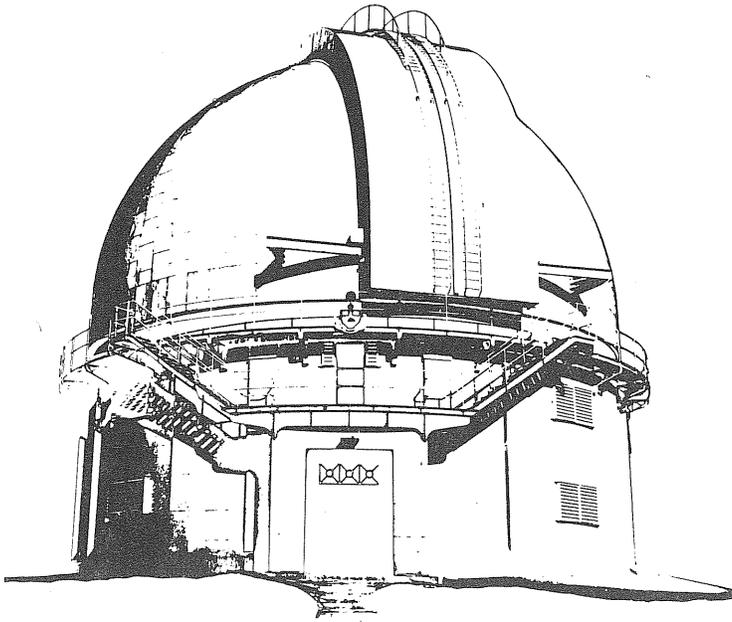


FEB 2 1981



THE ^{DAVID} DUNLAP DOINGS

Vol. 14, No.1. January 16, 1981



Finding chart: p.3

Photo - Karl Kamper

CONGRATULATIONS

To *Phil* and *Robea Kronberg* on the birth of their third son *Michael Philipp Kronberg* (a brother for Paul 10, and Martin 8) on Friday, January 9.

To *Gerry Longworth* on his 65th birthday, January 1, 1981.

COMINGS AND GOINGS

Zane Sterns has accepted a position as librarian with the management consulting firm of Towers, Perrin, Forster, and Crosby. Zane has been DDO and departmental librarian since the fall of 1976, and all of us are most grateful for her skilful management of the library and for the efficient and cheerful assistance which she has always been willing to provide. Good Luck in your new job, Zane - we'll miss you!

Congratulations and our best wishes to *Alice Kato* as she moves to New College where she will be secretary to the Principal. Alice was our departmental secretary from 1966 to 1973 and more recently she has been secretary to the Dean of Pharmacy.

University of Toronto
Tenure Stream Assistant Professorship in Astronomy

The Astronomy Department and David Dunlap Observatory, University of Toronto, will have available a tenure-stream assistant professorship starting July 1, 1981. Salary will be approximately \$22,000, depending on qualifications and experience.

Applications are particularly solicited from persons who will consider themselves Observatory-based, and who will take a primary interest in research programs that utilize the instrumentation of the Observatory. These include a 1.9-m telescope with moderately high dispersion cassegrain spectrograph, currently being adapted to a Reticon detector; a 0.6-m telescope with high dispersion echelle spectrograph, classification spectrograph (with Reticon facility), photoelectric photometer, and polarimeter; a 0.5-m telescope dedicated to photoelectric photometry; a PDS microdensitometer; Grant measuring engine; blink microscope, and one of the best astronomical research libraries in Canada. The Observatory also maintains a 0.6-m telescope at Las Campanas, Chile, and smaller telescopes on campus.

The successful applicant will be expected to contribute to both undergraduate and graduate teaching in the department. Demonstrated teaching excellence, postdoctoral experience, and research productivity will be definite assets.

Applicants should send their cv and a statement of their research interests to the undersigned before April 15, 1981. They should also arrange to have three referees forward letters of recommendation by the same date.

