REGULUS

NOVEMBER-DECEMBER 1993

NEWSLETTER OF THE KINGSTON CENTRE
OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

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CONTRIBUTIONS WELCOME: Articles, notes on observations, humour, poetry, artwork, anything on astronomy or related topics, are invited. Submitted material may be edited for brevity or clarity. Please send all submissions to the Editor as follows:

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DEADLINE FOR MATERIAL IS THE 15th OF THE MONTH PRIOR TO PUBLICATION.

MEETINGS AND EVENTS HORIZON

Regular Meetings of the Kingston Centre, RASC are held on the **second Friday** of each month at **8 p.m.**, in **Room B-201**, **Mackintosh-Corry Hall, Queen's University. Non-members are welcome.** Executive Council Meetings, 7 p.m.

Fri., Nov. 12 **REGULAR MONTHLY MEETING. Speaker is Peter Broughton, RASC National President. Topic: "What Is The RASC?––Past, Present and Future."**

Fri., Dec. 10 **CHRISTMAS DINNER––AT MCGINNIS LANDING RESTAURANT, 530 Bath Road, Kingston––5:30 p.m. Please advise Christine Kulyk, by Dec. 1, so that she can make arrangements with the restaurant.**

Fri., Dec. 10 **REGULAR MONTHLY MEETING. Speaker will be Bill Broderick. Topic: "Big Bang or Big Bust?"**

Fri., Jan. 14 **REGULAR MONTHLY MEETING. Speaker, Judith Irwin. Topic "Outflows From Spiral Galaxies."**

IN THIS ISSUE...

	Page
MESSAGE FROM THE PRESIDENT	2
KINGSTON CENTRE ELECTION RETURNS . .	3
SOME THOUGHTS ON THE MOVEMENTS OF MARS. .	4
THERE'S PLENTY TO INTEREST THE AMATEUR IN OUR JOURNAL . .	6
NEWS AND NOTES	9
CITATION FOR THE 1993 PRESENTATION OF THE DR. A. VIBERT DOUGLAS AWARD . .	10
AN ASTRONOMER'S CHRISTMAS	10

To wish you the joy and the hope
that is Christmas

MESSAGE FROM THE PRESIDENT

By Christine Kulyk

At the Kingston Centre's Annual Meeting on October 8, 1993, the following amendments to our Centre By-law were passed by unanimous vote of those members present and voting:

Amendment #1 – that in Article III.2 the words "Senior Members" be deleted;
Amendment #2 – that Article III.3, sentence 1 be amended by changing the words "for Ordinary, Youth, and Senior Members" to "for Ordinary and Youth Members", and by changing the words "for Youth and Senior Members" to "for Youth Members";
Amendment #3 – that in Article VII.3 the words "seven days" be amended to read "at least seven days";
Amendment #4 – that in Article X the words "or other individual members of the immediate family" be inserted after the words "individual parents".

Copies of our complete Centre By-law are available from our Secretary KIM HAY.

The first two amendments were made in order to bring our Centre By-law into accord with the By-laws of the National R.A.S.C. which eliminated the Senior category of membership as a result of a vote taken at the annual R.A.S.C. General Assembly in July 1993.

A fifth proposed amendment was defeated through failure to obtain the 2/3 majority of the vote which is required for passage, according to our By-law. The proposed amendment read as follows:

> It was moved by Leo Enright and seconded by Bill Broderick that in Article VI.1 the words "his absence" be changed to "his/her absence", that in Article VI.4(b) the words "by him" be changed to "by him/her", and that in Article VII.3 the words "as he" be changed to "as he/she".

This proposed amendment, which had obtained the approval of the Centre Executive before being presented to the membership for voting at the Annual Meeting, would have ensured that the wording of our By-law articles would be gender-inclusive. For example, Article VI.1 currently begins, "The President shall preside at all meetings at which he or she is present; in his absence the Vice-President shall preside...." In this sentence, the proposed amendment would have changed the words "in his absence" to "in his/her absence". Similarly, Article VI.4(b) currently begins, "On the 15th day of January, April, July, and October of each year, the Treasurer of the Centre shall submit to the Treasurer of the R.A.S.C. the required 60% of all membership fees received by him during the quarter year...." The proposed amendment would have changed the words "by him" to "by him/her".

