



DAVID DUNLAP DOINGS

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LAST 1975 NUMBER

This will be the final number of the DOINGS for 1975, the Editors wishing to avoid confusion with the notorious David Dunlap Droppings which will appear this year on December 16th.

We therefore take this opportunity to extend early wishes for a *Merry Christmas* and a *Happy New Year* to all our readers.

EDITORIAL

Two Telescope Tales

I can't remember who told me the story about George W. Ritchey, famous co-inventor of the Ritchey-Chrétien reflecting telescope, and I can't vouch for its truth. However, those who knew Ritchey have said that the incident could easily have happened.

It seems that when the U.S. Naval Observatory's 40-inch Ritchey-Chrétien reflector was very new Ejnar Hertzsprung came to the Observatory to visit Ritchey and to see the superb new telescope in action. After watching Ritchey guide several exposures, Hertzsprung begged permission to guide the next one. After some hesitation Ritchey consented, and Hertzsprung spent the next half-hour with eye glued to the guiding eyepiece and fingers quivering on the controls of the double-slide plateholder. When Ritchey signalled that the exposure could be terminated Hertzsprung leaned back with a satisfied sigh and then said, "Ritchey, one more favour: may we develop this plate now? I can't wait to see what surely must be the finest astronomical photograph I have ever taken."

Ritchey looked at his friend in stunned amazement. "Hertzsprung," he said, "surely you don't think I put a plate in the holder! Why, this is the first time you ever guided this telescope!"

Another telescope story came from Peter Wellmann, now Director of the Munich Observatory, but in the 1950's a temporary member of our DDO staff while on leave from the Hamburg Observatory. His older colleagues at Hamburg had known Bernhard Schmidt, the brilliant and skilled optician there who had conceived and build the first Schmidt telescope in 1930.

Schmidt, for all his German name, was Esthonian born, and was one of the greatest opticians who ever lived - and this despite two serious handicaps: the loss of his right arm in boyhood and a severe drinking problem. A self-taught optician, he was so independent that he refused offers of full-time employment, but finally, in 1926, accepted an invitation to live at the Hamburg

Observatory and to work on telescope design and construction on a voluntary basis. He was also extremely sensitive - to the point of paranoia - and he went to extraordinary lengths to guard the secrets of the Schmidt telescope, while at the same time ensuring that he would get full credit. For example, he deposited with his Director, Schorr, whom he trusted, a full description of the design and the method of grinding the corrector plate, and he swore Schorr to secrecy.

Meanwhile Schmidt took terrestrial and celestial photographs with his 14-inch prototype instrument and circulated them to German astronomers with the terse comment that they were taken with a reflector. A number of the astronomers refused to believe that the photographs were taken with a reflector, stating that they must have been taken with some sort of multi-component refractor. Eventually Schmidt's ego was satisfied and he published a note on the design of the telescope. That was in 1932. Schmidt died in 1934 and it was only then that Schorr divulged Schmidt's method of grinding the corrector plate.

Some years later a member of a group visiting the Observatory, a butcher by trade, approached a member of the staff and asked if a man named Bernhard Schmidt had ever worked there.

"Of course," said the astronomer, "he was an optician on our staff, and a very good one. But he died some years ago."

The butcher seemed surprised. "Perhaps we should have taken him more seriously," he said.

Then the butcher explained that Schmidt had been a member of an informal group which met frequently in a tavern. Schmidt he said, was very uncommunicative most of the time, but when he got very drunk he would shout, "Mark my word! Some day the name of Schmidt will be a household word with astronomers all over the world".

"Sure, sure, Schmidt; have another drink," the butcher and his friends would say.

J.F.H.

OBSERVING

DDO

The 74-inch primary was re-aluminized Oct. 27-28. Unfortunately within two weeks the primary received a great splash of water from the shutters during the very high wind of Nov. 10.

We have had quite a bit of clear weather this month. The customary "socking in" of the November skies seems to be late this year.

SvB

Sidney van den Bergh observed variable stars in nearby galaxies and also supernova remnants with the 48-inch Schmidt Nov. 2-9. All five nights were photometric with average seeing about one arc second. This has been his luckiest year so far, with 16 out of 17 nights photometric at CTIO, 5 out of 6 photometric at KPNO and 8 out of 8 photometric at Palomar.

Observations of comet 1974g* show that it is still at $B \doteq 17$, i.e. about two magnitudes brighter than predicted by the IAU Circulars

COMINGS AND GOINGS

The latter part of October saw no fewer than three of our staff enjoying autumn in France. Bob Garrison was at Haute Provence Oct. 22-24 for a meeting of the CFHT Spectrograph Working Group and then in Paris for two days. René Racine enjoyed his first-ever visit to Haute Provence Oct. 24-26 and then went to Meudon for a meeting of the Scientific Advisory Committee of CFHT. Linda Twitchin and husband, Bill, were in Paris for the week of Oct. 25 - Nov. 1, a premium Bill earned for selling so many air-conditioning units.

