R E G U L U S

THE NEWSLETTER OF THE

ROYAL ASTRONOMICAL SOCIETY OF CANADA - KINGSTON CENTRE

JANUARY, FEBRUARY, 1986

NOTICE REGARDING FUTURE MEETING DATES AND LOCATIONS

OUR MEETING OF JAN. 10 WILL BE IN MACINTOSH-CORRY, ROOM D-207.

THE TWENTY-FIFTH ANNIVERSARY BANQUET AND MEETING WILL BE ON **THURSDAY, JANUARY 23, 1986** AND THE MEETING THAT EVENING WILL BE IN MACINTOSH-CORRY, ROOM D-207.

UNLESS THERE IS NOTICE OTHERWISE, OUR MEETINGS OF FEB. 14 AND 28, AND **ALL FUTURE MEETINGS** WILL BE IN MACINTOSH-CORRY, ROOM D-207.

LOOKING BACK ON TWENTY-FIVE YEARS OF ACTIVITY

This year our Kingston Centre celebrates its twenty-fifth anniversary. Thanks to the work of Dr. A. Vibert Douglas, the Kingston Centre was formed in 1961 as the sixteenth Centre of the Society. Because of her work and that of a number of others, the Centre has flourished since that time and become one of the very active Centres of the Society. To remind us of the historic events relating to our organization's establishment, our newsletter will reprint in the next several issues a number of documents from the year 1961, documents obtained from the Society's archives. The first is the report of the organizational meeting held in January 1961 to explore the possibility of setting up a Centre; with it is the letter subsequently sent to the National Office.

Your editor hopes that readers will enjoy this series of articles. If there are any members of the Society in any other parts of the country who were members of the Kingston Centre at the time of its founding in 1961, he also hopes that they will contact us to share with us any memories they may have of that time.

"ORGANIZATIONAL MEETING, KINGSTON CENTRE ROYAL ASTRONOMICAL SOCIETY OF CANADA.

About 20 students and members of Queen's University Faculty met in Room 221 Ellis Hall on Thursday, January 19, 1961 at 7:30 p.m. The chair was taken by Dr. A. Vibert Douglas, Professor of Astronomy, and a past-president of the Royal Astronomical Society of Canada, who outlined the history and purpose of the RASC.

After presenting a description of the Handbook and the Journal of the Society and mentioning the annual fee as $5.00 per year with a special rate of $3.00 per year for students, the chairman called on Dr. George Harrower to explain the facilities of the Observatory. He suggested that members might be invited to observe with the large and the smaller telescopes one evening a week with the guidance of a graduate student in Astronomy. From time to time public lectures might be arranged.

After most of those present indicated their desire to form such a centre and join the Society, the chairman gave an illustrated address on Telescopes and the Universe They Reveal.

After the lecture, 9 of those present paid the membership fee and a tentative announcement was made of an informal observational meeting to be held in the Observatory on Thursday January 26.

The meeting then adjourned.

(Signed) A. Vibert Douglas
Temporary Acting Secretary"

The text of a letter of January 23, 1961 to Mrs. Marie Fidler, Executive Secretary of the R.A.S.C.:

"Dear Mrs. Fidler:

Will you please report to the officers of the RASC that a Kingston Centre was formed at an organization meeting held at the Observatory, Queen's University on Thursday January 19, 1961.

I enclose a copy of the minutes of the first meeting and append to this letter a list of paid-up members, to whom I should be most grateful if you will send the Observer's Handbook, and the Journals as they appear.

Dr. Harrower and I hope to extend membership to Kingston citizens at a meeting not yet arranged in February. We thought it wise however to begin with a nucleus of interested university students. Steps will be taken when the group gets to know one another to elect officers and draw up a constitution. We hope this may grow into a strong active Centre.