In connection with this matter, I wish to draw to the attention of all our members the following passage in an article appearing in the R.A.S.C. National Bulletin for August 1993, written by National R.A.S.C. Second Vice-President **Michael S. F. Watson** and entitled "Sexism in the R.A.S.C.?"

> **I could not agree more strongly with Mary Lou Whitehorne ("Reflections––Where are the Women?" Bulletin, June 1993) that sexism––and, indeed, any kind of discrimination that is based on an individual's attributes or characteristics other than her or his merit––is to be condemned and discouraged. I also agree with her that it is a shame that there are not more women involved both in astronomy in general and in the society in particular.**
>
> **This has been a source of disappointment to me over the years, and I have often wondered how the situation could be ameliorated. My own concern about gender equality led me to pioneer the use of "gender-neutral" language in the society's by-laws, policies and resolutions, an initiative that is now readily and virtually universally accepted throughout the R.A.S.C.** (See Bulletin, August 1993, page 3.)

I think this would be a good time for us to reflect upon the many ways in which the Kingston Centre has benefited from the very active participation of its women members over the years, dating back to the woman who **founded** our Centre in 1961, distinguished Canadian astrophysicist **Dr. A. (Allie) Vibert Douglas**, and continuing through to the present day, where one has only to look at the current list of Kingston Centre officers and committee chairs to see the amount of work that is being done on behalf of our Centre by those of its members who happen to be women.

I am confident, knowing the calibre of our Kingston Centre members as I do, that one way or another, our By-law will be brought up-to-date and all gender-exclusive language eliminated in the not too distant future.

On a more positive note, I would like to take this opportunity to thank everyone I have had the pleasure of working with over the past year. Together we have made good progress. I wish our incoming President Walter MacDonald continuing success as we face the challenges of 1994.

ELECTION RETURNS

At our Annual Meeting on October 8, 1993, the following officers were duly elected to serve on the Kingston Centre Executive Council for the 1994 year:

President:	**Walter MacDonald**
Vice President:	**Leo Enright**
Secretary:	**Ruth Hicks**
Treasurer:	**Kim Hay**
Newsletter Editor:	**Bill Broderick**
Librarian:	**Kevin Kell**
Nat'l Council Rep:	**Walter MacDonald**
(Alternate Nat'l Council Rep:	**Kevin Kell)**

The following are the names of our Committees and Committee Chairs for 1994:

Education:	**Denise Sahatini**
Publicity:	**Bill Broderick**
Observing:	**Steve Manders**
Observing Site:	**Steve Manders**
Light Pollution:	**Bill Broderick**
Astronomy Day:	**Ian Levstein**
GA Bid:	**Peggy Torney**

And our **Honorary President:** **David Levy**
And **Past President:** **Christine Kulyk**

CONGRATULATIONS AND BEST WISHES to our 1994 Officers and Committee Chairs!

AND MANY THANKS to the following retiring Officers and Committee Chairs for your outstanding contributions to the success of our Centre during your terms of office:

Christine Kulyk	**(President)**
Kim Hay	**(secretary)**
David Stokes	**(Librarian)**
Stan Henna	**(Astronomy Day Coord)**

(Also; Peggy Torney, formerly an Astronomy Day Coord, who now Chairs the new GA Bid Committee)

SOME THOUGHTS ON THE MOVEMENTS OF MARS

By Warren Morrison

With Mars having been in the evening sky for many months now, it is perhaps hard to turn our thoughts to it being in conjunction with the sun. Yet, perusing predictions of planetary phenomena for 1993, we see that Mars came to opposition on January 7 and will reach conjunction on December 27.

It is very unusual for opposition and conjunction to occur in the same calendar year. The last such occasion was in 1914, the next will be in 2040 (derived from Meeus' book **Astronomical Tables of the Sun, Moon, and Planets)**.

