R E G U L U S

THE NEWSLETTER OF THE

ROYAL ASTRONOMICAL SOCIETY OF CANADA - KINGSTON CENTRE

SEPTEMBER, OCTOBER, 1983

AN EDITORIAL: WHAT READERS SAY ABOUT THE NEWSLETTER

In the last issue the readers of Regulus were asked to respond to a few questions regarding their ideas and opinions concerning our newsletter and to send me their answers along with any other comments or suggestions they might have regarding Regulus and its current format. This survery of readers' opinions was occasioned by increased production costs, especially for postage, and by the apparent fact that, as a result, some difficult decisions would have to be made regarding the size, frequency, quality, or even existence of our newsletter.

As matters now stand, our financial situation is not quite as desperate as we thought it was. Nevertheless, all centre newsletters throughout the country seem to be in some kind of difficulty. Besides the notable cases mentioned in the last newsletter, I have flaw heard of at least one other newsletter which has lost its editor and cannot be sure of being published in the near future.

The number of responses to the survey was at or above what would be expected in a survery of its type and all the respondents should be thanked for their honest and helpful suggestions. It was good to see that no one held to merely answering the questions; everyone offered additional ideas. In looking over all the responses I can say that there was a considerable amount of agreement. Everyone was either satisfied or more than satisfied with the changes in format that have taken place this year.

Reading the answers to the second and third questions quickly convinced me of what readers definitely wanted and did not want; they most definitely did not want a less frequent newsletter. It could be slightly shorter if necessary and a modest increase in fees would be tolerated to support the newsletter, but it simply must not be allowed to become a quarterly or less frequent publication. Returning if necessary to the mimeographed format was by far the least popular of the alternatives suggested. I must state that I agree wholeheartedly with those opinions: a bi-monthly publication represents the bare minimum In frequency for a publication of this type; most other centres have a surcharge to the annual fees in order to support their publication; and finally the quality of photocopied editions must be maintained.

Among the parts of features not to be eliminated, the most frequently mentioned Items were reports and data concerning upcoming events to look for In the sky, although a few other features or sections of the newsletter were mentioned. Here I might add that it is heartening for an editor to know that the reminders he gives about what to watch in the next two months are actually appreciated and followed; frequently I have to choose my four or five reminders from a list of a dozen or so that could be given.

Among the much-appreciated suggestions was one that occurred a couple of times as a way of making the newsletter slightly shorter, if that was a decision that had to be taken. It was the suggestion that the editor paraphrase or cut out sections of letters. I certainly intend to follow that suggestion but I must add that almost all letters published in the last two years have been edited, sometimes ruthlessly, and any editor should be hesitant about taking out so much as to destroy the thought of the writer--as can happen when the editing or paraphrasing becomes too wreckless. The letters from our far-flung members were also one of the features which many readers enjoyed.

The current issue is one I hope pleases all our readers; it has many of the usual sections (a scholarly article by David Stokes, a report on the National Council meeting last month, excerpts from letters from our members, an update of our Sky

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Search Program), but it also has something new and quite different--a piece of astronomical fiction submitted by David Levy. (You did not expect to see a short story in an astronomy newsletter?)

Any readers who forgot to reply to the survey In the last Issue may do so this month. All replies are very much appreciated. Hope you enjoy this lssue

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THE ISLAMIC LUNAR CALENDAR (PART II) BY DAVID STOKES

Editor's Note: This is the second part of a paper presented by David Stokes at the Quebec General Assembly in May. Unfortunately, it had to be serialized; the first part appeared In the last issue of Regulus and the third and final part will appear in the November-December issue. All of the footnotes will appear at the end of the text.