With kind regards,
Sincerely yours,

(Signed) A. Vibert Douglas"

OUR EXECUTIVE FOR 1986

At our Annual Meeting which was held on November 22, 1985, the following Executive Officers were elected for 1986:

Honorary President: Dr. A. Vibert Douglas
Past President: Martyn McConnell
President: David Stokes
Vice-President: David Levy
Secretary: Sue Sorensen
Treasurer: Martyn McConnell
Librarian: David Stokes
Newsletter Editor: Leo Enright
National Council Rep.: Terry Hicks
Alternate Rep's: Hein VanAsperen and Martyn McConnell

In addition, Mark Sorensen continues to assist the production of the newsletter.

All our members extend a sincere "Thank you!" to David Stokes for his work as president over the past year and offer him hearty "Best wishes" as he continues to accept the challenge of the job for another year.

The Annual Meeting was an occasion for looking back on the past year and forward to the future. Reports from our Executive Officers showed that the past year had been a successful one and 1986, our twenty-fifth anniversary year, promised to be a very good one also. Accomplishments of the past year included a very large Astronomy Day display on Saturday, April 27, and our representation at the Edmonton General Assembly where Hein VanAsperen's entry won in the Display Contest. In the coming year we can look forward to the first presentation of the now Kingston Centre Award which has now been established and will be referred to in the following article.

To those who have taken on the task of being members of our Executive Council for the coming year, we can say, "We appreciate your dedication in the past and look forward to your continued service to this very active Centre in 1986."

THE POLICY CONCERNING

THE R.A.S.C. - KINGSTON CENTRE'S NEW MAJOR AWARD

[EDITOR'S NOTE: The following statement, written in the language of formal policies and bylaws, is the text of the policy regarding the new award that has been created by our Centre. It will be known as the Dr. A. Vibert Douglas Award and has been established as a part of the celebrations marking twenty-fifth anniversary of the

founding of our Centre. The policy for and the format of the award and its presentation were established by a committee trade up of Terry Hicks, Leo Enright, Martyn McConnell, and Sue Sorensen. It is hoped that this award will become a part of a growing tradition within our Centre and will be an encouragement to new and relatively unheralded members to contribute to the group and receive recognition that otherwise might not be forthcoming.]

1. NAME: The major award of the R.A.S.C. Kingston Centre will be known as the Kingston Centre's Dr. A. Vibert Douglas Award, named after the founder of the Kingston Centre, its most outstanding member, and Honorary President.

2. PRESENTATION: The award may be presented annually to honor the contribution or achievement of a member of the Kingston Centre, although it need not **necessarily** be presented every year.

3. CRITERIA: The award will be presented for:
SERVICE (including longstanding dedication, or a recent contribution or contributions to the Centre or the Society),
AND/OR
AN ASTRONOMICAL ACHIEVEMENT (including a discovery, invention, literary presentation, or related achievement, any of which may be a recent and "one-time" matter or an achievement over many years).

3 (b). It is intended that the award be presented to recognize contribution and/or achievement by a member of the Centre who may not necessarily receive the recognition which is his/her due, and that it not necessarily be given to a member of the Centre who is already receiving Centre- and/or National- recognition for another reason such as because of a position held in the Centre or on National Council.

4. SELECTION: The winner of the award will be chosen by the Major Award Committee of the R.A.S.C. - Kingston Centre. This committee will be composed of at least three members of the Executive Council of the Kingston Centre. It will hold at least one meeting each year between September 15 and October 31 in order to select the current year's winner of the award, in accordance with Section 2 above.

5. ANNOUNCEMENT: The winner of the award will be announced at the Annual Banquet and Annual Meeting of the Kingston Centre and the presentation of the award will be made at that time. If another meeting, such as an anniversary meeting or meeting for a very special occasion, is being held close to the time of the Annual Banquet and the Annual meeting, the presentation of the award may be made at that time.

5 (b). The contribution and/or achievement of the winner which is/are being recognized by the presentation is to be mentioned at the time of the presentation.

6. FORM: The award will take the form of a plaque which will bear a suitable inscription including its name, the names of the winners, and the years in which it is presented.