Bob Garrison spoke at the Oakville Trafalgar High School and at the Oakville Public Library on Nov. 13.

* Comet van den Bergh - Ed.

Sidney van den Bergh spoke on "Classification and Evolution of Galaxies" to the New York Astronomical Society meeting in Albany on Nov. 1, the M.I.T. Centre for Space Science on Nov. 18 and the Yale Astronomy Department on Nov. 20.

Tom Bolton attended the Goddard Symposium on X-Ray Binaries at the Goddard Space Flight Centre in Greenbelt, Md. Oct. 20-22. He chaired a session on Cygnus X-1 and gave short papers in two sessions. While he was there he had a chat with our former colleague S.P.S. Anand who has been working in the OSO-8 group at the GSFC for the past 14 months. He reports that he is enjoying life and getting lots of work done.

Helen Hogg was a guest of President Carl Williams of U.W.O. at a luncheon which he gave on Nov. 11 for the ladies who are the "museum specimens" in the Ottawa Museum Exhibit of 19 Lady Scientists which opened that day at U.W.O. after a long run in Ottawa.

SEMINARS

NOVEMBER

As announced in Vol. 8, no. 8

DECEMBER

Tues. 2nd
DDO 4 p.m.

Roger A. Bell, U. of Maryland "The Chemical Composition of Globular Cluster Stars".

Mon. 15th
McL. 137, 4 p.m.

Dr. Robert Kraft, Lick Observatory, "The Origin and Evolution of RR Lyrae Stars of High Metal Abundance".

Tues. 16th
DDO 3.30 p.m.

Christmas Countdown

JANUARY

Tues. 6th
DDO 4 p.m.

Sidney van den Bergh, "The Post-eruptive Galaxy NGC 5128 = Centaurus A".

PAPERS SUBMITTED IN NOVEMBER

S. van den Bergh	"HET MERKWAARDIGE MEIKWEGSTEISEL NGC 5128 = Centaurus A".
C. T. Bolton	"Optical Observations of HDE 226868 = Cygnus X-1: a Review".
G. Hill, G.C.L. Aikman, A.P. Cowley, C.T. Bolton and J.C. Thomas	"The Radio-Flaring Triple System b Persei".

P O T P O U R R I

Appointment

Lynda Hirtenfeld has been appointed to fill the vacant secretarial position as Esther's assistant on Campus.

Astronomy Day

The Department played host to the evening portion of "Astronomy Day" on Saturday, November 8 at the Campus Observatory. "Astronomy Day" (formerly "Astronomy Club Day") is sponsored by the Toronto Centre of the R.A.S.C., and was organized this year by Ann (Totton) Scott, a former student in our Department (B.Sc. 1961). The evening program was conducted by Roel Hurkens, Chris Rogers and John Percy.

CBC Ideas

Jon Lomberg's series "Into the Universe" had a good deal of Tom Bolton on Stellar Evolution, Black Holes and the like on Tuesday Nov. 11. The last of the series is tonight (Nov. 25) at 8:03 p.m. on CBC fm (94.1 in Toronto).

Wins RN

Cordelia Blyth was successful in her registered nursing examinations tried last August.

PPK

Philipp Kronberg, on sabbatical leave in Bonn, expects to be visiting Green Bank about Nov. 18 and hopes to be in Toronto for a brief visit about that time.

Howler

Culled from a first-year test paper by Christine Clement: "The 3°K radiation which has been here since the beginning of the universe was discovered by a Bell Telephone operator".

Married

Former PD Fellow Nolan Walborn was married to Gladys (last name not known) on Oct. 10.

FINAL ITEM

The Adams-Leverrier Affair - Finis

To say that the French - astronomers and public alike - were totally outraged by claims for Adams' role in discovering Neptune would be to say that Napoleon was mildly disappointed at losing Waterloo. Just how perfidious could Albion be?? The tirade in the French press lasted months. L'Univers attacked England for "an odious national jealousy", Le National accused the English of "treating France as a stupid nation, M. Arago as a Humbug, our own writings as discredited articles, everything crowned by the glorious refrain 'Adams and England forever'", L'Illustration published vicious satirical caricatures of Adams.