While this provides the simple theoretical basis for a lunar calendar, in practice it is rather morn complex. The Islamic month does not begin with the Astronomical time of new moon, but with the actual sighting of the lunar crescent in the sky at sunset. It is at sunset too that one Islamic day ends and another begins. Now the earliest visibility of the crescent moon at sunset has received much attention, but the age of the moon at earliest visibility has not been well established. It is thus very difficult for the calendar makers to anticipate on which day the new month will begin. This problem is compounded somewhat by the irregular but rythmic motions of the moon as we can see by examining the mean times of new moon, calculated on the basis of the mean synodic period, and the actual, true times published in the Handbooks. Results of these computations are shown in Table 3. These times were computed with "Astronomical Formulae for Calculators", by Jean Meeus.[3] The dates for new moon agree with the Observer's Handbook to better than one minute![6]

TABLE THREE - CONJUNCTION TIMES FOR THE NEW-MOON IN 1983

MEAN TIME OF PHASE				CORRECTION		TRUE TIME OF PHASE			
YEAR	DATE	HR.	MIN.	HR.	MIN.	DATE	HR.	MIN.	LUNATION #
1983	Jan 14	4	10	+0	59	Jan 14	5	9	743
1983	Feb 12	16	54	+7	39	Feb 13	0	33	744
1983	Mar 14	5	38	+12	8	Mar 14	17	46	745
1983	Apr 12	18	22	+13	38	Apr 13	8		746
1983	May 12	7	6	+12	20	May 12	19	27	747
1983	Jun 10	19	50	+8	48	Jun 11	4	39	748
1983	Jul 10	8	34	+3	45	Jul 10	12	19	749
1983	Aug 8	21	18	-1	59	Aug 8	19	19	750
1983	Sep 7	10	2	-7	26	Sep 7	2	36	751
1983	Oct 6	22	46	-11	30	Oct 6	11	17	752
1983	Nov 5	11	31	-13	8	Nov 4	22	22	753
1983	Dec 5	0	15	-11	47	Dec 4	12	27	754

The dates and times of mean phase, in the first column of Table 3, are the basis for the theoretical lunar calendar, and are spaced evenly through the year by intervals of 29.530589 days, the mean synodic period. However, the motion of the moon around the Earth Is strongly influenced by the Sun, so the relative position of the three bodies must be considered in order to properly account for the orbital speed of the Moon. Brown's Lunar Theory contains over 1500 terms to arrive at the exact correction, but the main aberrations can be estimated well enough for our purposes in 13 sine-terms which involve the mean anomaly of the Sun and Moon, and the Moon's arguement of latitude. These terms were computed, following the procedure of Jean Meeus, to arrive at the correction shown in the second column of Table 3.

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It is apparent that the time of new-moon is retarded (correction positive) up to a maximum of 13hr 38m during the first part of 1983, and then advanced (correction negative) up to a maximum of 13hr 8m in the latter part of the year. Obviously these sinusoidal oscillations of the true time of new-moon about their mean will greatly affect the expected time of earliest visibility of the crescent after sunset. In effect, there are occasions when the new month will begin a day earlier than tabulated, and other times when it will be delayed by a whole day, compared to the theoretical calendar, most particularly when the 'correction' exceeds 12 hours.

This problem of the lunar calendar is certainly not new. The Arabic astronomer Al Biruni (died 441AH, 1049CE) clearly recognized the variability of the times of new-moon. Many other Arabic astronomers have discussed the difficulties in preparing a lunar calendar.[5]

Nevertheless, a satisfactory lunar calendar could be prepared in advance if the time of earliest visibility could be accurately established. This was the subject of a paper in the December Journal, by Dr. Muhamned Ilyas.[4] This would require the co-operation of experienced observers everywhere, particularly those living between latitudes 0 to 10 North who are most favourably placed to first observe the new-noon at sunset. Dr. Ilyas proposed a criterion for predicting visibility of the new-moon based on the Moon's altitude at sunset and the angular separation of Sun and Moon. (Figures shown during the presentation are not reproduced here). Dr. Ilyas's criterion for lunar visibility shows that an observer near equatorial regions is more favourably placed than others. It is calculated that an observer at N10, W65 should see the cresent moon at sunset when the moon is only 18.1 hours old for lunation 748, and as early as 15.85 hours old for lunation 751. This criterion would appear to be rather optimistic, but further observation is required.. (To be continued in the next issue of Regulus).