7. RETENTION: The award is to be retained by the winner from the date of the presentation until the following September 15, at which time it is to be returned to the president of the Kingston Centre, who in turn will see that it is given to the chairperson on the Major Award Committee for the current year, so that the award may be suitably inscribed before presentation at the following Annual Banquet or Annual Meeting. It is expected that a miniature plaque or trophy will be presented to and retained by the winner each year.

8. RESPONSIBILITY: It is the responsibility of the President of the Kingston Centre, on or before September 15 of each year, to see that the Major Award Committee has been formed following the guidelines outlined above.

8 (b). It is the responsibility of the chairperson of the Major Award Committee to see that the plaque for the current year is suitably engraved before presentation, and to make arrangements for the presentation on the appropriate occasion.

AN ARTICLE ON LIGHT POLLUTION

[EDITOR'S NOTE: A newsletter editor does not often receive free contributions for his publication at least, not articles on a topic as important to all of us as light pollution. The following article is from Mr. Dan Kahraman, who, as he states in an accompanying letter, lives on a farm in Essex County in western Ontario and has become genuinely concerned about the very serious problem of light pollution.

The fact that this concerned citizen, who is not a member of our Society, has educated himself so well in this area and has expressed such an interest in DOING something about this mushrooming problem ought to be a spur to all of us to continue our action in this regard.]

December 1985.

I am writing this with the hope that many of you will become anti-light pollution activists. With the recent significant victories and high public interest in astronomy due to Halley's Comet, translating our efforts here on local, regional, and national levels may be much easier than many of you may think!

Recently there has been a spate of coverage on light pollution in both Astronomy and Sky and Telescope magazines. More importantly this topic has not been limited to astronomical journals but has received extensive coverage in other magazines including newspapers such as the Wall Street Journal. Just as important, many communities have passed light pollution control ordinances; examples are San Diego (1984) and the state of New Jersey earlier this year.

The law in the state of New Jersey represents the toughest and most comprehensive anti-light pollution legislation yet passed. This bill was introduced by Senator Harley who in turn had become aware of this problem because of Mr. Fred Schaaf's efforts. Mr. Schaaf has also seized the opportunities presented by Halley's Comet to educate the public on the need for a saner use of nighttime illumination. WE should do likewise! It may be possible to reach the highest levels of government, whereever applicable, because of the current high public interest. There are two educational kits which may help in this regard; one is a 70-page booklet by Dr. David Crawford entitled "Outdoor Lighting Control". The other one would be a copy of the New Jersey state law and the accompanying information package that Senator Hurley's office is making available to every city and municipality in the state.

A suggested protocol of accomplishing this goal in our cities, towns, provinces and at the federal level would be to mail a cover letter detailing some of the means of achieving light pollution control accompanied by the available kits. A proposed list of recommendations to be incorporated into your letter follows:

- The use of LPS (Low Pressure Sodium vapour) versus HPS (High Pressure Sodium vapour) should be advocated. LPS is $200,000 cheaper per year than HPS for 50 million more lumens. The savings to municipalities, towns, cities, and ultimately the taxpayer should be emphasized! For us as astronomy enthusiasts, the LPS, being a single narrow-band emitter, adds the promise of being easily eliminated by the development of appropriate interference (anti-pollution) filters. This would be impossible with HPS light.

Other advantages of LPS over HPS are:

1) It causes much less glare. This recognized feature is the reason U.S. Navy aircraft carriers use LPS lights on their runways.

2) LPS has had a long history of use in Europe, i.e. 40 years.

- Use of shade or shielding on all lighting sources should be stressed. These shields should extend down below the bottom of the bulb so that all light is directed downwards and none to the sides or the sky.

- On highways the use of shielded LPS stands and a reduction in their present densities should be urged. The current setup (unshielded densely packed poles/lights) contributes to glare presenting a traffic hazard.

For pedestrian walkways the use of 3-foot poles instead of the current 15-foot stands should be urged. Here too the illumination source should be LPS with appropriate shielding, i.e. light should be directed onto the pathways!).

For shopping malls, we should urge: 1) use of shielded LPS fixtures and, 2) lighting curfews after mall closing time at 10 or 11 p.m. The savings to business should be stressed if they are not already evident!

