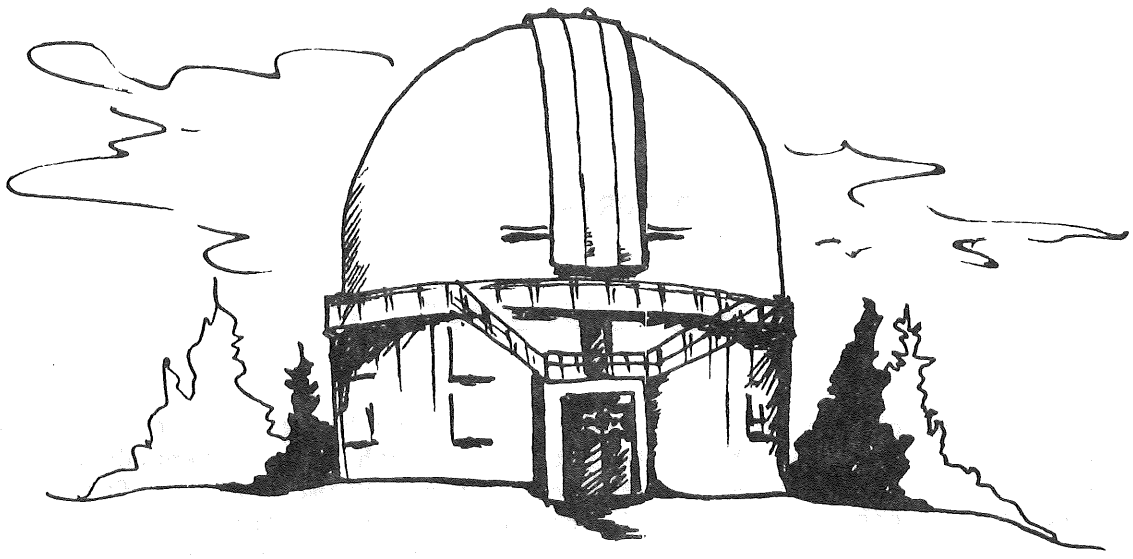

DAVID DUNLAP DOINGS

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CREATION DE L'OBSERVATOIRE ASTRONOMIQUE DU QUEBEC

Le recteur de l'Université de Montréal, conjointement avec le recteur de l'Université Laval, annonce la création de l'Observatoire astronomique du Québec.

L'Observatoire sera implanté sur le Mont Mégantic, à 130 milles de Montréal et de Québec et à 30 milles à l'est de Sherbrooke. L'édifice comprendra un grand télescope Cassegrain-coudé de 1.6 m d'ouverture avec sa coupole et son bâtiment ainsi qu'un édifice de service servant de résidence et de laboratoires pour les astronomes et le personnel travaillant au site.

Rene's reflector official. See p.4

EDITORIAL

"A Very Double Life"

The feet of clay of our political idols seem to be bringing them down like ten-pins these days. Last year Willi Brandt, last month John F. Kennedy and now - of all people - our own William Lyon Mackenzie King, Prime Minister for 22 years, 1921-26, 1926-30 and 1935-48. Toronto historian (mostly military history heretofore) C. P. Stacey has been reading between the lines of W.L.M.K.'s recently released diary and has produced, under the title quoted above, a book which, judging from the excerpts which have appeared in the Toronto Star, promises to be a sensation.

W.L.M. King had some connections with our Observatory. For one thing he was known, as early as 1895, to our founding father, C.A. Chant. Chant had graduated in the M and P course in 1890, worked in Ottawa as a civil servant for a year, and returned to the University as a Fellow in Physics in 1891. King graduated in the class of 1895 and on February 8, 1896, working as a reporter for the Toronto Globe, he was sent to write up a popular lecture by Chant on Electric Waves. The two young men talked after the lecture and an account of Chant's talk appeared in the Globe's Saturday Illustrated Supplement for February 15.

As I mentioned last year in recalling the opening of the Observatory, King, to Dr. Chant's great delight, turned up quite unexpectedly and, although lacking the formal attire of the platform party, was given a place of honour with them. Helen Hogg tells a wonderful story, at her own expense, relating to that afternoon. She had been asked by Dr. Chant to keep an eye on the brand new gold-edged visitors' book to ensure that it didn't fall into plebeian hands until the VIP's had signed it. Having only recently come from the West and there being no television in those days, Helen couldn't have been expected to recognize Mr. King. So, as a portly business-suited man came confidently towards the book Helen stammered something to the effect of was he sure that this was the book he was to sign. He smiled as he replied that he thought so, and Helen's composure returned as she saw him write W.L. Mackenzie King Ottawa.