But that was as nothing compared to the thunder that erupted on the floor of the French Academy. Meetings were stormy to a degree that led one reporter to ask "Are we in the Academy of Sciences or the Chamber of Deputies?" Arago read out translations of letters from Challis and Airy, and then, choking back his anger, launched into an impassioned denunciation dripping with sarcasm and venom: "Challis so exaggerates the merits of Mr. Adams's clandestine work, that he assigns [him] the right to name the new heavenly body. This claim will not be accepted

What!... today we are called upon to share this glory ... with a young man who has communicated nothing to the public, and whose calculations, more or less incomplete, are with only two exceptions totally unknown to the Observatories of Europe! No, no! The friends of science will not permit the perpetration of such a flagrant injustice!.... Mr. Adams has no right to figure in the history of the discovery of the planet Leverrier, neither by a detailed citation, nor by the slightest allusion."

Airy, as usual, succeeded in exacerbating the situation. To Leverrier he wrote "If in this I give praise to others I beg that you will not consider it as at all interfering with my acknowledgment of your claims. You are to be recognized, without doubt, as the real predictor of the planet's place. I may add that the English investigations, as I believe, were not so extensive as yours." Then, only a short while later, he had the gall to tell someone else "I believe I have done more than any other person to place Adams in his proper position."

But Airy was to be called to account, for the fury of the French was hardly more than that of the British themselves with their Astronomer Royal. On November 13, 1846, there was a meeting of the Royal Astronomical Society at which Airy, Challis, and Adams gave accounts of what had happened. As one Fellow remarked, they were "the three most remarkable communications which the Society can ever expect to receive in one night". Challis, filled with foreboding, wrote to Airy beforehand "I am in difficulties about this report and should be glad to see some means of getting out of it". There was no escape. Adams restricted himself to a detailed account of his researches, and, of course, received a tremendous ovation. With the subsequent publication of this paper his work was at last available for all to judge. The reception accorded Challis and Airy was vastly different. Challis caved in under it all and emerged a sorry figure indeed, scorn and abuse heaped upon him, and viewed thereafter with little more than contempt. But the neurotic Airy had a hide to rival a rhinoceros. Sir David Brewster and Sir James South led a savage and bitter attack on him, and even his closest friend, Adam Sedgwick, wrote to say "You were accused, not only of unreasonable incredulity and apathy towards Adams, but also of having ... 'snubbed him from the first' and so acting ... prevented him from reaping the honors of a great discovery.... I think the facts speak so loudly that my dull ears cannot help hearing them." All such attacks were absolutely and entirely disregarded by Airy; as one who knew him well said "He was perfectly satisfied with himself, and what other people thought or said about him influenced him no more than the opinions of the inhabitants of Saturn."

Fresh fuel was now added to the fire over the question of naming the new planet. Arago (at the insistence of Leverrier himself, it later turned out) demanded that it be called Planet Leverrier, citing the fact that Uranus was long known as Planet

Herschel, and that such names as Halley's Comet had proved acceptable. The British, of course, would have none of that, quite apart from the implied denigration of Adams. As Piazzzi Smythe gloomily remarked "what if the next planet should be discovered by our hirsute friend Boguslawski?" Eventually saner heads, mostly outside of Britain and France, prevailed, and Neptune was agreed to by all.

Through the hard work of John Herschel in England and Jean Biot in France the furor finally calmed down, so that by the following summer it was possible for Leverrier to be welcomed at the British Association meetings in Oxford. And there, finally, John Adams and Urbain Leverrier met for the first time. The two men had not participated in the mud-slinging of the previous winter, and it is one of the few happy aspects of this story that they immediately became firm and respected friends and remained so for the rest of their lives.

Neither, of course, would ever achieve such headlines again. Adams, retiring as always, lived out his life in relative obscurity, declining a knighthood, but eventually succeeding to Challis' position as director of the Cambridge Observatories. He came to the forefront only once more, when in the mid-1850's he again had a run-in with French astronomers over the secular acceleration of the Moon. This had supposedly been settled by the great Laplace, but Adams showed his solution to be incorrect, and Adams' work eventually led in the twentieth century to the discovery of the Earth's irregular rotation. It was in his beloved Cambridge that Adams died in 1892 at the age of 72.

Leverrier, as might be expected, had a far more visible career. His prediction of Neptune resulted in many honours being showered on him by foreign governments and academies, and he was soon appointed director of the Paris Observatory. As such you may recall from a previous column, his dislike of Pierre Janssen led to the founding the Meudon Observatory and the beginnings of French astrophysics. At the time of his death in 1877 (aged 66) he was the leading figure in the renowned search for the missing planet Vulcan, a story that I must take up here sometime.

It was that old smoothy, Sir John Herschel, who pronounced the final verdict on the Adams-Leverrier affair: "As genius and destiny have joined the names of Leverrier and Adams, I shall by no means put them asunder; nor will they ever be pronounced apart so long as language shall celebrate the triumphs of science in her sublimest walks." Neither, it is true, could properly be called a mathematical genius; rather they were superb craftsmen of their trade. But as co-discoverers of Neptune, they occupy a special, undiminished place in the history of astronomy.