A little more thought may well cause us to wonder how such an event could happen at all. As many books state, Mars' synodic period (from one opposition to the next) is 780 days. Half of this period, corresponding to the interval from opposition to conjunction, is 390 days, nearly thirteen months. At first glance, it seems inconceivable that opposition and conjunction could occur less than a year apart. The converse situation, a year lacking both opposition and conjunction, seems much more likely, and in fact 1992 was such a year; Mars was a morning planet for the entire year. This also occurred in 1962, 1977, and will again in 2009. During all such years, Mars is in the morning sky. Nineteen ninety-three comes quite close to being a case of Mars spending a full calendar year as an evening planet, 354 days of the year being spent at an evening elongation.

All of the above-mentioned phenomena are related. The explanation lies in the eccentricity of the orbit of Mars. When Mars reaches perihelion in its 687-day orbit, it is more than 40 million kilometres nearer the sun than at aphelion. Recall also that any planet moves fastest at perihelion.

In 1993, Mars reached aphelion on April 25. Hence the current opposition, with Mars relatively distant, is termed Aphelic. Perihelion does not occur until early April 1994 (Meeus), consequently, for most of this year, Mars is moving slower than average. The faster moving earth is able to catch up to and subsequently recede from the red planet more quickly than normal. Thus, only 354 days pass between opposition and conjunction, instead of the expected 390.

Mars' previous conjunction occurred on November 8, 1991. Four hundred and twenty-six days passed before opposition early this year. Perihelion fell during this period (on May 17, 1992). As a result, Mars last year moved faster in its orbit than average. Earth slowly gained on it, but the gap didn't close nearly as rapidly as it would have, had Mars been at aphelion.

Many will recall how Mars lingered low in the eastern sky before dawn (or many months in the winter and spring of 1992. Most of this was due to the unfavourable orientation of the ecliptic before dawn at that time of year, but Mars being near perihelion was also a factor.

The 780-day synodic period of Mars is only an average value. Oppositions (or conjunctions) can occur at intervals of as little as 25 months (1993-1995) or as great as 26½ (1986-1988). Again, the eccentricity of Mars' orbit is the reason. Consider the latter case:

Opposition came on July 10, 1986, followed by perihelion on September 25. The next aphelion passage took place on September 3, 1987, near conjunction. Another perihelion passage came on August 12, 1988, shortly before opposition on September 28. During this 26½ month interval, two perihelion passages, but only one aphelion, occurred. Mars' average speed during the period being greater than average, the 760-day synodic period did not give Earth enough time to catch up to Mars in 1988 (the actual Interval was 811 days).

Turn now to 1993-1995. As stated before, this year's opposition was on January 7, with aphelion on April 25. Perihelion comes in April 1994, shortly after the conjunction of December 1993. When opposition comes again on February 11-12, 1995, Mars will again be almost at aphelion. Mars' average speed during the entire interval will have been less than average, hence Earth requires only 765 days to catch up to it again in 1995.

Aphelic oppositions always come at intervals of about 25 months. Perihelic oppositions always recur at intervals of 26 or more months.

Another item that may have been noticed is the fact that in 1993, Mars was nearest Earth not at opposition, but on January 3, four days earlier. As Mars moved towards aphelion last January, each day it was a little farther from the sun, and Earth's orbit, than the previous day. As Earth gained on Mars before opposition, there was a tendency for the separation of the two planets to decrease. The two effects balanced on January 3. After that date, the slight effect of the Earth catching up to Mars was more than offset by Mars' increasing distance from the sun.

The fact that Earth's orbit is also slightly eccentric is neglected in this discussion, the effect in general being insignificant compared to the eccentricity of Mars.

When at perihelion or aphelion, Mars' distance from the sun is essentially constant for a few days. Closest approach and opposition occur on the same day when opposition coincides with perihelion or aphelion. Such oppositions come in late February (such as in 1980) for aphelion, or late August (such as in 2003) for perihelion.

However, midway between perihelion and aphelion, Mars' daily change in distance from the sun is at its greatest value. At such times, closest approach and opposition may be over a week apart.