J. Donald Fernie, Director
David Dunlap Observatory
Box 360
Richmond Hill, Ontario
Canada L4C 4Y6

OBSERVING TRIPS

Wendy Freedman tells us about her second trip to the CFHT

I began my new year with the first CFHT observing run of 1981. I was working with Brent Tully who, as I can now attest to, holds the speed record for driving up the mountain. Whereas on average, it takes most astronomers and telescope operators (who drive up all the time) about forty minutes to get from Hale Pohaku (at 9000 ft.) to the dome at 14,000 ft., Brent claims (and I think I can claim, but I'm not sure - I may have shut my eyes) a mere 13 minutes!

We had some nights of excellent seeing - unfortunately we had to keep the shutters closed on two occasions because of high winds which gusted to 125 km/hr. How frustrating when you can see beautifully clear skies overhead!

In spite of some minor telescope difficulties, things ran very smoothly - until the last morning. I had been sitting in the spacious, warm prime focus cage since about 2:30 a.m. Dawn at this time in Hawaii is around 5:30 a.m. and at that time I closed the dark slide, settled back for my trip to the zenith and began to look forward to getting back to the warmth of the control room and my flight back to Toronto in a few hours. Well, not so fast.

Meg, the night assistant, arrived in the gondola only to have the platform become firmly wedged against the cage so that the gondola could not be moved. Neither could the telescope be moved - we were stranded. Brent was in the darkroom on the third floor, unaware of Meg's pleading screams for help through the microphone in the prime focus cage. About three quarters of an hour later when I hadn't shown up in the darkroom, he figured something was wrong and came looking. While Meg and I struggled with crowbars and tried unsuccessfully to move the cage, Brent began phoning down the mountain to see if we could get some help. As Meg began describing how she thought we might have to climb down out of the cage, my fear of heights, my now frozen solid toes and thought of the plane I was getting nearer to missing combined to make me very unhappy indeed.

However, the day was saved when Art Brown and another person (whose name I didn't get) came up the mountain (delayed for a short time because they ran out of gas). With the deftness and agility of monkeys (No insult intended; it is the only way I can describe how impressed I was), they climbed to the top of the dome (I'm still not sure how), and then Art slid down onto the top of the gondola, climbed onto the platform and within 30 seconds had pushed the cage away from the platform.

And so, by 8:30 we were in the control room and as you can tell I made it back safely and without having to jump. I've heard arguments about doing theory alone which never convinced me, but maybe there are some advantages to "observing" galaxies just through a computer ...

Fre

Barry Madore - CFHT Today - LCO Tomorrow

Barry Madore had three out of four clear nights on the CFHT in November continuing a programme of ultraviolet photography of near-by resolved galaxies. On two of the nights, the seeing dropped below 0.5 arcsec., and apparently the staff at the console got a good chuckle out of the screams of astonishment being piped throughout the building from the microphone in the prime focus cage. Those three nights netted some forty plates which, if you are observing alone, requires some tricky manipulating of plates in the cage.

A two-day 'in transit' stop-over in Toronto was time enough to meet with students and classes before Gerry Grieve and Barry set off for five perfectly photometric nights on the Dupont 2.5 m at Las Campanas, obtaining near-infrared spectral observations of supergiants and Cepheids in the Magellanic Clouds. Again the seeing was superb, dropping below 1 arcsec. on several occasions. Gerry stayed on for another thirteen nights on the Toronto 0.61 m. and, yes, they too were all photometric. A good month in both hemispheres.

Md

Chris Corbally observes at SAAO

Chris Corbally had a week at Sutherland, South Africa, but suffered a criss-cross pattern of winds which brought storms and only 15% of usable time. That was uncharacteristic of the Karoo region which claims 51% photometric weather and 70% spectroscopic, all evenly distributed throughout the year. The 1.88-m telescope is a "beast" familiar to DDO observers, but the Boksenberg IPCS is less so. At first the latter may seem a complex system, but the secret was to remember how it is simply the detector for a conventional spectrograph, and all the usual principles apply. The result was enjoyable and rapid observing of faint G stars - for the few hours available!

Cy

CFHT Report

Bob Garrison is Vice-Chairman of CFHT SAC. He has provided this account of recent CFHT affairs.

The 18th meeting of the Scientific Advisory Committee was held 3-4 November 1980 in Toronto. There was a welcoming party on Sunday night at Bob Garrison's apartment. On Monday, an excellent dinner at the Director's House was charmingly hosted by Don and Yvonne Fernie. The Time Assignment Committee met on 5 November, also in Toronto, since the TAC is a subset of SAC.