THE SKY SEARCH PROGRAM - SECOND STAGE

As mentioned on page 5 of the last issue of our newsletter, our Sky Search Program has been in its second stage since early in July. The objectives for the program continue to be the same as for the first stage, and it is good to see members becoming better observers, better acquainted with a certain area of the sky and all of the objects that can be seen and studied even within a very limited region of the heavens. Here is the list of areas chosen.

Number	Position R.A. (1950)			Dec. (1950)		Name
1	XVIII^h	-	XIX^h	0°	- 100	Pat Boucher
2	XVIII	-	XIX	10	- 20	David Levy
3	XVIII	-	XIX	20	- 30	James O'Donovan
4	XVIII	-	XIX	30	- 40	Marty McConnell
5	XVIII	-	XIX	40	- 50	Marty McConnell
6	XVIII	-	XIX	50	- 60	Terry & Ruth Hicks
7	XIX	-	XX	40	- 50	Leo Enright
8	XIX	-	XX	50	- 60	Sue Sorensen
9	XXI	-	XXII	10	- 20	Mark Sorensen
10	XXI	-	XXII	20	- 30	Gerald Schieven
11	XXI	-	XXII	30	- 40	Gerald Schieven
12	XXI	-	XXII	40	- 50	Chris Jessup
13	XXIII	-	XXIV	0	-+10	John Hansen
14	XXII	-	XXIII	+50	-+60	David Levy
15(Circumpolar)	VI	-	XII	80	- 90	David Levy
(Fall)	0	-	I	+40	-+50	David Levy

It is hoped that by the time of the next issue of Regulus, reports will have been given on all of the above areas and a selection will be made of regions of the winter sky so that a similar chart can be published for "stage three" at that time.

AREA 377
(A Short Story by David Levy)

The fuzzy patch did not belong there.

This much Karen knew. For ten years she had been gazing through this tiny area in Ursa Major. First with binoculars, later with telescope, she had paced its borders, knowing everything-every star, every galaxy-it could offer. Now tonight, there was this fuzzy patch. Hands trembling, she stood by her telescope. like a creature terrified of an approaching car, she couldn't move. Just a quick turn back to the eyepiece. There It was again, that fuzzy patch. For almost an hour Karen stood there, first looking at her telescope, then incredulously at the hazy blob that its mirror was showing her. The star back9round was there, unchanged as it had been for a decade. And yet, the fuzzy patch had moved, had crept on almost imperceptibly, in this magic hour.

It was a strange time for memories, but Karen couldn't help herself. The nursery school teasing, the "come on, slow poke," from her teacher. The interminable tests, the special studies. That older person who had tutored her one summer and had told her about the stars. And That strange meeting, dimly remembered for so long, now suddenly in clear focus.

"But how could I discover anything?"

"It's easy," the chairman had told her. It just takes lots of patience, and searching every night. Patience Was one virtue Karen had known well throughout her 14 years, especially the last two, during which she had faIled many of her high school courses. But then she had already "discovered" the local astronomy club that met in the basement every Tuesday night. And for once she began to look forward to something.

"The idea," the chairman had explained, "is to learn everything you possibly can about your 10 x 15 degree area." Your report should show everything from doubles to faint galaxies-everything." The sky would be clear tonight, she thought. A chance to start this new project. And after the meeting, binoculars in hand, Karen had met her new friend in the sky-some arbitrarily-numbered "area 377", and began to learn it, star by star.

The Tuesday meetings passed, month after month, and like the cycle of a variable star, Karen's interest in her area ebbed and flowed November's clouds kept her area away, and after yet another school failure (in English, this time) she was forbidden to attend meetings. So instead, she read about discovery. About Ikeya, who had found a comet in 1963 with a telescope he had built for $20--about Meier's triumvirate (but those three comets had first come to earth in the eye of a mighty 16-Inch, far out of her league)--about Allcock's finding a comet with binoculars through a closed window-

But still, not much had happened in those ten empty years that followed. There had been food and other things in her daily routine, there had been sleep, not many friends, and there had been area 377. All these had been hers. But now, one of these lonely things had changed. 377 was no longer just hers. The distant, ethereal fuzzy patch had come from the edge of the solar system, and seen it too.