For oppositions during the months March to July, opposition precedes the dates of closest approach, with maximum in May (the May 31, 1969 opposition came nine days before closest approach).

For oppositions during the period September to January, closest approach occurs before opposition, with maximum in November (the November 27, 1990 opposition came almost eight days after closest approach).

A similar effect occurs at conjunction. In fact, conjunction and date of greatest distance may be several weeks apart. This is because the effect of the Earth outpacing Mars has very little consequence when the two planets are on opposite sides of the sun. For the conjunction of November 6, 1991, the maximum distance from Earth actually came on October 11.

Does Earth's eccentric orbit have any effect at all? Yes, but it is only noticeable when opposition coincides almost exactly with perihelion or aphelion. The February 1980 opposition was such a case, aphelion occurring only four hours before opposition. However, closest approach came twenty-four hours after opposition (Meeus) because the Earth at that time was moving from perihelion to aphelion, approaching a little nearer the orbit of Mars each day.

The net result is that the most distant possible opposition of Mars comes when it falls around February 18-22 of any given year. The most favourable opposition would be one falling around August 20 to 28. Slight variations in the orbital elements of the two planets account for this range of dates.

Over thousands of years, the situation changes. The aphelion point of Mars as observed from the sun, lies towards the constellation Leo. This is why Mars' aphelic oppositions occur when the planet appears near this constellation. Leo is currently opposite the sun in February and early March. Precession of the equinoxes of Earth will gradually shift the time of Leo's opposition, and Mars' aphelic oppositions, into March, April, May and so forth, until ten thousand years from now, aphelic oppositions, still in Leo, occur in June-July, when Mars will be at a southerly declination. Perihelic oppositions (in Aquarius) will then be in December-January, at high northern declinations.

Similarly, eight or ten thousand years ago, Leo (and Mars' aphelion point) was at opposition in early autumn. It was then possible for Mars to reach opposition late in December, be an evening planet for the entire following calendar year, and reach conjunction early in the third year. Thus it was then possible for Mars to spend an entire calendar year as an evening planet, something not possible now. Of course, our current calendar did not exist back then.

(Continued; See MARS, page 8)

THERE'S PLENTY TO INTEREST THE AMATEUR IN OUR JOURNAL

By Leo Enright

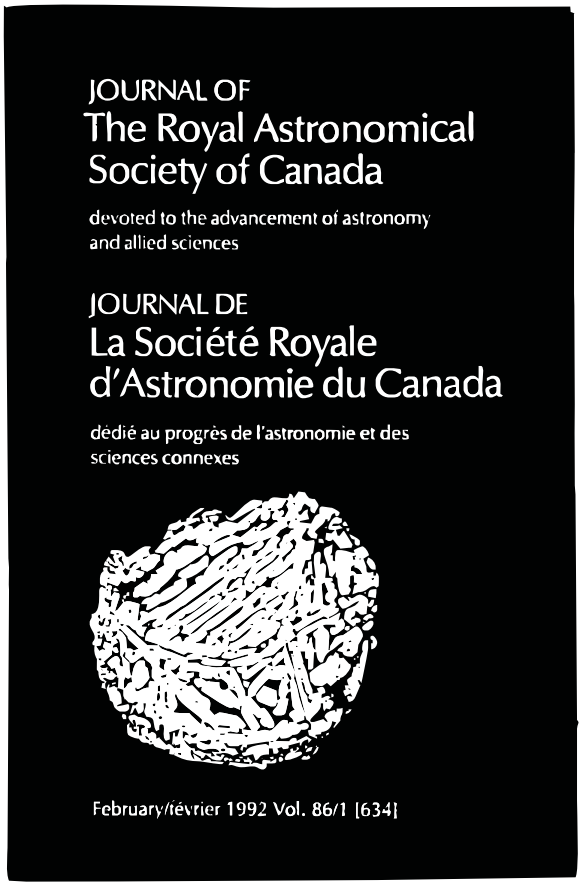
Occasionally one hears the story that many articles in our Society's **Journal** are not relevant to the matters with which we as amateur astronomers are concerned. I decided to look through my 1992 and 1993 issues and make a list of the articles that would he of interest to amateur members of the Kingston Centre. What I found was most interesting and I wish to share it with all the members of the Centre.