The 26th meeting of the CFHT Board of Directors took place on 1-3 December 1980 in Honolulu. As usual with such meetings, the main items for discussion involved budget problems, and the items of scientific interest were mostly for information.

The year 1980 marks the transition from the construction phase to the operating phase. There are many problems which the staff have overcome, most of which were unpredicted and some of which were very time-consuming. There are problems ahead, only some of which are foreseen. The staff is doing its best to bring the telescope into full operation as soon as possible and as carefully as possible.

The main instruments available at the end of 1980 are the prime focus photographic camera with wide field corrector, and the f/7.4 coude spectrograph (photographic, or with Reticon). During the next 2 years, the commissioning of new instruments will depend on the progress of basic systems of the telescope itself. Anxious observers should keep in mind that "the CFHT instrumentation program is the most ambitious and the most complete of all such programs at large modern telescopes". The schedule should allow, during the next 6 months, the commissioning of the UV corrector (March), the TV photon counting (April), grisms, and greses (May). The Cassegrain focus should be ready by August and the infrared photometer, Fourier transform spectrometer, and infrared upper end are scheduled to be available by October 1981. The end of 1981 should see the use of the CCD and the telescope control system (TCS). Spectrograph I will be available by mid 1982 and Spectrograph II by the end of 1982, if all goes well. Our U. of T. built polarimeter is scheduled for mid-1982 operation.

During the second semester 1980, observers have had great weather. Of a total of 120 nights, 110 (92%) were totally clear. The image quality has generally been better than 1"5 in spite of some remaining dome seeing problems, and quantitative measures have occasionally shown seeing of 0"4 (FWHM) on long exposures at the prime focus. Technically, however, the runs have not been so successful, but nevertheless, good science is being done. Notable successes are radial velocities to ± 5 meters/sec and spectrophotometry with S/N of 300 at H α in 2 hours for V=8. Of 29 runs to date, 22 enjoyed good or excellent weather, with the observers giving an overall rating of excellent or very good for 9 runs, good or fair for 10 and poor for 3. Not bad for a new telescope! Clearly, observers should not be scared away by fears of being "guinea pigs".

Discussion of the mid-level facility centered around schedules. U. of H. wants a phased construction over 4 years or more, but users are unhappy over the prospects of living for so long under construction conditions, so suggested an intensive thrust lasting only 6 months.

The Scientific Advisory Committee (SAC) made an impassioned plea for protection of the instrumentation budget from incursions from other budgets that are overspent. SAC also supported the Director in his plea for 2 more

positions. Great concern was expressed over the status of the Telescope Control System, but it appears that the Director is now more optimistic about it.

There is a possibility that UKIRT may continue to base its operation in Hilo instead of moving to Waimea. SAC and the Board are concerned about this because of the advantages of close cooperation and sharing of resources.

Budgetary cutbacks are becoming a serious problem and the Director "sounded the alarm" eloquently, detailing the effects of continuing cutbacks.

There was a lengthy report in the Mauna Kea User's Committee meeting which I can discuss with anyone who is interested.

The Time Assignment Committee (TAC) reported that there were 139 nights (75%) available. These were distributed as 36 dark, 23 bright for each of Canada and France, and 12 dark, 9 bright for Hawaii.

rG

A program is now available on VAX to convert VAX ASCII files into a form compatible with the D.D.O. PDP-8. Documentation is available in the USERLIB directory. Further inquiry can be directed to me.

This complements an existing program of Stuart Button's which enables me to transfer from PDP to VAX.

Bts

Ultraviolet Astronomy at DDO?

Doings readers might be interested in the results of a test I performed recently to see how far into the ultraviolet we could obtain usable spectra with the 74-inch telescope. I tried 4X overexposures of α Per (F5Ib) and Algol (B8V) with the 1200 μ /mm grating tilted to center 3200 Å on the plate in the 2nd order. The lens slits were used because the image slicer cuts off the spectrum at about 3600 Å. These exposures were sufficient to produce usable spectra to below 3200 Å in Algol and about 3300 Å in α Per. Unfortunately, there is so much glass in our comparison feed system that the Fe arc produced usable lines down to only 3450 Å or so. There is less glass in the hollow cathode system, so that might do better, but I have not yet attempted a test with it.

