

R E G U L U S
THE NEWSLETTER OF THE
ROYAL ASTRONOMICAL SOCIETY OF CANADA - KINGSTON CENTRE
FEBRUARY, MARCH 1982

IMPORTANT NOTICE: There is one item which your editor wishes to have appear on the front page so that no one will overlook it. The Meeting regularly scheduled for March 26 has been postponed until Friday, April 2, 1982. All other regular meeting dates remain as planned and as announced in the October-November newsletter. For more information on upcoming meetings, check the appropriate section later in this newsletter.

A REPORT FROM TUCSON
FIRST LIGHT FOR "JUPITER"

November 28th, 1981 was a very important date for one member of our centre. On that date there was officially inaugurated, in Tucson, the largest-aperture telescope currently in operation at Jarnac, the observatory and telescope farm owned by David Levy. The First Light Ceremony was for a 40 cm. reflector called Jupiter which is to be a major tool in David's comet-hunting program and which will, no doubt, spend many hours roaming the skies to look at far-distant galaxies and other objects of the deep-sky.

All the members of the Kingston Centre send along to David hearty congratulations on the completion of this important large-aperture instrument and we wish him the best of luck in his observing with it. We are just a little envious of the members of the Tucson Branch of our centre who did not have to turn down an invitation to attend the First Light Ceremony (as your editor did), but who could be there for a first stunning glimpse at a distant celestial object.

We have had a few reports from the Tucson Branch of the Kingston Centre over the past few years but for this issue of Regulus we have received the first of what we hope will be many regular correspondences written by Judy Stowell, secretary of the Branch, and designed to appear regularly in these pages. It was fitting that the first such "Tucson Correspondence" should be about as historic an event as the First Light for "Jupiter" Ceremony. David has been the great promoter of our centre in the Tucson area and the group now includes ten members. They have had regular meetings and there was a star party on December 26th, but the inauguration of "Jupiter" was one of the very important occasions in the short history of the Tucson Branch.

The "Tucson Correspondence" was inadvertently typed on the wrong side of the page with the result that it will appear with the words backward. Though I have just explained some of its content, I will, nevertheless, include that page because of its importance, as mentioned, and because our president also thought it would be a good idea to do so, and, moreover, any experienced observer should be able to read mirror images. If he cannot do so, he is advised to take a mirror, put it along the side of the last page, and watch the words spring to life.

To David we again say, "Best of luck with "Jupiter". We hope you discover a comet or three with it." Clear skies to all our friends in Tucson (though, in fact, they very rarely need that wish at all.)!

A REQUEST FOR A COLUMN ON ASTRONOMY

Your editor has been asked by a member of the staff of a small newspaper to do a regular column on astronomy.

When I received the request, I said that I would do it, but I since have begun to wonder if I have the time even to make a short regular contribution. Time will tell whether I will find the time to continue the effort which I have just begun.

The twice-a-month newspaper is called the North Frontenac News, has a circulation of about a thousand, and is community-oriented -- designed to serve the people in North Frontenac County. Most readers would be totally unfamiliar with most concepts in astronomy.

I am reprinting below my first February column because some of our members may possibly be able to use some of it when introducing the night sky to a friend who perhaps has never done any observing before.

ASTRONOMY: THE SKY FOR FEBRUARY

It is pleasant to hear of an expansion of the North Frontenac News to include specialized columns, and to be asked to contribute a column on the fascinating hobby of astronomy. This column will attempt to mention, in a very simple and practical way, some of the interesting objects that may be seen in the night sky and to answer questions that may arise about them and other matters of astronomy that may be of current interest. The information will be about objects that may be observed very easily, often with the naked eye or occasionally with a minimum of optical aid-- such as a simple pair of binoculars.

Astronomy for thousands of years has been a fascination for many people and it is easy to see why. What sights in all of nature can compare to the serene beauty of a dark, star-filled sky above our landscape? This is especially true with the many bright stars that dominate the sky in mid-winter, but it is true at all times of the year and particularly so on occasions when there are many planets to be seen, or when a bright comet swings into view, or when a meteor shower floods the atmosphere with its "shooting stars", or a dazzling aurora puts on a special show of its own.

The current fascination with astronomy may be gauged from a number of facts. Many newspapers, which have never done so before, have begun to have columns devoted to the study of the sky and to space science. Many people have heard of an unusual arrangement of the planets of the solar system in the coming year and many others are aware of the expected return of Halley's Comet within the next four years. In fact, it was a book on Astronomy (Carl Sagan's "Cosmos") which was the best-selling non-fiction title in all of North America in 1981.