Bill Clarke also has a good story involving his father and W.L.M.K. About 50 years ago Macmillan Co. of Canada were publishing a book of speeches by King and were having a celebration in their building on Bond Street in Toronto - just a few doors south of the home of King's grandfather, the famous rebel, William Lyon Mackenzie. The house has since been restored and converted to a museum; in those days, though, it was a shabby slum property. Bill's father, at that time employed by the Macmillan Co., had the honour to escort Mr. King from an Empire Club lunch to the Macmillan party. As they walked past the old Mackenzie house Mr. King rather pompously raised his hat, saying to Mr. Clarke, "Home of my illustrious forbear, you know". At which point a woman of uncertain age but not-so-uncertain

occupation leaned out of an open upstair window and called, "Coming up, dearie?" Mr. Clarke reported that Mr. King did not deign even an upward glance.

If we are to believe Col. Stacey, W.L. Mackenzie King in his younger days might have reacted differently.

J.F.H.

A Correction

No sooner had last month's DDD "hit the street" (as we, uh, journalists say) than I realized that I had made what I consider a serious omission in tracing the academic "descendants" of Ralph Williamson. I had briefly forgotten that John Percy was supervised here in his 1968 thesis, "The Nature of the Beta Cephei Stars", by Pierre Demarque. Thus, although Pierre left us during the course of John's research, the connection was there; the Williamson "strain" was unbroken and still survives.

My apologies to John and Pierre.

J.F.H.

COMINGS AND GOINGS

Robert Roeder was at McMaster November 19, 1975 to give a colloquium on "Semi-Closed World Models", at Queen's on February 19 for a meeting of the Theoretical Astronomy subcommittee of the NRC Associate Committee to discuss a National Centre for Theoretical Astronomy, and gave another colloquium at the University of Windsor on March 4 on "Inhomogeneities in the Universe - Some Simple Models".

The Scarborough Relativity Group had a relatively eventful journey to Waterloo on January 29 to hear J. A. Wheeler give a colloquium. Their report: On the way we survived a skid into a ditch on the 401; on returning were hassled by the OPP over a question of lights, and in between missed being ground into junk by a wild driver at a gas station.

The Group further tempted Fate with another trip to Waterloo during the week of March 15.

Helen Hogg attended the annual meeting and seminar of the Canadian Science Writers' Association at McMaster on March 11-12.

John Percy gave a talk at Applewood Heights Secondary School on March 3 titled "Astronomy in Canada", and another to the Hamilton Centre of the RASC on March 4 on "Pulsating Stars".

Regular editor Jack Heard was an external examiner on March 15 at Victoria for the Ph.D. thesis defence of Barrow Baldwin. He and wife Margaret are now visiting their daughter and family in Powell River, B. C.

Jose Maza was in Arizona March 6 to 10 observing the polarization of Seyfert galaxies with the Steward Observatory's 90-inch.

Rene Racine was on a lecture tour in Western Canada for the CAP March 3 to 6, speaking on "Astrophysical Problems and Canadian Solutions" at the Universities of Alberta, Calgary, Lethbridge, and Saskatchewan.

Don MacRae and (of course) Rene Racine were at the University of Montreal on March 16 for the official announcement of the future Quebec Observatory, of which Rene will be the Director. The opening paragraphs of the official press release appear on our cover.

SEMINARS

MARCH

As announced, with the addition of N. Tariq at Scarborough on March 26 on "An Exact Solution of the Einstein-Maxwell Equations".

