



## *Brushing Up On Comets*

by Andy Corkill

When Halley's comet comes around and you're standing outside watching it in the cool night air with your family and friends, will you be able to explain to everyone what they are actually seeing when they all look through your binoculars or telescope? If not, you had better brush up on the structure of a comet.

First for a little background information. Comets were so named because of their appearance. The Latin word 'cometa' and the Greek word 'kometes' mean "long haired", which gives an obvious metaphor of what a comet looks like.

There are three main parts to a comet that you will normally see through binoculars or a telescope.

1) The Nucleus is the small starlike head of the comet. It is fairly small, usually about one to ten kilometers in diameter and is the most concentrated part of the comet. The nucleus is made up of frozen particles of methane, ammonia, ice, and a mixture of dust particles and meteoroids (or if you don't want to remember all those ingredients just use the famous dirty snowball description and leave it at that).

2) The Coma is a glowing halo of gas and dust that surrounds the nucleus. As the comet approaches the sun it warms up and gas and dust evaporate off of the nucleus forming the halo. A typical comet can have a coma that is as much as 100,000 kilometers in diameter!

3) The Tail of a comet is formed as solar wind and radiation pressure push out gas and dust from the coma. As the comet approaches the sun the coma is formed which is held in place by the gravitational pull of the comet's nucleus. But as the comet grows nearer and nearer to the sun, the gravitational pull of the nucleus is overcome and the gas and dust of the coma is pushed away from the nucleus and into the long beautiful tails that we see from Earth. And don't forget that the radiation pressure is also the reason that the tail is always pointing away from the sun.

So there you have it, some comet basics that you can share. When comet Halley comes around be prepared to answer the familiar questions that everyone has about comets. Show your friends that you are a true amateur astronomer,



# Presidents' Message

Christmas is always such a short lived day, especially when you house hop from one family's house to another, or from city to city. One thing that really bugs me is what I call post-present syndrome. Here's how it works...you're sitting by the tree on Christmas morning ripping open all those great packages you've been drooling at for weeks. There are the usual socks and shirts and maybe a pair of underwear, but there's always that one big package that you know is that special gift you prayed santa would bring. You tear off the bows and ribbons and wa-la...the astronomy book you've always wanted!!! Great! Fantastic! Stupendous! But then it's time to eat Christmas dinner, and after that you have to sit and gossip with the cousins, and then you have to pose for the yearly pictures, and then you have to play the yearly games of trivial pursuit...it goes on and on. There's never any time to do what you'd really like to do, find a nice quiet corner and spend the next 30 hours pouring over your new book. Well, I got a brand new oversized hardcover astronomy book that I had hoped santa would bring, and I have yet to even look at the table of contents. But you know what? I have it all figured out for next year. Next year I'm opening my big package from santa a week ahead of time...then come Christmas I'll play all the games of trivial pursuit anyone wants.

## NOTES FROM LEE

For those of you who ordered the RASC Handbooks, this next meeting will be the last time you can pick them up before they go up for sale on a first come first serve basis. Eugene Brott, Allen Thompson, and Carroll Moore still have copies waiting to be picked up.

The books that were ordered at last month's meeting from Sky and Tel have arrived. The total cost of the order was \$125 and was paid for with club treasury funds, so the books need to be picked up and paid for at the next meeting. Those people included in the order were John Lortz, Norma Coufal, Michael Benes, and none other than our chief book buyer...Ron Veys.

The Prairie Astronomer is published monthly by the Prairie Astronomy Club and is free to all club members. Membership expiration date is always listed in the right corner of the newsletter mailing label. Address all membership renewals to: PRAIRIE ASTRONOMY CLUB, INC., P.O. BOX 80553, LINCOLN, NE 68501.

For further club membership information or suggestions contact one of the following: John Lortz (Pres.) 572-1451 (Omaha), Ron Veys (V.Pres) 464-1449, Bev Hetzel (Sec.) 435-7881, Lee Thomas (Tres.) 483-5639, or Andy Corkill (Prgm. Chair.) 488-1096. All articles for the newsletter should be sent to newsletter editor, JOHN LORTZ 3119 MAPLEWOOD BLVD. #41, OMAHA, NE 68134, no later than 10 days before each club meeting date.

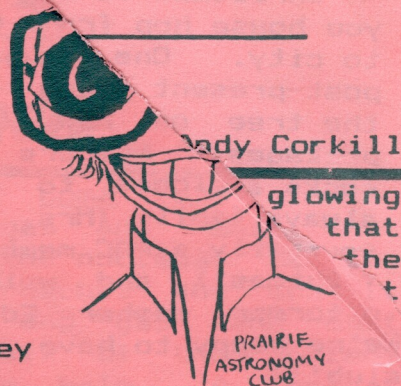


# OBSERVING CHAIRMAN'S REPORT VOL. 25 NUMBER 12 DECEMBER 1984

The Star Party for January is on the 18th so be sure to wear something warm. Rick Johnson might even bring Steve Myatt's 12 1/2 inch monster telescope and his sky piercing nebular filters. Those who have been lucky enough to look through that combination know just how effective they are. The last time I got to look through them I saw the Horsehead Nebula IC434 in Orion! For those who want to find the Horsehead, look about half a degree south of zeta Orionis for an extremely faint band of nebulosity. The dark nebula itself can be seen as a vague but fairly small gap with the horse head shape being visible only in instruments over 10 inches in aperture. This object's visibility is strongly dependent on sky conditions and there are many nights when even the mighty dobsonian giants won't show it. The smallest telescope I have seen the Horsehead through is an 8 inch, although I think that a 6 inch richfield

by

David Knisley



telescope might show it on a superb night.

The Great Nebula in Orion is a super object in most telescopes, but owners of larger telescopes usually miss the best part of the nebula by simply not using enough power. Try about 100x on the 'green core' as I call it, and see the intricate maze of dark detail near the Trapezium. Star clusters abound in the winter sky, but one of the most novel ones I have seen surrounds the 4th magnitude star Tau Canis Majoris. Any telescope over 2 inches will show Tau surrounded by a mass of fainter stars looking like many fireflies attracted to a bright light. According to Burnham's Celestial Handbook, Tau itself may be a monster binary star with a mass of 40 to 50 times that of our sun. It's a hot idea to think about on these cold winter nights.

## IMPORTANT DATES

2nd--Quadrantid Meteor Shower

2nd--PAC Meeting, 7:30pm, Hvde Obs.

6th--Full Moon, 21:16UT

18th--Monthly Star Party At Earl Moser's

20th--New Moon, 21:28UT

29th--PAC Meeting

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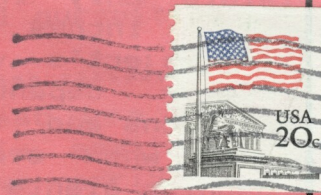
## THIS MONTH'S PROGRAM

The program for this month's meeting will be presented by Rick Lapp. He has titled the program "Grass Roots Space Research". I'm sure it will be a very interesting and educational program. Don't miss it!!!

## BOARD MEETING

Don't forget that there will be a meeting of the PAC Board of Directors starting at 6:30pm before the regular monthly meeting on Wednesday, January 2nd. We have a lot to talk about so I hope that all the officers can make it!

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