THREE LETTERS FROM FAR-OFF MEMBERS

It is a pleasure to print excerpts from three letters I have recently received, one from Arizona, one from Alberta and one from Maryland.

We congratulate Jim Scotti on his recent graduation in Astronomy from the

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University of Arizona, and also on Ms completion of his Messier observations. (Hope you receive your Messier Certificate before too long it has been approved and should be on its way.)

Dear Leo, August 23, 1983

As David Levy has probably told you, we are in the annual monsoon season that lasts from July 4 (you can almost set your calendar by it) through the middle of September. Observing has consequently been rather scarce. I have, however, managed to get some observing In. I began by starting to re-observe the Messier list (I'm even keeping records similar to those that I kept the first time around). I'm already up to about 20 objects and I haven't really been trying hard (that's the summer Milky Way for YOU).

Among my favorite celestial objects to observe are the Dwarf Novae. While down at Dav1d's before he left for Canada, we happened to check SS Cyg (our mutual favorite) and found it near maximum. I've always had good luck with that star. Another of my favorites among the dwarf novae is RX and which is remarkably easy to find as it is along the same declination as M-31. It is among the Z Cam subclass of dwarf novae, and recently has been 'struck' at an intermediate brightness level. It is a bit hard to observe accurately with the six-inch Newtonian that I am borrowing from David, since my observing site is my back yard in the middle of the city, and its brightness range is 10.3 to 13.6.

I had the opportunity to try out Kodak's new ASA 1000 print film recently. Although I normally use slide film almost exclusively, I decided that, at ASA 1000, speed should probably be more important than anything as silly as my personal preference for slides. I tried it out on a variety of subjects and conditions and came away very impressed by its sensitivity to faint light. In particular was some exposures of the Milky Way taken from my back yard. I waited until about midnight (the sky usually gets significantly darker in Tucson after midnight, besides, the moon was at first quarter and just setting). The Milky Way was near the meridian (and of course in Tucson, with the advantage of lower latitudes, the Sagittarious/Scorpio/Scutum region of the Milky Way was high above the horizon). My exposures (at f/2) were limited to about 1 minute to keep from trailing star images, and in such a short time, the film caught the Milky Way quite well even with the harsh glow of the Tucson city lights fogging the film quite a bit. I also tried a couple of shots toward the end of the roll taken at the darker skies of David Levy's house and realized that not only photography of nebulae, but also of other objects such as meteors would benefit from such a fast film (I caught 2 small meteors and the trail of a faint satellite that I did not notice visually during the exposure--I may easily have missed it as I was then observing with binoculars and a telescope). Needless to say, I picked up another roll of the film and can hardly wait to try some other things with it.

As you can well imagine, a great many of us here in Tucson were also quite saddened by the passing of Bart Bok. Although against his wishes, there was a gathering of his friends and associates at the Flandrau Planetarium a week after his death in remembrance of his life and his achievements. The Steward Observatory is especially fond of Bart as it was due mostly to his efforts and guidance that the University of Arizona has become one of the finest Universities in the nation for graduate study in Astronomy. It now rivals such places as Cal Tech. and Harvard.

I don't know if David has told you, but I just graduated from the University of Arizona with a degree in Astronomy (and minors in Physics and Computer Science) in May of this year. I had been working as a part time student employee on the Spacewatch Project under Torn Gehrels at the Lunar and Planetary Lab. Spacewatch is a project to find near earth asteroids and is funded partly by NASA. We will be using a Charge Coupled Device (CCD) to

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image the sky down to about magnitude 19 to 20. We will begin the project on a 36-inch telescope that already exists on Kitt Peak, and upon receiving enough funding (much of which will be from private donations), the 36-inch telescope will be replaced with a 72 inch telescope more suited to our needs. We hope to find from 10 to 100 asteroids per year, which is a significant improvement over the current rate of about 5 per year by all observatories, world-wide. My job is to write programs for the project on a Perkin-Elmer 3241 computer system (Perkin-Elmer, by the way, is the company that is making the Space Telescope mirror, and NASA also is using several Perkin-Elmer computers similar to ours to operate the Space Shuttle simulators in Houston).