In the February 1992 issue there are four major papers. The first paper relates to the **Journal's** cover photograph that was used for the 1992 issues. It is a photograph of a segment of a meteorite taken by an amateur member of the Victoria Centre who collects meteorites. The paper explains the information known about the meteorite which fell in Mexico in February 1969. The second paper is about the meteorite whose extremely brilliant fireball was witnessed in Alberta on June 9, 1952. The meteorite, weighing over 100 kg (!), was dug up from a deep hole in a farmer's field north of Edmonton. The paper gives the radiant of the meteorite determined from the reports of witnesses of the fireball and other data learned about the original orbit of the object, which is one of the most significant of the 46 meteorites recovered in Canada. The third paper is about the brightest of the quasars and the only one that I have observed: I repeatedly observed it last spring since it is an easy-to-locate object in the constellation Virgo. It is the most distant object seen in many amateur telescopes, being at a distance of between 2 and 3 billion light-years! The paper examines what was learned about it following studies made at the time of its "flare-up" in 1982 through 1984; at some wavelengths that brightening was by as much as a factor of four! Information about its variability provides an incentive for future observations of this very interesting object. The fourth paper is on the evolving and future role of computers in astronomy and astrophysics. Though my use of the computer in astronomy has been somewhat limited, there are many members of our Centre who have been known to employ this device in their hobby (!); they just might find parts of this paper to be of some interest.

The April 1992 issue contains three major papers. The first one summarizes in easy-to-understand language the accomplishments over the past decade of those who have used CCD imaging in astronomy, particularly in order to do photometry (the measuring of brightness of objects). The paper also reviews some of the software currently used to do photometry. Those who attended the talk by **Jack Newton** on June 7 will not need to be convinced that CCD imaging is "the wave of the future" in amateur astronomy. The second paper was written by a high school student in British Columbia. It is about sunspots and the distribution of sunspots on the sun's surface, and predictions that can be made regarding the position of sunspots based on solar observations over the past century. The third paper is about a naked-eye variable star in Capricornus, a star whose period is about one day and which is variable because it is a binary star.

In June 1992 there were three papers. The first one was by an amateur member of our Society who wrote about his own observations of Mars during the Red Planet's 1990-91 opposition. Try comparing his observations and conclusions with yours; it could be an interesting exercise. The second paper is by two amateur members of the Edmonton Centre who have been trying to recover meteorites in southern Alberta and southwestern Saskatchewan. Though they have visited 15 locations where fireballs were seen or photographed, and interviewed a good number of local people, they have not yet made any verified recoveries. However, their experiences and their conclusions are very interesting. The third paper is about some of the instruments used at the DAO (Dominion Astrophysical Observatory) which members of the Society visited during the General Assemblies which were held in Victoria.

In August the first of the four papers was about a 20th-century artist named Escher who was also an amateur astronomer and used themes from astronomy in some of his art works. Photographs are provided of some of his creations. The second paper is by an amateur member of the Halifax Centre, **Mary Lou Whitehorne**, whom many of us remember as the head of the organizing committee of the recent Halifax G.A. Her paper is about



her own observations of a naked-eye binary star in the constellation Perseus. Incidentally, **Mary Lou** became interested in astronomy and joined the Society only a few years ago. The third paper was by an amateur member of the Victoria Centre who is employed as a gardener in Victoria, who wrote about the parent comet of the Perseid Meteor Showers and the possible imminent return of that object, called Comet Swift-Tuttle, in the latter part of 1992. This paper appeared in the issue of our **Journal** that arrived just one month before this very significant comet was recovered! Little wonder that the editor has called this paper "a spectacularly successful paper"; and remember, it was by a Canadian amateur who showed some interest in finding out information about comets and meteors. The final paper presents a review of what has been learned in the past two decades about the birth of stars, important basic information for astronomers who want a summary of what is up-to-date on this topic.