These and other topics may be further explored in later columns--along with hints to help in observing some of the wonders of the sky.

For the moment, let us consider some of the objects to be seen in the evening sky in February. From the beginning of darkness until midnight the whole sky is dominated by Orion which has been regarded as the finest constellation in the entire sky. Looking southward and up about half-way between the horizon and the point overhead will present you with this unmistakable constellation, containing some of the most interesting and most brilliant stars in the heavens. In the centre of this figure, which our imagination may present as a huge hunter (if our imagination is as good as that of our ancestors), there are three stars of equal brightness in a straight line. These are Orion's Belt. Below them in Orion's Sword we can easily see (even with the unaided eye) a glowing cloud. This area of luminous gas is one of the most interesting to scientists because it is here that numerous new stars are being born from interstellar dust and gas.

Above Orion's belt and below it, distinctive bright stars mark his shoulders and his knees. The bright one above the belt and to the left is known by the strange name, Belelgeuse, and it is of great interest for several reasons. This reddish-orange star is unimaginably large and bright; it has been found by scientists who have studied it to be, in volume, millions of times larger than our sun and thousands of times brighter! It is only its great distance from us that keeps

its size and brightness from completely dominating the sky. This incredible star is so distant that even the light we receive from it, which has been travelling toward us at over half a billion miles an hour has taken over five centuries to reach us! If our own sun were as distant from us as that star it would be too faint even to be seen. This one single star certainly has an interesting story of its own, but it is only one of the bright stars forming Orion.

Below Orion and slightly to his left is another distinctive constellation with a number of interesting stars also, but most of which there is not room to discuss at present. It is "Orion's dog", the constellation Canis Major or the Big Dog, and it contains (in the head of the dog) the star called Sirius, the famous "Dog Star" which is the brightest star in the sky. It is this star which because of its great brilliancy in the winter sky, some people have occasionally thought to be not a star but an "unidentified flying object". Compare it to any other star (not a planet) and notice how its brilliant white light makes it stand out.

Further east in February's evening sky we are sure to notice the impressive constellation called Leo, the lion, part of which is marked off by what looks like a huge question mark turned backwards. More information about its stars will also have to wait until later.

In the north-east, the Great Dipper can be easily found standing upright on the tip of its handle with its seven bright stars making a very familiar and easily recognized pattern. The two topmost of those seven stars point directly to Polaris, the North Pole Star; this is a fact we should commit to memory in the event that we might be lost and without a compass. The sky itself is a huge compass and the Big Dipper has the two stars that always point north, no matter what the day, month or year may be.

High in the south-west these evenings, all observers will enjoy seeing the Pleiades, the group of stars appearing so close together that they are sometimes difficult to distinguish and forming a "little cloudy patch of stars" all by themselves. A most interesting experiment is trying to test one's eyesight by trying to distinguish them and actually see six or seven or more stars without using binoculars or any such optical aid.

On any clear night this month, anyone should be able, with very little effort to spot the objects just mentioned, along with thousands of other stars that make up a fascinating February sky.

THIS MONTH I WON THE GAME OF CHANCE

Today is February first. This month I finally won won in a big way at a game that I play every month of the year. It is about time I won! It seems I rarely do anymore. I didn't win last month! I certainly didn't the month before that.

The game is one to see whether I will get delivery of my monthly astronomy publications--either before or during the month for which they are intended and in a readable state (which means generally unmolested and unsullied!) As time goes on, the chances of breaking even at this game seem to be more and more akin to those of the fabled gaming tables at Las Vegas. One may hope to win rarely (with a capital R). On those occasions, the feeling is good. However, more often than not, winning is not part of the game.

I won this month and won in a big way because the publication to which I refer arrived not half way through the month for which it was intended, nor even at the first but a full twelve days before the beginning of the month. Now that's delivery the way it should be! It must have arrived at my address in less than a week after the date on which it was mailed. I certainly wish I could recall when that kind of delivery had occurred last; I wish I could recall it having occurred in the last five years. However, we must give credit where it is due; it did occur and so it can occur.

I did not win last month because January's issue of the publication has still not arrived. This means it is approximately seven weeks since it was mailed. It is anyone's guess when I may hope to receive it. For someone who likes to save and refer to every issue of every volume since he first started receiving them, missing one issue can be a genuine disappointment.

I did not win the month before that because December's issue of the publication (which was mailed in mid-November) has still not arrived. A simple computation, which does not require a genius to perform, will quickly reveal that the publication is between eleven and twelve weeks late already.

