

Heritage Committee: Report to the Board for June 2014

This Report builds on the one submitted to the Board in December 2013.

Present Membership

	Term	Affiliation
Elizabeth Griffin <i>Chair</i>	2012–15	NRC/NSI, DAO, Victoria
Nathalie Martimbeau	2012–15	Montreal Rio Tinto Alcan Planetarium
David Turner	2012–14	Saint Mary's University
Ian Shelton	2011–14	Mount Allison University
Randall Rosenfeld	2012–15	University of Toronto
Gordon Walker	2012–15	UBC and UVic
Eugene Milone	2012–15	University of Calgary
William McCutcheon	2012–16	UBC
David Pantalony	2014–17	Canada Science & Technology History Museum
John Percy	2014–17	University of Toronto

Membership. Two gains: In 2014 March we welcomed onto the Committee Dr. David Pantalony, Curator of Physical Sciences and Medicine at the Canada Science and Technology Museum in Ottawa. David brings not only a keen zest for astronomy's historical artefacts of all kinds and conditions, but also – and as welcome to the Committee as it is rare – a working knowledge of corresponding situations in other physical sciences.

In 2014 May we welcomed Professor John Percy (now retired, but still affiliated to the University of Toronto): communicator *par excellence* for public outreach, and a strong advocate for the application of astronomy and its spin-offs in all walks of life.

...but a serious loss: Rich Jarrell passed away suddenly in December 2013, depriving the Committee of the ready wisdom of its longest-serving member and past President, and making us the more acutely aware of the supreme leadership, confidence and influence which he had continued to bring to everything he touched.

Committee Activities: The Committee worked as a team, under Griffin's editorship, to produce a 1-page article about Professor Jarrell for the March edition of *Cassiopeia*. A more detailed and altogether more scholarly one has been prepared by Rosenfeld, and will be submitted shortly to the JRASC.

Individual Activities:

Preserving both Heritage and Science

Digitization of the DAO's substantial collection of high- and medium-dispersion photographic coude and Cassegrain stellar spectra, acquired (since 1919) with the 72-inch telescope and (since 1962) with the 48-inch too, is continuing steadily. The DAO's own PDS microphotometer is the instrument that is being used for the task, and all spectra are fully calibrated in both wavelength and direct intensity before being uploaded to the Spectroscopic Data Archive of the CADC, where individual spectra or groups of spectra can be searched and requested via a query GUI. To date, ~3500 spectra have been thus processed and uploaded. This programme to digitize spectra is a pioneer, not just

in Canada but also in the astronomical world. Even so, the employment of its Research Assistant is through meagre bits of stop-start contracts. Plans to optimize or enlarge the activity must be only tentative if there is no assurance of longer-term support.

The same is true of an ongoing effort to create a searchable catalogue of all the DAO plates; that too is being done by a meagrely-paid subcontractor (a former Night Assistant). Progress is encouraging: ~50% of the log-book entries from both telescopes are now in the form of a text file, created by manual entry. For the 1970s, when observing was still predominantly photographic, log-book entries were entered into a computer data-base daily, and although the computers and the back-up magnetic tapes were destroyed a number of years ago, some line-printer output was retained and is currently being converted into a text file by a student volunteer.

In view of the high value that is attached nowadays to ensuring that all electronic data be archived, quality assured and carefully preserved, it seems ironic that the corresponding segments of astronomical history *which alone can provide unique evidence of changes in whatever characteristic of evolving or varying stars* has had to be relegated to volunteer work instead of attracting the respectability of even a base-level staff position. **We appeal to CASCA for ideas (if not influence!) as to how the situation can be improved, especially since it is in the scientific interests of all researchers both within and beyond Canada.**

Preserving Historical Artefacts

Pantalony reports that the Canada Science and Technology Museum has acquired the Hydrogen Fluoride absorption cell and gas handling system, developed by Gordon Walker and Bruce Campbell and in operation for a number of years in association with the DAO 1.2-m telescope and coude spectrograph. Relocation of the equipment will proceed once it has been safely cleansed of HF. It was through developing for the CFHT an instrument equivalent to the one pioneered at the DAO, that the first discovery of a planet around another star was in fact made (and by Canadians), though not publicized adequately at the time.

Rosenfeld is part of an informal Canadian working group to recover the history of historic artefacts formerly at the DDO and now in the collection of the Dunlap Institute for Astronomy & Astrophysics.

Research

Turner and Rosenfeld have begun delving deeper into the origin of the star pattern, known as the *Mariner's Sky*, that is featured on the chancel ceiling at Saint John's Anglican Church in Lunenburg, Nova Scotia. They have already uncovered a number of important clues that bear on the likely origin of the original star pattern and the individual(s) who created them around 1870. The results appear to augment what was known about the state of astronomical knowledge in Nova Scotia during the 19th Century.

Lectures and Presentations

Percy, who writes bi-monthly columns in the JRASC, focused on heritage or history in two recent ones. He have given two public lectures, one on Galileo and one on Toronto's Astronomical Heritage; the latter was part of a series in partnership with the University of Toronto's Institute for the History and Philosophy of Science and Technology and the Toronto Public Library.

In February 2014 Griffin led an inter-disciplinary Panel Discussion at “Trusted Digital Repositories” in New Delhi (India), giving emphasis on the need to rescue and preserve electronically the information in analogue observations belonging to many natural sciences, with special mention of astronomy. Griffin also addressed a dominantly-European workshop on astronomical plate digitization held in Prague in March 2014, and emphasized the pioneering nature of the DAO digitizing programme.

Publications

Rosenfeld, R.A., *Reverse Engineering an Astronomical Image*, JRASC 108, 2, 76-78

Rosenfeld, R.A., *A Note on the History of “Miniature” Telescopes*, JRASC 108, 3, 113-115 and 118-119

CASCA Heritage Committee, *Professor Richard (Rich) Adrian Jarrell, 1946–2013*
edited by Elizabeth Griffin, *Cassiopeia*, Spring Equinox, 2014