In the October 1992 issue the first of the major papers was co-authored by **Mary Lou Whitehorne** and **Randall Brooks**, two members of the Halifax Centre. (See above for information about **Mary Lou; Randall** is our National Secretary.) In it they recount the contribution made by **Dr. C. S. Beals** to the study of an interesting group of objects called Wolf-Rayet Stars. In another paper, our National First Vice-President, **Doug Hube**, reports on his studies of a 6th magnitude star in the constellation Cepheus. There are also brief summaries of all the papers presented at the 1992 Calgary General Assembly. Anyone who was there will remember them as excellent talks. All 16 of them were presented at a level easily understandable by a beginning amateur; most of them were by amateurs, some of whom regard themselves as beginners.

The December issue presents the summaries of the papers presented at the 1992 CASCA meeting in Halifax. They include many and diverse topics: "Plaskett's Star; Curiouser and Curiouser" (about a star that I regularly observe in the winter sky), "The Cosmic Background Radiation and Large Scale Structure", "The Internal Structure of Black Holes", "A New Approach to Teaching Science", "$E = mc^2$ Is Not The Secret Of Stellar Energy (by **Roy Bishop**), "The McMaster University Planetarium", "Sunset Observations", "Gemini Telescope Update", "Images of Jupiter's Aurora By The Hubble Space Telescope", "Close Approaches of Stray Bodies To Planets". It is an interesting array of fascinating topics. If, after reading the summary of the paper, one wants more information, he or she can easily write to the author.

The 1993 issues of the **Journal** have a cover photo of M8 (the Lagoon Nebula) by an amateur member of the Vancouver Centre. The first article in the February issue describes this nebula in the language of amateur astronomy. The second article is about the 1940 discovery in Alberta of a sundial that had been made in London, England, in the early 1800's. I found it a fascinating tidbit of Canadian astronomical history. The third article is about an important optician and instrument maker, Charles Potter, who moved to Toronto in 1853 and had an important role in the early development of the Toronto Astronomical Society, which later became the R.A.S.C. A most fascinating article about a person involved in the early history of our organization! (Please don't miss it.) The title of the next article says it all: "A Survey of the Attitudes of University Students to Astrology and Astronomy". This article received nation-wide attention after it was published: it was reported in The **Globe and Mail**. The final major article is by a member of our Society who has recently

had a book published about Ritchey, Hale and the building of very large telescopes (and reviewed in the current September issue of **Sky and Telescope**). The article reviews the interesting career of George W. Ritchey and explains how many of his visionary concepts were finally achieved with the building of the Canada-France-Hawaii Telescope.

In the April 1993 issue there were two major articles. One was on the life of **Jan Oort** who had recently died and who had been an Honorary Member of our Society for 39 years. The other one was the paper presented as the Hogg Lecture at the 1992 General Assembly in Calgary. "The Cretaceous-Tertiary Boundary Impact (or The Dinosaurs Didn't Have A Chance)" by Alan Hildebrand is probably the best paper ever written on the topic of the Chicxulub (Yucatan) Impact, now generally regarded as the great extinction event. That was certainly the opinion of the paper's referee who made the comment that the Society was lucky to have papers of this calibre. For those who heard the talk in Calgary and went on the trip to the "K-T boundary site" near Drumheller, this paper will have special meaning; however, such an interesting and well-researched report should not be missed by any member of our Society.

In the June '93 issue, in the first of the three papers an amateur member of the Society describes his own observations of five Solar System bodies: Mercury, Venus, Jupiter, Saturn, and Callisto, a moon of Jupiter. The second paper is jointly authored by amateur **Damien Lemay**, our Society's past president, and it is about the new system for reporting the sightings of fireballs in Canada. It should be read by all those who observe the sky in Canada. The final paper is about a new CCD instrument for the University of Toronto's Helen Sawyer Hogg Telescope in Chile. It was written by members of the Society whose names will be familiar to most of us: **Robert Garrison, Ian Shelton**, and **Brian Beattie**.