APRIL

Tues. 6th D.D.O. 4 p.m.	S. White, University of Cambridge, "Dynamical Evolution of Clusters of Galaxies"
Fri. 9th (at Scarborough)	P. Wesson "Self-Similar Cosmology"
Tues. 13th D.D.O. 4 p.m.	T. Schmidt-Kaler, Ruhr University, Bochum To be announced
Tues. 20th	R. Watson, University of Tasmania β Cephei Stars
Tues. 27th D.D.O. 4 p.m.	J.E. Hesser, Cerro Tololo Observatory, "Some New Inferences from Globular Cluster Observations at CTIO
MAY Tues. 4th D.D.O. 4 p.m.	Henry Halls, Erindale College "The Slate Islands Meteor Crat r"
Tues. 11th D.D.O. 4 p.m.	K. Kamper "Cassiopeia A, The Invisible Supernova"
Tues. 25th D.D.O. 4 p.m.	R. Garrison "Galactic Structure from the Southern Hemisphere"

JUNE INSTITUTE

Arrangements have now been finalized for this year's June Institute, which will take place June 8 to 11 inclusive. Speakers will be

James Gunn: Observational Cosmology

cont'd . .

Donald Lynden-Bell: Theoretical Astrophysics and Stellar Dynamics

Miroslav Plavec: Binary Star Evolution; Mass Loss

Joseph Veverka: Planets and Their Satellites

Outsiders wishing to attend should contact John Percy as soon as possible.

PAPERS SUBMITTED IN MARCH

K. Kamper & S. van den Bergh	Optical Studies of Cassiopeia A. V: A Definitive Study of Proper Motions
G.L. Harris & S. van den Bergh	The Cepheid CS Velorum and the Cluster Ruprecht 79
S. van den Bergh & G.L. Harris	The 10.8-Day Cepheid TW Normae and the Cluster Lyngå No. 6
S. van den Bergh	The Post-Eruptive Galaxy NGC 5128 = Centaurus A

P O T P O U R R I

Austin Gulliver successfully defended his Ph.D. thesis ("A Study of Shell Stars") on February 27, and has left to take up his post-doctoral fellowship at the University of Victoria and the DAO. The volleyball court will be the less....

Bob Chambers triumphed over the Ides of March (15th) with a defense of his Ph.D. thesis ("Stellar Models with Differential Rotation and Meridional Circulation"). He has not yet taken up his PDF.

M.Sc. degrees have been awarded Margaret Buckby, Dot Fraquelli and Andrew Leir.

Irene Priestley joined the secretarial staff of the Observatory on March 1, replacing Penny Travis, while March 2 saw the arrival of Dianne Grazioli on the secretarial staff of the Department.

Sidney van den Bergh has accepted an appointment to the Editorial Supervisory Board of 'Astrophysical Letters'.

Ex-secretary Elizabeth Barnes' mother has been written up in the February 'Graduate' as the only woman in a Physics class of X-ray crystallographers.

Don Fernie's wife, Yvonne, has been appointed an Equestrian judge for the forthcoming summer Olympics in Montreal.

Bruce Campbell, manfully stifling his tears, reports the following exam result from the murky depths of A120:

Q. *Explain why the Carbon-Nitrogen-Oxygen cycle plays no important role in the sun.*

A. *The CNO cycle plays no important role in the sun because the sun has no living things nor vegetation which require the CNO cycle for survival...*

If only Hans Bethe had known.

FINAL ITEM

The Country Curate

Early on in my adolescence I discovered and became entranced by Thomas Gray's famous poem *Elegy in a Country Churchyard.* In it there is a stanza that runs

Full many a gem of purest ray serene
The dark unfathom'd caves of ocean bear:
Full many a flower is born to blush unseen,
And waste its sweetness on the desert air.

For reasons which now escape me I thought this to be terribly significant, the idea that at odd times and places there exist geniuses who might sway the world, revolutionize science or art, if only their potential could be realized. Instead they die as unknown as they were born. Perhaps it was because I grew up in Africa and saw about me millions of people whose intellectual potential would likely never be known because their faces were black.

On the astronomical scene this is nowhere better illustrated than in the case of Jeremiah Horrocks. We know so little about him that we are not even sure when he was born, who his parents were, or even how he spelt his name. Best guesses place him as having been born in 1618 in a little village outside Liverpool in England, and his father was probably a watchmaker. As for spelling his name, he may himself have used both Horrocks and Horrox at various times, for they were a lot less impassioned about correct spelling then than we are now. (After all, Johannes Kepler around that time opened his autobiography with an invitation to the reader to choose whichever of five spellings of his name the reader wishes.)