Bln

POTPOURRI

Jacques Vallée (Ph.D. 1973) has accepted a staff position in the Radio Astronomy Group at the Herzberg Institute of Astrophysics.

On January 13, we were visited by five members of the NSERC Grant Selection Committee for Space and Astronomy - *Merilees, Gush, Landstreet, Michaud, and Purton*. After a group discussion of general matters pertaining to NSERC grants, the committee met individually with each researcher who has an application pending.

Karl Kamper and *Ernie Seaquist* attended the 157th AAS meeting in Albuquerque January 11-14. Karl presented a paper on "Parallaxes Measured with a PDS", and Ernie spent an additional couple days in Socorro doing some house hunting in preparation for his sabbatical.

Don and *Yvonne Fernie* celebrated their 25th wedding anniversary by taking a trip home to South Africa over Christmas with their two daughters, Kim and Robyn.

Tom Bolton was at Goddard Space Flight Center, Greenbelt Maryland for an observing run on the IUE November 21/22.

Ron Lyons attended a conference on Image Processing held in Tucson by the Society of Photographic Scientists and Engineers.

Alan Irwin writes that he and *Barbara* are settled in Victoria. He has some observing time on the CFHT using Bruce Campbell's radial velocity instrument (FLUOROVEL?) and Barb has a full-time job in the public library.

Dominique Barceloux (M.Sc. 1980) who has been working at the Ontario Science Centre for the past three months, has accepted a research assistant position in the Department of Astronomy at the Université de Montréal. Dominique expects to be back in Toronto quite frequently, however, since her work for Serge Demers and other staff at U. of M. will entail extensive use of the PDS at DDO.

Peter Wizinowich, our resident observer in Las Campanas was back in the northern hemispheres over Christmas and New Years and returned to Chile on Friday, January 16, 1981. He was accompanied by Bob McLaren and Rick McGonegal who were on their way to an observing run at CTIO.

COLLOQUIA*

- January 21 Bob Gauthier and Dennis Crabtree, University of Toronto
G2000 - Current Literature Seminar
- January 28 Wojtek Krzeminski, Nicholas Copernicus Astronomical Center,
Warsaw - currently on leave at U.W.O.
"Ultra-Short Period Cataclysmic Binaries"
- February 4 Doug Gies and Mary Lane, University of Toronto
G2000 - Current Literature Seminar
- February 11 Marc Aaronson, Steward Observatory
"Infrared Magnitudes, H I Linewidths, and the Distance Scale"
- February 12 Douglas Richstone, University of Michigan
(Thursday) Topic, Time, Room TBA
- February 18 Scott Tremaine, Institute for Advanced Study, Princeton
"Galaxy Mergers"
- February 25 Armando Arellano and Rick McGonagal, University of Toronto
G2000 - Current Literature Seminar
- March 4 Jeffrey Linsky, JILA, University of Colorado
"Stellar Chromospheres and Coronae: Recent Results from
the IUE and the Einstein Observatory"
- March 11 Lale Akatli and Leif Schioler, University of Toronto
G2000 - Current Literature Seminar
- March 18 Mordehai Milgrom, Institute for Advanced Study, Princeton
Topic TBA
- March 25 Raied Nasser and Raymond Rusk, University of Toronto
G2000 - Current Literature Seminar
- April 8 Kwang Tae Kim and Petrusia Bojetchko, University of Toronto
G2000 - Current Literature Seminar
- April 15 Georges Michaud, Université de Montréal
Topic TBA
- April 22 Paul Herget, University of Cincinnati
Topic TBA
- April 29 Douglas Gies, University of Toronto
"Spectrophotometry of Cygnus X-1"

* Unless otherwise noted, colloquia are held on Wednesdays at 4:00 P.M. in Room MP 134 with TEA at 3:45 in the Reference Room, MP 1404.

