cup of tea? On the other hand is convection a piece of cake? To get down to it read page 262 and find out why we had the ice ages and other things. The sun is our closest star and there is a great deal to learn about its source of energy. This article has a great deal of mathematics but if you are a rank amateur like me, the summaries and illustrations are worth thinking about.

Those of you that read Charlie Farquharson's Cosmology in last month's issue of this Journal will be pleased to see in NATURE Dec. 1st issue on page 298 that the Cosmos, You know the Whole "rang-dang-doo" may in fact be a dark hole !! There is even mathematics to prove this. With this happy thought may we wish you a Happy New Year!

Murray Cunningham

The January meeting of the R.A.S.C. was held on January 3rd at St. Mary's University, and was a joint meeting with the Nova Scotia Institute of Science. The speaker was Dr. W. Iwanowska, Director of the Astronomical Observatory at the Nicholas Copernicus University in Torun, Poland. Dr. Iwanowska is presently giving a series of lectures across Canada at R.A.S.C. Centres, and Halifax was her first lecture. About two hundred people were present, including many members of the Polish community in Halifax.

Dr. Iwanowska's lectures are part of the celebration of the 500th anniversary of Copernicus's birthday, and her topic was "Copernicus and Modern Science". Her lecture began with a short historical review of the Ptolemaic versus Copernican systems, describing problems encountered in adhering to the Ptolemaic system after telescopic observations were available, such as the phases of Venus.

The ideas found in the famous book written by Copernicus, De Revolutionibus Orbium Coelestium, in which Copernicus unambiguously placed the earth in an orbit around the sun like the other planets, lay unpublished for thirty years because Copernicus foresaw opposition from both religious and academic circles. Indeed, the common people of Copernicus' time did not like his theory, because it

offended their belief that the massive earth moved. Although the last five sections of the book contained long and tedious attempts at mathematical proof, Copernicus did not "prove" anything about the arrangement of the solar system; these did not come until the 18th and 19th centuries.

Dr. Iwanowska next traced the dependence of modern science to the accomplishments of Copernicus. The studies of dynamics by Galileo, the milestones of Kepler, and the formulation of Newton's laws of gravity were all stimulated by the work of Copernicus. Even today, three recent and exciting developments in astronomy, the quasi-stellar objects, the pulsars, and the black holes, all appear to depend critically on gravity for their energy mechanisms.

Dr. Iwanowska has reminded us of our tremendous heritage from Copernicus, and in this 500th anniversary year of Copernicus' birth, we wish Dr. Iwanowska well in her continuing series of lectures and in her efforts to advance astronomy in her homeland of Poland.