We do know that in his mid-teens Horrocks attended Emmanuel College in Cambridge, working as a sizar (a college servant) to support himself, and that he left after three years without taking a degree. He did not, apparently, study

astronomy during his time at Cambridge, and it was only afterwards, when he had become an Anglican curate that he first approached the subject. It is this that makes Horrocks so remarkable. For not only was he completely self-taught in astronomy, but, stuck away in a small country village again, he had no chance at all of exchanges with established scientists of the day. In fact, nothing of his work was ever published during his lifetime, and no scientist even knew of his existence. Finally, he accomplished what he did in the span of only a very few years, for he died at the age of 23.

To put his ideas and work into perspective recall that Horrocks' life overlapped those of Galileo and Kepler; the basic tenets of the Copernican system were still not accepted by some, while many of Kepler's theories were considered iconoclastic.

Horrocks wanted to extend Tycho's work by applying the recently invented telescope, and to this end he first re-examined all the available planetary tables. He found them in sad disagreement, so unabashedly he sat down and corrected them. How well he succeeded is seen by the fact that whereas the existing tables disagreed in predicting a transit of Venus in 1639 by several days, his own tables proved correct to within a few minutes. This introduced him to the problem of the sun's parallax, and again he reviewed the existing evidence and concluded that the solar parallax must be less than 14", although the accepted values then were Tycho's 180" or Kepler's 59" (the correct value is 8.8").

But it was the intellectual insights that Horrocks brought to problems that stamp him as a genius. Only Kepler had so far enquired into why the planets move in elliptical orbits about the sun, and he had concluded that planets have 'friendly' and 'unfriendly' sides to them that make them sometimes approach the sun and sometimes recede from it. But Horrocks, after studying the motion of a pendulum, directly linked celestial and terrestrial dynamics by realizing there must be some mutual force between bodies that depended on their masses. Consider his remark "Ye suns conversion doth turn the planet out of this line framing its motion into a circular, but the former desire of ye planet to move in a streight line hinders the full conquest of ye Sun, and forces it into an Ellipticke figure", and remember that Newton was not yet born. This concept of gravitation led Horrocks to realize that the planets must act on one another too, and he was the first to give an explanation of several irregularities in the moon's motion as due to solar perturbations. Other of his concepts in celestial dynamics would have to wait a century and a half for verification by Laplace.

How Horrocks would have developed had he lived is a fascinating thought, made more so by the fact that he would have been hardly middle-aged when Newton was a young man. What might an exchange between these two have produced?

There exists a charming account of Horrocks' observation (the first ever) of the transit of Venus in 1639. Unfortunately it fell on a Sunday, a busy day for a young curate, and he tells us (in Victorian English translated from Horrocks' original Latin) how he was frequently interrupted in his observations of the sun, "being called in the intervals to business of the highest moment, which for these ornamental pursuits I could not with decency neglect". This business was his having to take Matins, Holy Communion and Evensong, and preach two massive sermons, which, I'm sure, were

just a little shorter than usual. He also had to contend with clouds (imagine an English December) and an early sunset, but "I was enabled, by *Divine Providence*, to complete the observations so effectually that I could scarcely have wished for a more extended period".

He had also arranged with his friend William Crabtree, a linen draper over in Manchester, to observe the transit: "He eagerly betook himself to his observation, and happily saw the most agreeable of all sights, Venus just entered upon the Sun. He was so ravished with this most pleasing contemplation, that he stood for some time viewing it leisurely, as it were; and, from an excess of joy, could scarce prevail upon himself to trust his own senses. For we astronomers have a certain womanish disposition, distractedly delighted with light and trifling circumstances, which hardly make the least impression on the rest of mankind. Which levity of disposition, let those deride that will...."

The circumstances of Horrocks' death are clouded. He and Crabtree had never met face-to-face, and they finally arranged that on January 4, 1641 they would travel the thirty miles between them. The record only shows that the day before, Horrocks "died very suddenly". Newton would be born the next year.

Without doubt Horrocks accomplished much more than we know. After his death a large portion of his unpublished notebooks and manuscripts were destroyed in a raid during the Cromwellian Wars, more of them were taken to Ireland by a brother and never seen again, while still others fell victim to the Great Fire of London in 1666. The small fraction remaining, on which all that we know is based, turned up in the hands of an antiquary in London, who drew them to the attention of Flamsteed, Hooke, Newton, et al, in the 1660s.

To conclude with another poetic allusion: the saddest words are indeed 'It might have been'.

J.D.F.