Since graduating, I was hired as a full time staff employee on the project. I feel quite fortunate to be among the few people to graduate with a degree in Astronomy and actually have gotten a job in the field upon graduation. This job is especially interesting and enjoyable since I enjoy both Astronomy and Computer programming.

May your skies be clear! Jim Scotti.

It is always a thrill to hear from our Past President, Angelika Hackett. I have received two letters from her; here is part of the second one.

Dear Leo! Edmonton, 1.9.83

I didn't realize that you had won first prize for your Moon display at the G.A., until the National Newsletter arrived with my Journal last week! A belated "congratulations" goes your way. I wish I could have been there. Bob and I have strained our eyes to find you all on the group photo, but we can't seem to locate David Levy. Did he grow a beard? Or is he not in the picture?

I will be starting a temporary part-time job at the Berlitz School of Languages, teaching German 2 nights a week for 6 weeks, to 3 classes of 6 students each! Even though it's not permanent, it's just what I had hoped to be doing, given the options here. Great timing!

Bob and I hope to visit Ontario from Oct. 29 to Nov. 13, but haven't finalized plans yet. Perhaps I can come to the Nov. 11 meeting. If not, I would still come to Kingston-it would be great to see you all.

Monday night (Aug. 29) we saw one of the most spectacular Aurora displays ever! White curtains, turning orange and a little red, flashing and waving in the east, then all moving northward really fast, and after 15 minutes disappearing in the west. This was right in the city. I can imagine what it must have been like at a dark site. The moon shone right through it in the east, quite amazing. Greetings from Bob. Take care.

Angelika.

Except for unusually slow mail delivery, we might have had a letter from Gus Johnson in the last newsletter. (That was the first one in well over a year not having a report of correspondence with Mr. Johnson). His two recent letters, as usual, were most informative about his observing program; here is part of the second one.

Dear Mr. Enright, Swanton, MD 21561
September 9, 1983

After a rather clear July, August turned out hot and hazy. Now, autumn seems to be approaching and most of the nights of September have permitted sore sort of observing. On three of the last eight I have seen the Filamentaries, while haze has obscured the horizons.

I had had an ad in "Astronomy" to sell ny 2.4-in. f/15 on the 3.1-in. Meade refractor mount, a nice piggy-back photography system, but buyers were interested in the tube assembly and not the mount. I let Gene Cross, of Cross Optics buy it, for he had a large astrocamera that needed a good guide scope. Then I regretted it, for I had a mount without a scope.

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I had two scopes that could fit the mount, but they were employed on other mounts, so I ordered a tiny 2-in. f/12 Guide Scope from Meade. I have had fun testing it and made spacers so it will fit the big clamp on the equatorial mount. Small lenses transmit more light than reflectors reflect and I feel this 2-in. is about equal to a 2½-in. of reflector scope. One night I saw to mag. 11.8 with 60x and another night mag. 123 with 86x. I got the hybrid prism which takes 18-in. O.D. oculars in the 0.965-in, opening. It does reduce the fields of the 24mm König and 20mm Erfle, but works very well with a 28mm RKE (21x). With 21x I have seen part of the North America Nebula and both Filamentarles (the one by 52 CYG is harder to see and averted vision only showed the wider part of this one). 21x also showed NGC 7293 in AQR. NGC 7009 was a bit too star-like and needed 60x which showed it as a little ellipse, with a hint of blue. As for resolution, it is very fine. 60x gets off 3 of 16, 17 DRA and resolves Polaris. For some of the tests I had my 5-in nearby to confirm hard tests, like Polaris and Zeta AQR. This latter double was just a slight elongation, and so were Pi AQL (1.4") and Mu BOO B-C (2.0") but I think I got these last two also, but they were borderline. Epsilon LYR showed all four, with the wider pair being fairly clear with an overlap, while the closer was harder, more just an elongation, using lOOx. All this and with a scope that costs less than $70. I mounted a 5 x 25 finder on it to expedite finding things. It is very light, and at low power can be used on a camera tripod with some stability.

