



The Prairie Astronomer

Volume 22, Number 8
August 31, 1982

8-82

WAS OUR SUN BORN A TWIN?

A new theory proposes that the sun was born with a fraternal twin and the two whirled through space together for some 600 million years.

James W. Follin, a theoretical physicist at the Johns Hopkins University Applied Physics Laboratory near Laurel, Md., suggests the binary system lasted until a third star passed close enough to the sun to break the gravitational bond that held the two stars in orbit around each other.

The three stars then went their separate ways within the Milky Way.

But that violent event some 4 billion years ago, Follin believes, created a donut-shaped ring of comets in orbit around the sun at the fringe of the solar system, caused a massive bombardment of the planets and their satellites, and sowed the seeds of life on earth.

Follin says his theory also explains other features of the solar system that have long puzzled astronomers, including the origin of comets and why Venus is upside down.

Follin's effort began in 1979 when he began investigating the solar system. Why are the planets spaced as they are? Why do they have the periods, the time it takes them to orbit the sun, that they have? Why does Venus rotate clockwise -- essentially upside down -- while the other planets rotate counterclockwise?

What evolved over three years

from his mass of calculations is a new version of the origin of the solar system that is certain to be as controversial as it is intriguing. In an interview, Follin sketched this outline:

Astronomers agree the sun was born some 4.6 billion years ago from a huge cloud of dust and gas. But Follin says the sun formed as part of a binary system. Such systems, in which two stars orbit around each other, are common. It is estimated that about half the stars in the Milky Way are binaries.

The second star, which Follin
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August Meeting

The August meeting of the Prairie Astronomy Club will be held on the last day of this month, August 31st, at 7:30 pm (of course it will be held at Hyde Observatory, where else?). The program this month promises to be an interesting one, with two presentations by club members on their summer travels. First, Bev Hetzel has offered some slides from her visits to various astronomy and space museums around the country. Next, John Johnson will be showing his slides from the national meeting he attended in July. All in all it should be a great time, so plan to attend!

PRESIDENT'S MESSAGE...^{oo}

To start things off this month, a big thanks to the volunteers who helped with the painting of the trim around the observatory. This year it was a little more involved, what with applying stripping material, stripping it, then rubbing it down with alcohol, then priming it, then painting it. But with the help of the volunteers, most notably Bryan Schaaf, Andy Corkill, and Bev Hetzel, who showed up bright and early on a hot and humid Saturday A.M. to help, the job is almost finished. Now, if the rain will hold off when I've got time off I might have all of the high trim done by this printing.

Speaking of rain, as seems to be the case in recent years, we had bad weather for our planned star party and picnic at Wagontrain Lake. So, I hope not even the diehards showed up that Saturday night, because I would like to see if we can plan it for the month of September. I think it is important we do this for ourselves. All year we have a dedicated bunch of members who volunteer their time for public nights at the observatory, for various maintenance duties, national Astronomy Day, etc. Now, it's our chance to volunteer our time for ourselves through our annual star party and picnic. So, bring ideas on when you would like to hold it. And for those members who can't attend the meeting, but would like to attend the picnic, give me a call and I'll fill you in on the details.

Next month I will start a series of articles on something I have been involved in professionally for seven years, yet only now is coming into prominence in amateur astronomy, and that is microcomputers. See you at the meeting.

-- RUSS GENZMER

THE PRAIRIE ASTRONOMER is published monthly by the Prairie Astronomy Club, and is free to all club members. Yearly subscription without club membership is \$6.00. Regular membership, \$16.00. Family membership is \$18.00. Memberships include 1-year subscription to SKY & TELESCOPE, the club newsletter, and 4 quarterly issues of THE REFLECTOR, Journal of the Astronomical League. Address correspondence and membership renewals to: PRAIRIE ASTRONOMY CLUB, INC., P.O. Box 80553, Lincoln, Nebraska 68501.



Star Party Splosh!