PAPERS SUBMITTED

- P.P. Kronberg
M. Simard-Normandin An Improved Faraday Rotation Test for an Intergalactic
Magneto-Ionic Medium up to $Z \approx 3.5$
- M. Pedreros
B.F. Madore Metric Properties of the Inner Ring Structures of
Galaxies
- W. Mesrobian
K. Kamper A Three-Telescope Astrometric Study of Ross 614
- J.R. Percy Astronomy in the Classroom: Some New Resource Material
- W. Reich
P.P. Kronberg VLA Beobachtungen von D2-Quasaren
- W.S. Gilmore
E.R. Seaquist
J.T. Stocke
P.C. Crane Changes in the Radio Structure of SS 433
- Alan W. Irwin Improved Doublet Energy Formulas for Diatomic Molecules
and Comments on the Experimental Determinations of A_{D_V}
and γ_V
- M.J. Clements Normal Modes of Oscillation for Rotating Stars. I.
The Effect of Rigid Rotation on Four Low-Order Pulsations
- J.R. Percy Intermediate-Type Supergiant Variables
- R.F. Garrison Review of "The Search for Life in the Universe"
- A. Arellano Ferro A Survey of Variable Yellow Supergiants in the Southern
Milky Way
- J.D. Fernie On the Variability of Vega

Wendy Freedman Presented with Amelia Earhart Fellowship

On Sunday January 11, the members of Zonta International District IV (in which Toronto is included) presented me with the Amelia Earhart Fellowship Award. The presentation took place at a luncheon meeting, which was very pleasant; a speaker described what the Zonta organization is about, something which people have been asking me about all year. ZONTA is a Sioux Indian word meaning "honest and trustworthy" and Zonta International members are professional, executive, or business women. The objectives of the club are many, including the improvement of the legal, political and professional status of women and the advancement of world peace. Zontians are also actively involved in working with disabled persons, the aged and the young.

I felt quite overwhelmed as I was presented with a corsage, a medal, a certificate, wings and a bouquet of roses. I then gave a short talk in which I briefly described my work and tried to share with them some of the excitement and fascination of astronomy. They particularly liked the slides I showed of Mauna Kea and the telescope.

All in all it was an enjoyable afternoon. I should have plenty of opportunity to practice speaking however: I am also giving talks to the Mississauga, Ottawa and Burlington Zonta Clubs during the next couple of weeks.

Fre

HENRIETTA H. SWOPE 1902-1980

We have learned that Henrietta Swope died in late November 1980. All of us, as astronomers, are aware of her life-long work in photometry and variable stars, first at Harvard and latterly at Mt. Wilson and Palomar.

At Toronto we have a special reason to note with sadness her passing. It was a gift by Henrietta Swope to the Carnegie Institute of Washington in 1969 that made possible the initial development of the Las Campanas Observatory. I had the pleasure of showing her our facilities when we were both there for the dedication of the Dupont telescope, and I had the impression that she was very pleased that we are sharing the site. There is no doubt that U. of T. and Canadian astronomy generally has greatly benefitted from that generous gift of hers in 1969.

For a long time the Las Campanas benefactor remained anonymous. Now the 40-inch telescope there is named in Henrietta Swope's honour.

MR

EDNA M. FULLER

She must have been the first and certainly at that time she was the only member of what we now call our Non-academic and Support Staff. The Observatory Administration building was completed, the 74-inch was still being assembled and Dr. Chant needed someone to superintend the installation and organization of the DDO library, a project which was as dear to his heart as the telescope itself. Edna M. Fuller, B.A., was a professionally trained librarian, the first in the long line of dedicated individuals who have nurtured and developed this substantial observatory resource. She came in 1932 or 1934 (the available records are not entirely clear) and in 1936 was receiving an annual salary of \$1100! Oh yes, she also served as the one and only Secretary in astronomy.

Miss Fuller lived on Eastwood Road in downtown Toronto and drove daily to DDO in her Ford Coupé. Not so very different from now-a-days, eh, Zane? But daily meant six days a week - they worked a half day on Saturday.

She gave up her position about 1940 to look after her father and later moved to Spring Arbor, Michigan, where she was a full-time librarian until about 10 years ago. Just recently Helen Hogg heard that Miss Fuller had died in August of last year.