- For billboards and/or other outdoor advertising displays, lights (LPS) should be shielded and directed downwards at the sign rather than upwards.

MISCELLANEOUS TOPICS:

1) We should advocate the elimination of searchlights and lighted (all-night) car lots.

2) We should clarify the role of crime and lighting. Statistics available from the FBI show no correlation between crime and lighting. The majority of crimes are daytime occurrences. Here the lighting industry has made its fortunes by playing on the fears of adults who haven't outgrown their childhood fears, pure and simple! Are we to believe that crime was rampant before the advent of electricity and lighting?

3) The effect of light pollution on the environment should be noted:

i) on plants, where there is a delay in leaf abscission in autumn and a premature leaf nascence in the spring. Undetectable effects of abnormal lighting levels or regimes are bound to be even more significant.

ii) on animals. Here there is the alteration of hormone levels, bird kills in migration, effects of glare, disorientation or attraction to beacons and lighted skyscrapers, etc..

4) Remember, light pollution is easy to cure and unlike other environmental pollutants saves money to eliminate. Also, we would not need nuclear power plants were it not for the need to light up the night.

5) the 70-page booklet is available from:

Dr. David Crawford,
Outdoor Lighting Control Booklet,
Kitt Peak National Observatory,
950 North Cherry Avenue,
P.O. Box 26732,
Tucson, AZ 85726

The New Jersey Anti-Light Pollution Bill and Lighting Control Kit is available from:

Mr. Fred Schaaf,
706 E Street,
Millville, NJ 08332
Phone: 609-825-2196

Mr. Schaaf is a noted anti-light pollution activist, editor of the Dark Skies For Comet Halley Journal, author, and has a regular column in Astronomy magazine.

We have a right to darker skies!

Dan Kahraman,
Wheatley, Cntario.

A LETTER REGARDING THE AURORAL OUTBURST OF AUGUST 12-13

[EDITOR'S NOTE: I was very pleased to receive fran Mr. John Hicks of the Toronto Centre a letter regarding my article (in the October-November issue of Regulus) on the unusual auroral outburst of August 12-13. I now know that this very unusual aurora was seen elsewhere in Ontario, as well as in Alberta (see page 7 of the issue just mentioned).]

Box 75,
Keswick, Ontario.
Dec. 11, 1985.

Dear Leo,

After reading your article in the October 1985 newsletter, I locked up my observing records feeling that I, too, had witnessed this aruora. As I suspected I had also documented it on film and in my observing journal.

It was, as I remember, at a time when very little solar photospheric activity was visible. Since I had done very little chromospheric work in the H-alpha throughout August, I cannot verify that flares or limb prominences contributed to the very odd outburst.

My exact observtions were as follows:

"Aug. 12 - Aurora Borealis - curtain type, but from Zenith hanging down east to west. At 10:30p.m.EDT - typical northern curtain type, then at 10:45 changed to overhead Zenith like a ribbon weaving itself in and out from the Northwest horizon to

the Southeast. It took a semi-circular form, cutting through Cygnus and the Milky Way overhead."

I also sketched a portion of the most active region as follows:

[A sketch of the aurora passing through Cygnus was included.]

"I took Fujichrome 100 (print film) colour negatives at "B" setting with various time exposures, 20 seconds to 2 - 3 minutes on tripod using calble release."

The bars on the aurora were really spectacular, really forming a true "X" with the Milky Way. I am enclosing two prints from the series showing a) banding overhead, and b) the actual spectral rays concentrated in the north sector. These pictures were a stroke of luck. I was in my pyjamas, on my back porch, half-asleep.