I must emphasize, lest there be any mistake about it, that it is not the fault of the publisher who generally mails precisely on the date stated or before it and in more than enough time for the magazines to reach their intended destinations long before the month for which they are issued.

How can I be so sure that my December issue which I have not yet received was mailed, as I have stated, in mid-November? Very simply. In mid-December I did receive the paper cover--of course, it was well torn, too--but NO MAGAZINE. (If only those who choose to read, molest, and tear coupons from our magazines (as has happened) would at least return them to their proper wrappers, the rightful owner might somehow eventually get his publication.)

My complaint to the post office accomplished very little. I was told it would be just too difficult or impossible to trace where the problem occurred. The people who work at the local post office are anything but the kind of people being referred to; instead, they are most helpful, efficient, and kind and generous; - those who have created the problems elsewhere in the system are a distinct embarrassment to them.

I am very aware of the concern of many members of our society over the problem of delivery of monthly publications and I know about the investigation launched last year by the Vancouver centre or some of its members regarding the delivery of one particular publication. There was no reason, they felt, why it had to take six or eight weeks to reach them, and they pointed out the problem to the proper authorities though they may have been left unhappy with the results of their efforts. Is it not possible that the time has come to make another effort in this direction--perhaps involving a number of centres or even all of the centres of the Society--in an attempt to get to the source of the problem with the hope of a general improvement in the future?

Is it too much to hope that the chances of your favorite publication's being delivered on time may eventually be better than those of winning big at a gaming table?

FOR YOUR COMPENDIUM OF ESOTERIC FACTS

At some of our recent meetings we have discussed the merits and features of various star atlases such as the great new Star Atlas 2000.0 by Wil Tirion. This month's esoteric fact concerns a star atlas which was an enormously ambitious undertaking for its time.

Did you know that there is a star atlas which has been about 100 years in the making? In the year 1882 a 13" astrographic lens was constructed in Paris - one that would be suitable for use on a project to construct a photographic star atlas showing very faint stars. At an international conference held in Paris in 1887, the project was approved -- to produce a photographic atlas of the entire sky down to 14th magnitude, the so-called Carte du Ciel. It was to have an accompanying Catalogue for stars down to 12th magnitude. For decades the project occupied the energies of observatories in many parts of the world, but especially those in France. Even today the project, as originally planned, has not been completed, though, of course other atlases have superseded it.

TWO GIANT CONTESTS!!

TWO CHANCES TO WIN!!

In the past it has been a policy to have contests for the enjoyment and interest of our readers, and also to assist them in becoming better amateur astronomers. Even though this has not been done for some while, we wish to revive the idea this month. In fact, there will be two contests this month.

CONTEST NUMBER ONE

This is similar to former contests. It is designed to help you become more familiar with the Observer's Handbook of the R.A.S.C., a highly acclaimed publication which contains a wealth of information and which is certainly recognised as one of the very finest in its field anywhere. For three quarters of a century it has been one of the most useful tools available to amateur (and professional) astronomers.

Your task is to search through it carefully and see if you can find any errors. They may be spelling mistakes or errors of any kind.

At the moment there are four small matters which I am willing to accept as valid. Perhaps your entries will increase that number. Your entry may mention any number of "errors".

CONTEST NUMBER TWO

This is called the "Jarnac Aperture Contest".

Your task is to guess the "total aperture" of all the telescopes in the Jarnac Observatory collection. You will be supplied with no information more than this one fact: -- the number of telescopes exceeds 60.

"Total aperture" in this case means you just "add apertures". Do not make any conversion to what the aperture "might be if they were all part of one giant telescope". For example, two telescopes of 20 cm. each would simply be 40 cm. Your estimate may be given in either the metric or the imperial system of measurement.

This contest is not open to employees of Jarnac Observatory, etc...etc. (that is David, who will tell me what the answer should be.)

The deadline for Contest Number One is February 26th, 1982, and for Contest Number Two it is March 12th, 1982.

Bring your entries to our regular meetings or mail them to this address:

R.A.S.C. - Kingston, Centre,
Box 141, Station A,
Kingston, Ontario K7A 6R1

REPORTS AND OTHER ITEMS

1. Some of us have been watching the spectacular array of planets in the late-night and early morning sky, particularly in the constellation Virgo. However, bad weather and very, very cold weather (in the -30° to -40° C. range) have prevented much prolonged serious observing by many observers. I suppose it could have been even colder. At the R.A.S.C. National Council Meeting on January 30th, Mr. Harlan Creighton from The Pas in northern Manitoba reported that the "warmest" night in the previous month had had a temperature of -40° C.
2. A report on the National Council Meeting of January 30th will be given at the regular meeting on February 12th.