MR

ASTROPHYSICS IN THE LONE-STAR STATE

Robert Roeder describes his sabbatical and other recent activities

My research leave was spent in the Centre for Theoretical Physics at the University of Texas, in Austin. The centre is run by Prof. J.A. Wheeler and is one of several "Centres of excellence" which are maintained by the University through special funds received from the state. I was offered a research appointment, but the first Republican governor of the state in 102 years made that impossible by withholding the University's budget (from May until July, 1979) and in the process, cutting back severely on the state funds for centres. The outcome was that at least one centre was eliminated, and when I arrived in Austin, the University had no idea of its budget. Ultimately, I was offered a 1/3-time appointment as a Visiting Professor, and taught a freshman class of Engineering Physicists (160 students) for both terms. Needless to say, this put a crimp in my research plans and left Prof. Wheeler somewhat embarrassed. It is hard to believe that the governor of a state which is the home of Texas Instruments, Johnson Space Centre, etc., and who himself was a part owner of Sedco (a company supplying drilling rigs and other services to oil companies) can regard the universities as one of the "most wasteful" branches of the state government, but that is apparently his view. One can only hope that other Republicans who have recently been elected to high office in the U.S. do not share his views.

Aside from that problem, the people in the Centre, in the Physics Dept. per se, and in the Astronomy Dept., went out of their way to make me feel at home. One interesting result was the permission, procured from the U.S. Defence Dept. by Prof. Wheeler, for me to use the ARPA computer net. My reason for being interested in the network is that via ARPANET one can access at high speed the computer run by the Mathlab Group at M.I.T. on which MACSYMA resides. The MACSYMA system enables one to do symbolic algebra on the computer, shortening many otherwise tedious calculations, and reducing chances of error. Unfortunately, aside from Prof. Charles Dyer and myself, UTCS apparently receives little inquiry about the availability of MACSYMA, so from this location we shall have to continue access by long distance telephone, a procedure which is much slower and error-prone.

As a result of unexpectedly fast developments in the case of the double quasar, 0957+561, my major research efforts in Texas were devoted to collaboration with Charles Dyer in attempting to stay abreast of the situation. In this I was helped by the fact that UTCS subscribes to DATAPAC and TELENET. After acquiring a video terminal in Austin, I was able to dial the Austin number of TELENET and reach the UTCS Dec-10. This meant that Charles and I could send messages, initiate and run programs, write and edit manuscripts, all via the computer link in a matter of seconds, while letters and documents sent by post took about two weeks to travel one way (as Pamela may remember). In fact some items just vanished!

With the help of the computer networks, we were able to write two Letters to the Editor of the Astrophysical Journal, an essay for the Gravity Research Foundation (which received Honourable Mention in the contest), and to start work on a major paper for Part I of the Ap.J.. All of this was done while the authors were 1500 miles apart.

Since returning to Scarborough in early July, I have attended the Ninth International Conference on Gravitation and Relativity in Jena, East Germany, where both Charles and I presented papers dealing with aspects of the gravitational

lens. In addition, I visited Halifax, N.S., in November, to give a colloquium and a semi-popular talk to the R.A.S.C. about the double quasar, and in December attended the Tenth Texas Symposium on Relativistic Astrophysics (along with Profs. Dyer and Kronberg) in Baltimore. While there, I showed off the new distributed-mass gravitational lens simulator which demonstrates the optical effects due to a galaxy whose mass distribution is that given by Ivan King. The simulator was designed by Charles and myself and built for us in the Academic Workshops of Scarborough College by Karl Weisser. By the time this report is in print, I shall have given an invited talk to the A.A.A.S. on "Cosmic Optics", again featuring the gravitational lens simulator.

R²

The Stars

The Astronomy Column in the Toronto Star

On January 10, 1981 I completed thirty years of writing a weekly column on astronomy for the Toronto Star, and my final column appeared on that date. This is an appropriate time to record the history of the column over its nearly forty-one years.

Dr. Peter M. Millman, now of the Herzberg Institute for Astrophysics, is really responsible for the existence of the column. As an undergraduate at the University of Toronto, he contributed some 100 weekly columns on astronomy to the Toronto Star before he moved on to Harvard for graduate work. Some years later, after he had returned to U. of T. as a staff member, he began writing the column again on May 18, 1940. World War II interrupted his regular life however, and he joined the Royal Canadian Air Force on January 20, 1941, two days after his last column appeared. (Later Millman started on September 15, 1951 a weekly column in the Toronto Telegram which lasted until the Telegram ceased publication October 30, 1971. The last two years of the column were monthly.)