Last Sunday was very clear with the Filamentaries visible. I tried my 24mm Konig on my 5-in. RFT (25x) and came across a large star cluster or cloud not listed in Becvar's or Tirion's atlases. The next night I came upon another, smaller such cloud, made of many faint stars. Last night I tried my 8-in, at 58x (Erfle) on It and could barely see the larger and had I not plotted it on a chart, would have passed right over it, but the smaller was somewhat evident. The larger is at: 18h 40m -7° and the smaller is at 18h 39m -5° in Scutum. A wide field of about 2° is helpful In locating these, and clear skies.

Clear skies, GUS

REPORT OF THE SEPTEMBER 24TH, 1983 NATIONAL COUNCIL MEETING

The National Council of the R.A.S.C. met on Saturday, September 24th, 1983 in the Library of the Society's new headquarters at 135 Dupont Street, Toronto. Our National President, Mr. Franklin Loehde, presided and thirteen centres of the Society were represented.

The agenda included reports from the officers and several of the standing committees as well as several significant announcements and decisions. Mr. Loehde reported that the Financial Strategies Committee reconmended that the Society would be best served if its several different funds were amalgamated into a single endowment fund-with the exception of the Ruth Northcott Memorial Fund-which operates under a separate trusteeship. Council approved in principle the creation of such a single fund, although details of its nature and operation remain to be worked out and legal counsel will be sought regarding the implications of its administration and disposition. Approval was given to a request made at last May's Council Meeting for a grant to the Windsor Centre under the Special Projects Fund, and Council also approved in principle a request to continue its support of the Quebec Centre's annual publication of the Almanaque Graphigue.

On behalf of the Property Committee, its chairman, Mr. Broughton, reported that finally completing the procedures to purchase the building housing the Seciety's new headquarters at 136 Dupont Street had been a task fraught with numerous problems and unforeseen expenses, stemming from the former owner's attempt to hinder the completion of the transaction, despite his signed agreement to sell. All members of Council were relieved that the difficulties listed by Mr. Broughton were over and thankful to him and his committee for an enormous effort made on behalf of the Society.

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Dr. Halliday reported that the Awards Committee had received nominations for two of the Society's certificates and approval was given to the awarding of seventeen Membership Certificates and three Messier Certificates.

Dr. Chou reported that the current volume of the National Newsletter was costing less per page than had been predicted and Dr. Bishop reported that the 1984 edition of the Observer's Hamdbook had gone to press on July 2Oth and was expected to be out by October 1Oth-certainly two items of welcome news for members of National Council.

Approval was given for three applications under the Speaker's Exchange Program. Council also named Mr. Enright to be Astronomy Day Coordinator and as such he will work with counterparts in the Astronomical League and other organizations to promote the concept of International Astronomy Day (which is on May 5th in 1984.). A decision was also made on the number of back issues of the Journal that were to remain on file in the National Office.

Mr. Ashenhurst of the Hamilton Centre reported on the work done by his centre and the Niagara Centre to host the forthcoming General Assembly from June 29th to July 2nd, 1984.

After the meeting there was a brief ribbon-cutting ceremony to open the new headquarters with the honours being done by Mr. Loehde and two past presidents of the Society, Or. Peter Millman (currently the Honorary President) and Dr. Helen Hogg. All present enjoyed refreshments and a good meal arranged by the "Housewarming Committee" which had been working under its chairman, Mr. Randy Attwood.

