



Editorial

The Quiet Life - III

The west end of U.C., having withstood the fire of 1890, continued to be the home of the Physics Department when Chant returned as Fellow in 1891. It was here that he taught laboratory classes under the direction of Prof. W. J. Loudon (who later became President, succeeding Sir Daniel Wilson). In 1892 Chant was promoted to Lecturer at \$800 p.a. and was assigned to teach an "introductory course of experimental physics to the students of chemistry, natural science and medicine". He was not expected to do research - in fact research as we know it was almost completely lacking at the University at that time. However, Chant and a young colleague named Hull, "having heard of some experiments by a German named Hertz", sent to Germany for a set of paper-bound reprints from *Die Annalen der Physik und Chemie* describing Hertz's experiments on "Die Ausbreitung der Electricischen Kraft". Taking some lessons in German, Chant and Hull struggled through the papers and began to try to repeat Hertz' experiments. By 1895 Chant was sufficiently adept at "Electric Radiation" that he gave a talk and demonstration to the R.A.S.C. which he had joined in 1892. Some months later he gave an improved version of the lecture and demonstration in a series of Saturday afternoon public lectures sponsored by the University. The lecture was written up in the *Toronto Globe* by a young reporter named William L. McKenzie King. In 1899 Chant and a co-worker gave a public demonstration of wireless telegraphy and appear to have been the first in Canada to send messages by this means.

In a similar way Chant and two young friends in 1896 read of "Eine Neue Art von Strahlen" discovered by Rontgen, and within a month had built an X-ray source with which they were able to take "shadow pictures". A few days later a Toronto woman's hand, in which a portion of a needle was imbedded, was successfully x-rayed and the fragment was removed with a single incision. This was one of the first - if not the first-clinical applications of x-ray photography.

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In 1896 Chant spent three months in Germany, mostly learning the language and attending physics lectures at Leipzig University.

By 1900 Chant realized that his career lay in university teaching and, being still committed to Physics, he applied for a year's leave and for admission to graduate studies in physics at Harvard. In October 1900 he enrolled in Math 10, Fournier series and Spherical Harmonics, Physics 8, Periodic Current, and Physics 20a, Experimental Physics; and he chose a thesis topic involving radio waves generated by oscillators of different sizes and shapes. In the following June he completed his thesis and received his Ph.D. During those eight months the Chants' first child was born - Bessie, now Dr. Elizabeth Chant Robertson, a well known Toronto authority on nutrition.

On his return Dr. Chant, becoming more and more interested in astronomy through his involvement in the RASC., began to be dissatisfied with the astronomy then being offered at Toronto - an elementary course for arts and applied science and spherical astronomy for Honour Mathematics students. At his urging the Senate in 1904 passed a statute instituting a fourth year astronomy and physics option in the M and P course. The contents were Elementary Astronomy, Advanced Theoretical Astronomy, Practical Astronomy, Celestial Mechanics, Differential Equations, Least Squares and Physical Optics. Dr. Chant headed up the new sub-department of Astrophysics, and as far as I know he taught all the astronomy until R.K. Young came as his assistant in 1923.

In the summer of 1905 Dr. Chant visited a number of observatories in the Eastern States: Dudley, Amherst, Harvard, Columbia, Princeton, Flower, McMillin and Perkins. These visits had a considerable influence on his long range planning for a Toronto Observatory; in particular he mentions the great importance which Lewis Boss of Dudley attached to easy access of a University Observatory. Boss quoted Hale as saying that he would be pleased if some morning he could wake up and find the 40-inch on the lake shore near Chicago and not 75 miles away on Lake Geneva.

Dr. Chant's next 20 years were spent in teaching astronomy, editing the RASC publications, chasing eclipses, collaborating with F. W. Merchant in the writing of a number of very successful high school physics text books and doing quite a bit of travelling with his family on this continent and abroad.

The 1922 eclipse expedition which he led to Australia included a successful Einstein-effect observation by R.K. Young who, then on the D.A.O. staff accompanied the Chant family. Thus began a friendship which resulted in Dr. R.K. Young coming to Toronto in 1923.

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It was during this time, that Dr. Chant so tirelessly pursued his dream of a great observatory in or near Toronto. At various times it was to be a city project, an R.A.S.C. project, a University project, or combinations of these. Several times the realization seemed within his grasp, but the money was not available or the proposed donor died or turned out to be a phoney. Finally, as we know, the Dunlap family were on the scene and the project was under way.

Dr. Chant retired at age 70 on the day of the opening of the Observatory, May 31, 1935. From then nearly until his death in 1956 he remained active, bringing out many editions of his popular book "Our Wonderful Universe" and continuing as Editor of the Journal and Handbook.