In all of these issues there were reviews of books written for the amateur astronomer: **Fireside Astronomy** by Patrick Moore, **The Backyard Astronomer's Guide** by Terence Dickinson, **Observing the Sun** by Peter Taylor, **Astrophotography for the Amateur** by Michael Covington, **The Cambridge Star Atlas** by Wil Tirion, **Visual Astronomy of the Deep Sky** by Roger Clark, **Exercises in Practical Astronomy Using Photographs** by M.T. Brack, and many others. Without a doubt the books reviewed are the best of the recent publications which are being purchased by active amateurs, whether they are of the armchair or observing persuasion.

After looking through these nine latest issues of our **Journal**, I could quite honestly say that there was an amazing amount of relevant, interesting, and even practical material for me as an amateur astronomer and, I believe, an almost equal amount of such material for most amateur astronomers in this country. The evidence proves it in every issue; those who say this publication is not for and by the Canadian amateur astronomer are simply not facing the facts.

EDITOR'S NOTE: As a long-time reader and admirer at our Society's **Journal**, I'm glad to see an article such as the above in its support. Admittedly, the **Journal** is not a "picture book" type of publication, like the popular magazines. Still, as Leo points out, there is much in the **Journal** that **is** of interest to amateur astronomers. For my part, I like the occasional flexing of my intellectual muscles that the **Journal** requires and I would hate to see it "dumbed down". We have a damned fine publication. I hope we keep it that way.

MARS (Continued)

In any discussion of planetary motion over centuries, one must be aware of the fact that the planetary orbits themselves are slowly changing in inclination, eccentricity and perihelion distance. Conclusions made here are not greatly affected, but precise values and quantities will be altered.

Now, when you look in the **RASC Observer's Handbook** in December and read "December 27 – Mars in conjunction with Sun", you will know it means a lot more than just the fact the Mars is too near the sun to observe. (References: Astronomical Almanacs and RASC Observer's Handbooks of various years, Astronomical Tables of the Sun, Moon, and Planets – Meeus.)

NEWS AND NOTES

NEW MEMBERS

The Kingiton Centre is pleased to welcome the following new members: **EDWARD ZWARTZ, RODERICK MCKAY, SUE FARIS** (of Kingston), and **MAXINE CUPIDO** (Sydenham). We also welcome back **WAYNE TAYLOR** (Trenton) who has recently reaffiliated. Congratulations all!

METEOR PARTY HAS LOTS OF IMPACT

On the evening of August 11th, over 30 members and friends of Kingston Centre gathered at the home of **Steven Manders**, north of Kingston, to observe the Perseids and otherwise have a good time. It's reported that while the predicted "storm" of meteors didn't happen, the Perseids seen were especially bright––some of -3rd and -4th magnitude––and about 40 were observed over the two hours or so that observation took place. Besides the meteors, it was gratifying that several people came out that we usually don't see at meetings. Thanks, Steve, for hosting a very nice meteor party.

RENAMING THE "BIG BANG"

Those present at our August 13th meeting had the opportunity to enter a Cosmic Contest modelled on SKY & TELESCOPE'S contest to Rename the "Big Bang". A total of 11 entries were submitted of which the following 10 entrants gave permission for us to list them here:

SUGGESTED NEW NAME FOR THE "BIG BANG"	SUBMITTED BY
1. PRIMORDIUM	Frank Cervenko (Winner)
2. AL KHALAQ (Arabic for "created")	David M. Stokes (Finalist)
3. THE RAPID EXPANSION	Denise Sabatini (Finalist)
4. <POP>	Kevin Kell (Honorable Mention)
5. COSMIC PROGRESSION THEORY	Bill Broderick
8. THE "LET THERE BE LIGHT" EVENT	Chris Collin
7. THE ORIGINAL EXPLOSION	Irene A. Collie
8. THE BEGINNING	S. A. Dick
9. UR-EST	Jane Forner
10. SINGULAR DEPARTURE	Ian Levstein

The Winner was awarded a Wil Tirion CHART OF THE HEAVENS. In addition, the Winner and the other two Finalists have had their entries officially submitted on their behalf to SKY & TELESCOPE'S "Big Bang Challenge." Good luck to all!