Fuller details of the items discussed at the fleeting may be found in the minutes of the meeting which have been mailed to our Centre President and National Council representative. Financial reports from the Treasurer and the Property Committee as we) as the list of the winners of the certificates are attached as appendices to the minutes.

In all it was a pleasant experience to have our first Council Meeting In the new headquarters.

FOR YOUR COMPENDIUM OF ESOTERIC FACTS

Did you know that there is one satellite in our solar system that revolves around its planet at a speed fast enough to take you from Halifax to Victoria in less than two-and-a-quarter minutes? Its true and the satellite is the small Jovian moon called 1979J3, the fastest-moving moon in the entire solar system.. It was discovered on Voyager spacecraft photographs in 1979, as the name suggests, and it circles the giant planet Jupiter in only 7 hours 4 minutes. The velocity of this object which is only about 40 kilometers in diameter has been calculated at about 114,000 kilometers per hour. Now that's speed!

REPORTS AND OTHER ITEMS

1. The astronomical world has been shocked by the sudden death of Dr. Bart Bok, a leading Milky Way Astronomer and resident of Tucson, Arizona.

2. I was honored by a two-day visit in late September by David Levy, our very good friend from Tucson. David is as active an observer as ever;as we saw from his fabulous presentation to our centre on August 26th, the skies of the south have not dampened his enthusiasm, but, if anything, increased it.

3. Clubs' Night at Queen's on September 27th was a good opportunity to meet many students. We hope to have a few of them join our group and share our active interest in planets and stars.

4. Our centre welcomes a new member, Mr. David Brockelsby. Hope you enjoy the group, David!

5. Among the articles in the October issue of Astronomy, be sure to read the very favorable review of David Levy's book, The Joy of Gazing on page 31. Don't miss the report of the Texas Star Party on page 24; you'll also read of David's participation and his talking telescope Mintaka which was built while he was here in

6. Thanks to Jocelyn Boily for an excellent presentation at our meeting of September 23rd. We enjoyed the many slides and accompanying talk.

7. Here is an important reminder for everyone; your 1984 membership fees are now due. You will not be receiving a specially mailed notice; you should mail your fees as soon as possible to the centre address given below with a cheque payable to the "Treasurer--Kingston Centre of the R.A.S.C."

   Remember that you may save money by paying your dues early: there is a possibility that an increase may be voted on at the Annual Meeting on November 25th. If your payment is received before then, you will be guaranteed the $20.00 annual fee, the lowest in the country.

8. Here is a reminder that proposals for a constitutional amendment must be submitted in writing to the president or secretary thirty days before the Annual Meeting which will be held on November 25th.

9. Here are a few things well worth observing or photographing over the next two months:
   1) During the last week of October Venus and Mars appear very close in the morning sky and on the morning of November 1st they are joined by the old noon. Together they will form a striking combination.
   2) Through October and November Venus will continue to be extremely bright and to dominate the morning sky. It reaches its greatest elongation west of the sun on November 4th, at which time it is a full two degrees further from the sun than it was at its last elongation (an eastern elongation) in June.
   3) In the evening of November 6th the young moon will appear low in the west close to Jupiter and Uranus and the following evening it will have moved just past Jupiter. An interesting sight both evenings!
   4) The Leonid meteor shower of November 17th and 18th may be well worth observing even though there is a fairly bright moon In the evening sky.

10. Our upcoming meeting dates include some of the following topics:

Oct 14	Sky Search Reports and Astroslides.
Oct 28	Sky Search Reports and possible observing session after the meeting.
Nov 11	Possible visit and talk by Angelika, our Past President.
Nov 25	Annual Dinner and Annual Meeting.
Dec 9	Open.

    Remember that all the meetings are at 8:00 p.m. in Room 222 in Ellis Hall on University Avenue.

11. 1 would be happy to hear from our readers and to receive material for these pages. Our address is:

R.A.S.C. - Kingston Centre,
Box 141, Station 'A',
Kingston, Ontario,
K7M 6R1

CLEAR SKIES!

GOOD OBSERVING!

Leo Enright