3. Members of our centre who wish to attend the General Assembly in Saskatoon in May should see Angelika or as soon as possible to get full information and the forms which should be sent in, to register or to enter one of the competitions.
4. Astronomy Day this year is Saturday, May 1. Our centre plans a mall display and possibly a Star Night. We hope the weather will be cooperative. Please plan ways in which you may assist our display, and attend our upcoming meetings to contribute your ideas.
5. The scheduled talks as announced in our October-November newsletter have been going very well. Here is a list of the remaining ones; it incorporates the additions and changes that have been made since the original publication of the list.

Feb. 12, 1982	Leo Enright	Observing and Photographing Aurora
Feb. 26, 1982	Gerald Schieven	A Study of Another Type of Star
Mar. 12	Ted Hsu	Stars (Another Type)
Apr. 2	Dr. Douglas	Astronomy In The Bible
Apr. 16	Dr. Halliday	Meteorites
Apr. 30	Terry Hicks	Determining Latitude
May 14	(open)	
May 28	Peter Jedicke	(the London Centre Speaker Exchange)
June 11	(open)	
June 25	(open)	

Dates in July and later are all open for suggestions from any of our members, who are invited to come forward with their ideas and possibly contribute a short talk that may be of interest to the group.

Please keep this list in a place where you can refer to it and remember that the meetings take place at 8:00 p.m. in Room 222 - Ellis Ball, on University Avenue.

6. As usual, your newsletter editor would welcome material for publication in these pages.
7. Dr. Bart Bok will be speaking at two of our centres in March. On the 19th he speaks in London and on the 22nd he speaks in Montreal. Here is a very respected astronomer whom we may wish to hear while he is in Canada.
I would like to refer all our members to a very fine article about Dr. Bok in the Forum section of February's Astronomy magazine. It was written by an admirer of his named David Levy. Congratulations once again to David. Great article!
8. Congratulations to Terence Dickinson whose article (a cover article!) on the Expanding Universe appeared in the January 11th issue of Maclean's magazine, our national magazine.
9. There are a few celestial events worth planning for in the coming month.
(1) Besides the bright planets mentioned above (and seen in Virgo) don't forget to observe Venus in the morning sky. It reaches greatest brilliancy on February 25th and it is only slightly less bright than it was in the evening sky in mid-December. Remember when it was so easily seen in the daytime in mid-December? Try again in late February to spot it--this time west of the sun.

- (2) Mercury reaches greatest western elongation on February 26th, and for a week before and after that date, a careful observer should be able to spot it in the east before sunrise. On the 26th it is at magnitude +0.3.
- (3) On March 10th, the nine planets of the solar system will be within a 95° sector on one side of the sun. (See my article on page 8 of the National Newsletter of February, 1980.)
- (4) On March 31st Mars is at opposition and at a very bright -1.2 magnitude. During the next couple of months plan to do your observations of the Red Planet. Observations are much better near the time of opposition than at any other time of the year.

CLEAR SKIES!

GOOD OBSERVING.

Leo Guriglt.

P.S.

A stop-the-presses news item:

A spectacular Aurora flooded the area on the night of Feb.1-Feb.2.

Auroral displays were seen on later nights during the week. I

photographed the first one between 2:00 and 3:00 a.m., and

hope to show the results along with the talk on February 12th.

Leo

R E G U L U S

TUCSON BRANCH

Edited By: Judy Stowell

Saturday, November 28, 1981 proved to be a very important date in the life of one of our members. After waiting for what seemed like an eternity for the mirror of his 40 cm reflector to be completed he could hardly wait for the official First Light Ceremony for "Jupiter".

Several weeks before this date, David Levy began making plans for the event. Invitations were sent out, everything was ready for the more than 50 people who came. Nothing was overlooked -- not even the champagne, soft drinks and snacks.

The weather had been perfect all week long, then on Saturday morning it started to rain. The weatherman didn't give much hope for the evening but to David's delight and everyone else in attendance, the rain held off until around midnight. By that time everyone there had an opportunity to get a look through this magnificent telescope.

Guests came from as far away as Mexico and Las Cruces, New Mexico. Some of our members who were able to attend were: Jim Scotti, Mike Magee, Terri Lappin, Stuart Cramer and Judy Stowell.

The Tucson Branch of the RASC -- Kingston Centre held a Star Party December 26, 1981 at David Levy's Jarnac Observatory. We were especially pleased to have some visitors from Canada that night: Rolf Meier, Eric Clinton and David Brown.

Best wishes from the land of sunny days and clear crisp nights!

Good Observing,

Judy Stowell