G.A. BID COMMITTEE FORMED

On Saturday, September 18th, 10 of us met at the home of **Ian Levstein** to discuss the possibility of bringing the **RASC GENERAL ASSEMBLY** to Kingston sometime in the future––possibly in 1997 or 1998. A very productive meeting was held, with lots of good ideas discussed. It was decided that we definitely have the interest and the commitment necessary to mount a successful G.A.––along with a number of terrific local resources. Kingston is a historic city with a fine central location, with both Queen's University and the Royal Military College offering excellent facilities. Attractions include the nearby Holleford Meteor Crater just north of Kingston, Old Port Henry, the Thousand Islands, a Marine Museum, and interesting geology. A G.A. Bid Committee has been established to investigate further with a view to submitting a formal letter of intent to National Council in 1994. Chairperson is **Peggy Torney**. The next meeting of the committee is slated for **Saturday, November 20th, at 2 p.m.,** at the **Methodist Church Hall in Harrowsmith.** Anyone interested is welcome to attend.

OUR LIBRARY IS NOW "ON PREMISES"

Our new library bookcase was delivered and installed on Friday, October 8th, and our library––consisting of books, videos, and other material––is now safely under lock and key and accessible to all members during our regular meetings. Both the Librarian and the President will hold a key––and possibly one or two others. All members are urged to take advantage of the many fine books, etc., that we have accumulated over the years.

CITATION FOR THE 1993 PRESENTATION OF THE

DR. A. VIBERT DOUGLAS AWARD

The 1993 winner of the **Dr. A. Vibert Douglas Award**, the Kingston Centre's major award (or servIce or achievement, was presented to our President, **CHRISTINE KULYK**. The following is the citation read by **Leo Enright** at the time of the presentation of the award by our Honorary President **David Levy** to **Christine** on October 1, 1993:

This year's winner of the Dr. A. Vibert Douglas Award is a long-time member of the Royal Astronomical Society of Canada, and has been a member of both the Edmonton and Kingston Centres. She has brought a wealth of enthusiasm and new ideas to the office of President of the Kingston Centre. We have had our membership numbers grow to a figure never-before-seen in the thirty-two year history of our Centre. She has arranged for a stunning variety of guest speakers for our meetings, and has seen that our programs have included topics of interest for the veteran and neophyte, for young and old, for the generalist and the specialist, for the enthusiastic deep-sky observer as well as the sedentary armchair astronomer. For the first time in the Centre's history, a committee sparked to action by the President is considering hosting a General Assembly of the Society. Numerous other ideas for promoting astronomy are being seriously worked on. Little wonder then that, on behalf of the Kingston Centre, we are proud to present our Centre's major award, the Dr. A. Vibert Douglas Award, to our President, Christine Kulyk.

An Astronomer's Christmas

'Twas the night before Christmas and all through our home
Everything was quiet, even up in the dome.
The telescope was nestled in its cradle with care
In hopes that the stars might sometime be there.
City lights on the rest of the new-fallen snow
Gave the luster of midday to objects below.
But worse was the effect up in the sky--
Light pollution is enough to make an astronomer cry!
When suddenly--outside--there arose such a clatter,
I sprang from my bed to see what was the matter.
Away to the window I flew like a flash--
Tore open the shutters and threw up the sash--
I looked out the window, and what did I see?
Why--darkness had descended on the world. Oh glee!
That's what the commotion was all about:
Our power had failed--the lights had gone out!
As I lifted my gaze to the heavens above,
My eyes filled with glory, my heart filled with love.
The Milky Way stretched like an arch overhead--
The stars gleamed in their myriads--I eschewed my bed!
I rushed up the stairs to where the telescope waited
And opened the dome--I was so elated!
Christmas had come in a wonderful way
For this amateur astronomer, what more can I say?
As I peered through my scope, I exclaimed with delight,
"Merry Christmas to all, and to all a <u>great</u> night!"

--BILL BRODERICK