Best wishes,
John Hicks

FOR YOUR COMPENDIUM OF ESOTERIC FACTS

Did you know that there is one one satellite in our solar system whose orbit, in one way at least, resembles that of a comet more than that of a satellite? Strange as it may seem the orbit of Nereid, the outermost of the two known moons of Neptune, is far more eccentric than that of many known comets, and in fact, its orbit is in extreme contrast to that of its sister satellite, Triton which has one of the most non-eccentric or nearly circular orbits in our solar system. Nereid's orbit with an eccentricity of 0.75 takes it from a periNeptunian distance of less than 1.4 million kilometers from its planet to an incredible apiNeptunian distance of over 9.6 million kilometers. An absolutely amazing range of distance! Imagine living on Nereid and seeing how the size of the parent planet would change over the course of one Nereidian year. Another amazing fact about this satellite is how close that Nereidian year (i.e. the time of its orbit about its parent planet) corresponds to the earth year; it is 365.21 earth days, that is within minutes of one of our "earth years".

REPORTS AND OTHER ITEMS

1. Did anyone see any celestial objects in the months of November or December? We all have had so much cloudy, rainy, and snowy weather that few observations could be made at all. Your editor had only two solar observations for the month of November and five in the month of December. Halley's Comet was observed four times in November and three times in December. During that time it brightened up nicely as it moved through Pisces and into Aquarius and in December was at the edge of naked-eye visibility. It was recorded photographically three times.

2. An interesting communique from former member of our Centre, Jim O'Donovan, tells us of his travels in Europe and visiting various interesting places including the Space Museum in Moscow. Even more interesting is the fact that he travelled in Ireland, discovered very pleasant, clear skies in the southwest corner of the island with scarcely any cloudy weather at all ("and no flies and no frost"!) and has deciding to settle down there for a while. With his luck, he found out that a local toun had just fallen heir to an enormous fortune ["about 100,000 pounds plus 40,000 pounds worth of astronomical equipment - state of the art" (sic)] left by a wealthy benefactor who had just died, and the town was in need of someone to assist in setting up an anstronomy club.

   As a follow-up, your editor has received a telephone call from the Emerald Isle, and offered some information about our Centre and our Society and looks forward to hearing how the organization makes out. In fact, we may have an Irish Branch to rival the Tucson Branch of the Kingston Centre. Mr. Jerry Desmond, the person in charge and the one to whom I spoke on the telephone, informs me that there are about twenty prospective members. We look forward to what may develop in the days ahead.

   Thanks, Jim! What luck you have in your travels!!

3. WE STRONGLY URGE EVERYONE TO JOIN IN OUR TWENTY-FIFTH ANNIVERSARY CELEBRATIONS. PLEASE DO NOT FORGET THE BANQUET AT AUNT LUCY'S REATAURANT ON THURSDAY, JANUARY 23 AT

6:00 p.m. AND THE MEETING FOLLOWING IN ROOM D-207 OF MACINTOSH-CORRY HALL AT QUEEN'S UNIVERSITY.

1. In the coming months the following items will be worth watching: (i) THE COMET, of course, as it continues through Aquarius, (Try to be the last one to see it as it approaches the sun in the western sky, and heads toward perihelion on February 9.) (ii) the asteroids, Pallas and Ceres,that are now favorably placed for observing, (Consult the Handbook.) (iii) the early morning configurations of the planets Mars and Saturn and the bright star Antares, and (iv) try to be the last one to see the planet Jupiter as it is swallowed up in the glow of evening twilight in the early part of February.

5. Here is our calendar for upcoming meeting dates:

- Jan 10.
- Jan 23. NOTE THIS IS A THURSDAY
  THIS IS OUR ANNIVERSARY BANQUET DATE
  BANQUET: 6:00 p.m. AUNT LUCY'S RESTAURANT
  MEETING: 8:00 p.m. MAC-CORRY HALL - ROOM D-207
  GUEST: DR. ROY L. BISHOP, R.A.S.C. PRESIDENT.
  TOPIC: SS433: A STELLAR SPECTACLE
- Feb. 14.
- Feb. 28.

All meetings begin at 8:00 p.m. in room D-207 in Macintosh-Corry Hall.

6. Our address is as follows:
R.A.S.C. - Kingsotn Centre,
Box 1793,
Kingston, Ont.
K7L 5J6.

Clear skies!
Good observing!

Leo Enright