My husband, Dr. Frank S. Hogg, also in the Department of Astronomy at U. of T., was invited to take over the column and beginning February 1, 1941 wrote it for ten years, until his sudden death on January 1, 1951. At that time he was Director of the David Dunlap Observatory and Head of the Department of Astronomy at U. of T. With the sudden loss of the columnist the fate of the column seemed in doubt. Members of the Toronto Centre of the RASC conducted a fervent and energetic letter writing campaign to the Toronto Star suggesting that I be invited to write the column.

My first column, on my husband's work as Director of the Observatory, appeared January 13, 1951. Fred Troyer of The Star had kindly written the column for January 6. The column has always appeared in the Saturday paper. In the early days it could be anywhere in the paper, thus competing with last minute news. For the past decade or so, along with other regular columns, it has been gathered onto the Leisure Page and I could count fairly well on the amount of space I would have.

I always tried to present to my readers modern astronomical discoveries and developments, with special emphasis on Canadian astronomers and their accomplishments. Naturally I had to select subjects which I could handle in about 400 words. (In this kind of writing you can not assume much background knowledge.) By mutual agreement with the editor, once a month I described the sky for the ensuing month. The star maps appeared monthly, bought by The Star

from Science Service. After Science Service discontinued making them, we used the bi-monthly set prepared by John Perkins under the auspices of John Percy for the Observer's Handbook.

Apart from the monthly sky column, only once in thirty years has an editor suggested a subject to me. It proved to be a very tough one, so I have been thankful that the editor did not often have this inspiration.

More than 1500 of my columns have appeared in print. In sixteen years out of the thirty the column has appeared every week. In several years the Features Editor was asked to omit different columns on a weekly rotating basis, and this accounts for most of the three dozen weeks that the column did not appear in the thirty years. The other misses were from a variety of causes, - the column was delayed or lost in the mails or lost by the editor.

Only once in the thirty years have I failed to send in the weekly column when The Star expected me to do so. That was on January 12, 1963 when no column appeared. In those years I was being driven hard by various responsibilities, family, teaching, research, organizations and newspaper writing. I decided that the Star column was the activity I could give up. This I did with my column of January 5, 1963 with a farewell to my readers. A week went by and I learned that The Star had not replaced me. Furthermore I had received a flood of touching letters, each one of which made me feel more guilty at abandoning the column. So on January 19, 1963 with a cheerful response to my readers, I resumed the column.

In my final column this year I expressed my appreciation to the editors and to my readers. My by-line would never have lasted thirty years without the interest of my readers. Members of the Royal Astronomical Society of Canada have formed a veritable nucleus of support all these years.

The Editors of the Star (for the past decade, Stratton Holland) have usually dealt very gently with the copy I submitted. Many of the columns have appeared without so much as a change in punctuation. I never had anything to do with the headlines, - the Star staff always wrote them. A few of these were badly done. For example, on Nov. 17, 1979 the erroneous apostrophe in "Cycle of sunspots could be at it's peak" led my disillusioned readers to send me lessons in grammar.

The material for my column came from the many scientific meetings I have attended and from my extensive perusal of all the literature that comes into the David Dunlap Observatory library. The weekly acquisition sheets of this library, so carefully prepared by the librarians, have been of inestimable value to me for the column and continue to be so for my cluster research. Actually the column represents a great deal of work on my part. A year ago I realized that two opposite forces were relentlessly forcing downward my curve of enjoyment of writing the column. These are the incredible explosion of literature and of space astronomy, and my decreasing ability to work very long days. Because of the complexity of modern astronomy the column was demanding more of my working time in absolute hours; because of my decreasing stamina, it was demanding an even greater proportion in relative hours.

It is never easy to come to the end of a good thing. To me, the 30 years made a neat cut-off. On September 11, 1980 I submitted my resignation to the Toronto Star as of January, 1981, along with suggestions for new writers of the column. The Star itself is in a changing state, and as of this writing I have been unable to obtain any information as to the continuance of the column.

January 12, 1981

Helen Sawyer Hogg