As the clouds thickened over Lincoln on Saturday night, August 14, and the second consecutive Annual Picnic & Star Party dissolved in torrential rains at Wagontrain Lake (or, was it in Wagontrain Lake--the shoreline was rising, threatening to gobble up the entire park) one could only conjure up the exciting mental image of Ron Veys utilizing his revolutionary CLIR to view unobstructed skies. Convincingly demonstrated at the last club meeting, the Coherent Light Image Regenerator, employing well-known, but largely overlooked Sound Scientific Principles, makes use of simple, everyday materials to totally eliminate the effects of clouds on astronomical viewing. Word has it that Veys is in serious consultation with his patent attorney.

Meantime, I could visualize him there at Wagontrain, bedecked in scuba gear to offset the effects of the sheetlike waves of rain sloshing onto his upturned noggin, peering through the Dixie cups with the bottoms removed, at what were, to him, undoubtedly, perfectly clear skies punctuated by an occasional spectacular Perseid. I almost went out to the lake to verify his presence, but it would have meant inflating my waterwings, which is a 20 minute job, not worth the effort.

Then, Rick Johnson's letter arrived from the Northland with the following irritating comments about clear Minnesota skies:

"How have the Northern Lights been down there? Several times here they went all the way to the Southern

horizon! Another night it appeared the sky was on fire as the 'flames' (blue in color) rose rapidly to the zenith. The most spectacular flames were in the Aquila-Scutum-Scorpio area! They flickered far too fast to attempt any photographs. Steve and Holly Myatt were here that night and we sat for hours feeding the Minnesota State Bird (the one with 6 legs and a built-in oil derrick), and watching the show. Mira (Steve & Holly's daughter) may be named for a star, but as yet she's no astronomer! She cried through the whole show! See you in September--Rick."

Now, long-range forecasters are speculating about the probabilities of an early Fall, unusually wet, in Nebraska. Amateurs here will undoubtedly have the best-adjusted telescopes, with the cleanest mirrors, tightest screws, and most precisely collimated optics in the world--we have plenty of time for all that; observing opportunities never get in the way!

(The preceding is from your disgruntled Editor, who is 20 Autumn and Winter objects away from completing his Messier list--and sincerely hopes to do so before reaching his 80th birthday!)

The Sun's Twin... from Page 1 calls simply "the companion" was about 1.2 times as massive as the sun. The two stars were about 11.2 billion miles apart and both had planets orbiting them. Pluto and Neptune shared the same orbit around the sun, Follin

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Sun's Twin... from Page 3
believes, spaced 180 degrees apart.

In the area between the two stars, the gases and elements they spewed out collected in a giant disc turned on its side. Within it, chemical reactions took place to form complex molecules, including amino acids, the building blocks of life. These formed the "dirty snowballs" that would one day become comets.

The two stars were located at an edge of a star cluster, an area of densely packed new stars. The gravitational effects of the star cluster caused the sun, the companion, their planets and the disc to rotate as a unit.

Gravitational effects between the two stars and the planets also changed the planets' spacing and the rate at which they rotated, accounting for the

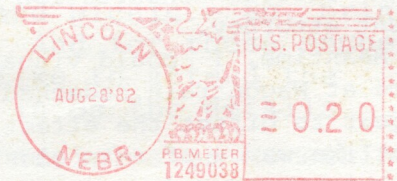
the different inclinations of the planets in our solar system.

"This was nicely stabilized until the encounter with the third star", Follin says.

That star, Follin believes, passed 4.7 to 5.6 billion miles in front of the sun. The passing star's gravitational attraction was strong enough to pull the sun from the companion. Pluto, which was even closer to the passing star, was pulled further out in space from its shared orbit with Neptune.

The separation of the sun and the companion disturbed the disc of dirty snowballs between them. Some went into orbit around the companion, some into orbit around the sun. Many others were sent hurtling toward the sun and planets to cause a violent bombardment.

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c/o PRAIRIE ASTRONOMY CLUB, INC.
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