Assessing Dr. Chant's contribution to astronomy, one could hardly put him in the same creative category as his contemporary, J. S. Plaskett. Nevertheless he had an immeasurable impact on teaching at the undergraduate level and in bringing the great discoveries of his time to public attention. His persistence brought the Department and the Observatory into existence. (One has only to look at McGill to see what might have happened otherwise). His personal frugality and the wise investment of his earnings resulted in the accumulation of a tidy fortune, most of which he left to the University for the furthering of his life work: Astronomy at the University of Toronto.

J.F.H.

OBSERVING

Las Campanas

Barry Madore has returned from an Oct. 16 - Nov. 16 observing run on the 24-inch telescope. One of his tasks was to install and test the UBV photometer of Dr. Racine and, if possible, to begin a survey of long-period Cepheids in the Galaxy and the Magellanic Clouds. Not too surprisingly at this stage, problems plagued him - mostly electrical instabilities. Philosophically he took comfort from wise words written to him by an "old hand" and passes them on to others: "Remember, you are not yet at one of those old and well-established observatories, and you will need all of the pioneering spirit that you can muster". Meanwhile, however, the photographic program is progressing, and Gretchen Hagen is now at Las Campanas for a three-week run.

COMINGS AND GOINGS

Dr. Heard was in Ottawa October 28-29 attending Council Meetings of the Royal Society of Canada.

Dr. Garrison gave a Colloquium on Nov. 19 at Northwestern University on "Spectra of Mira Variables".

Dr. Anand was at Queen's University for informal discussions on "Research in Theoretical Astrophysics at the University of Toronto" and to take part in the Ph.D. examination of R.D. Rayburn - the first such examination at Queens in Theoretical astrophysics. Dr. Anand also, on Nov. 9, gave a siminar at the Joint Institute for Laboratory Astrophysics, University of Colorado, on "The Present Status of the Fission Theory of Binary Stars".

Dr. Fernie attended meetings of the AAS's Committee for Education in Astronomy in New York on Nov. 5-6.

Dr. van den Bergh attended a meeting of the Users' Committee of the Kitt Peak Observatory in Tucson Nov. 11.

Dr. Hogg today is a guest at a dinner being given by the Governor-General and Mrs. Michener in honour of Nobel-laureate Dr. Herzberg at Government House. She will return tomorrow to Switzerland to complete the settlement of her late cousin's affairs.

SEMINARS

NOVEMBER - As announced last month with the addition of

Tues. Nov. 16 - Bob Dupree, "Computations in Variable Stars: Beginning in Two Dimensions".

DECEMBER -

Tues. Dec. 7 Al. Irwin, "Non-linear Least-squares Fitting to the Observations".

Tues. Dec. 14 Christmas Countdown.

PAPERS SUBMITTED FOR PUBLICATION

S. P. S. Anand The Equilibrium and Stability of Uniformly Rotating Gaseous Systems in Hydromagnetics I Mathematical Technique.

R. G. Garrison Review of "Atlas for Objective Prism Spectra" by Waltraut Carola Seitter.

S. van den Bergh Search for Companions to M31.

R. C. Roeder and K. Lake - An Analysis of the Distribution of Redshifts of Quasars and Emission Line Objects.

MISCELLANEOUS

Invited Paper at R.A.S.

A paper by P.P. Kronberg (David Dunlap Observatory and Scarborough College), R. G. Conway and J. A. Gilbert (Jodrell Bank, University of Manchester) has been read (by invitation) at the November meeting of the Royal Astronomical Society in London, England (Nov. 12th). Entitled, "The Polarization of Radio Sources with Appreciable Red Shift", it presents important new observational evidence for the cosmic evolution of Quasars.

First C.A.S. Meeting

The first meeting of the newly-formed Canadian Astronomical Society was held at the University on Nov. 12-13 under the chairmanship of Dr. Helen Hogg, President. During the business sessions the draft constitution was accepted in principle with certain important amendments involving student members. The present Executive was confirmed in office until the next meeting (at the U. of M. in Montreal) and the Society enthusiastically endorsed a statement on big telescope requirements for Canadian Astronomy which had been passed by the N.R.C. Associate Committee on Nov. 11. Scientific sessions included some thirty papers. Following the Society Dinner at the Faculty Club on the Friday, the R. M. Petrie Memorial Lecture was given by Dr. C. S. Beals on the subject of Lunar Craters, the result of his recent studies of photographs at the N.A.S.A. Space Flight Centre in Houston.

Ph.D. Generals

Gretchen Hagen has recently passed her Ph.D. General Examination.

Appointment

Mrs. Teresa Griffin has been appointed to an assistant secretarial post in the Department.

Two More Palindromes

(The second attributed to Schopenhauer)

Elu par cette crapule.

Ein Neger mit Gazelle zagt im Regen nie.