

model of the Zeiss-Jena type 23/6 planetarium projector 1960s
From the estate of Dr. Tom Clarke.

NC164 HISTORY COMMITTEE REPORT

2016 November 19

This report details activities of the Committee, and initiatives of Committee members consonant with the spirit of the Committee, to further the RASC's Vision and Mission through pursuing our Mandate (<http://www.rasc.ca/society>).

DONATIONS

Several significant donations have been received since the last Committee report (NC162 2016 May 20).

CLARKE GIFT

The Society's Executive Director was able to secure for the RASC the astronomy and planetarium materials belonging to Society member Dr. Thomas Roy Clarke (1940-2016), who was the second and final director (1976-1995) of the former McLaughlin Planetarium (1968-1995, in succession to the first director, Dr. Henry C. King). The Clarke *fonds* has not yet been explored in depth, but includes his notes, materials, and drafts generated by his work developing planetarium programs, and administering the facility. Also included are rare printed planetarium ephemera. Among the artifacts is a strikingly handsome scale model made by Zeiss-Jena of a Zeiss-Jena type 23/6 projector (see image on cover—it may be possible to restore its electrical system),¹ and the opening plaque of the McLaughlin planetarium (see below).



Particularly valuable is the documentary and photographic record of the planning (*ca.* 1964/1965-*ca.* 1966/1967), construction (*ca.* 1966/1967-1968), and opening (1968 November 2) of the McLaughlin Planetarium (a few of the photographs are reproduced here).

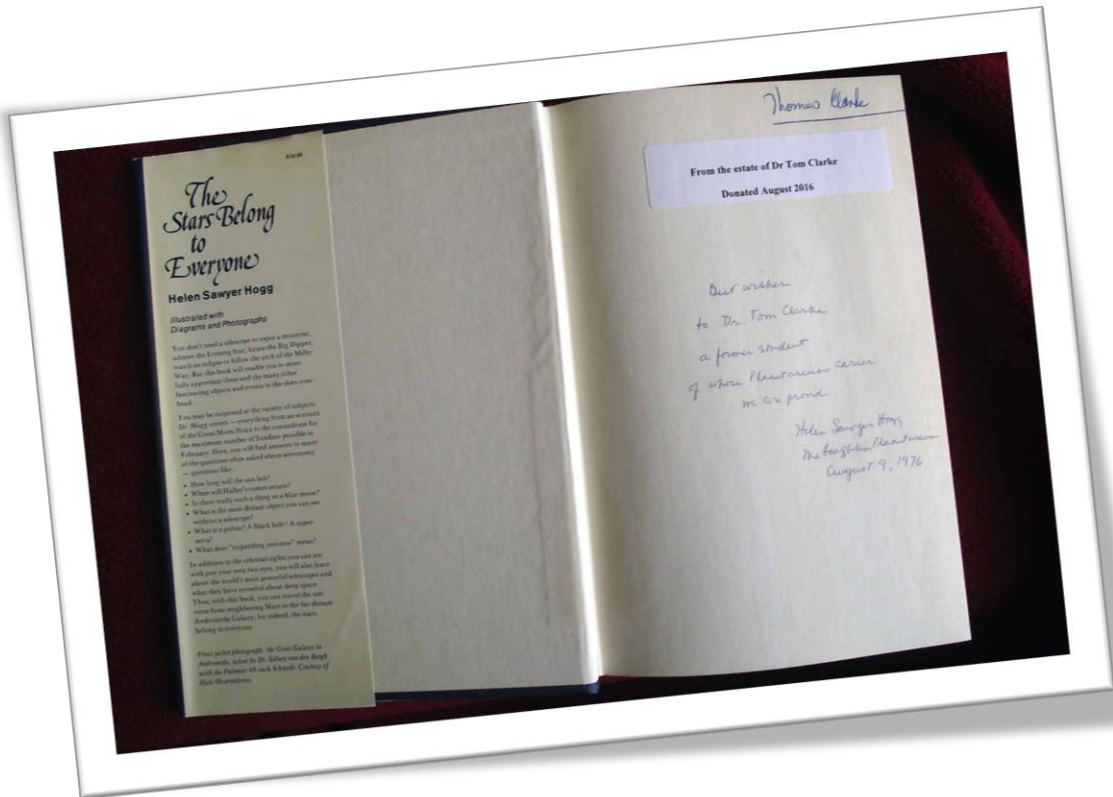


Apollo 13 Commander CAPT James Lovell, Col. R. Samuel McLaughlin, and Dr. Henry C. King.



Commander Lovell, examining displays in the 2nd floor Astrocentre of the McLaughlin Planetarium.

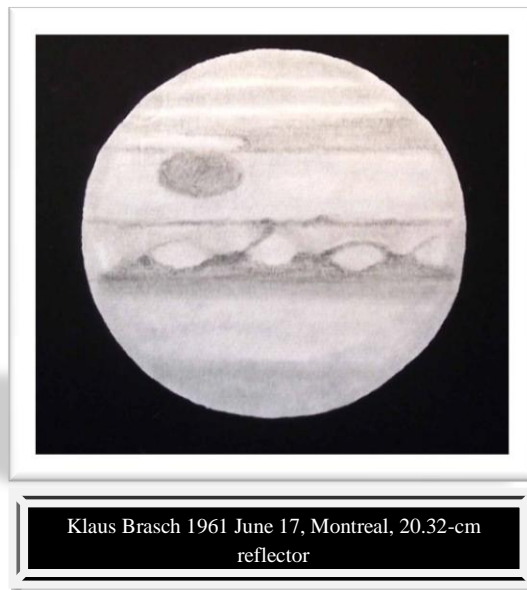
Among the donated books is an autographed copy of Prof. Helen Hogg's *The Stars Belong to Everyone* (Toronto: Doubleday Canada, 1976):



We gratefully acknowledge the generosity of Dr. Clarke's son, Christopher, and the rest of the Clarke family, for their generous donation of these historical materials, ensuring their preservation, and availability to the astronomical community.

GAHERTY GIFT

Thanks to the agency of Thomas Luton (Secretary, Toronto Centre), and the generosity of Louise Gervais, the Society's Archives have acquired the logbooks of Dr. Geoff Gaherty, as well as more of the planetary observing records of Montreal Centre (*e.g.*, <http://www.rasc.ca/jupiter-1961>; <http://www.rasc.ca/jupiter-1962>). Aside from being a record of the telescopic appearance of the planets in the late 1950s and early 1960s (to complement the records of the ALPO and BAA observing sections), and a material witness to a tradition of visual observation in the RASC to serve scientific ends, these books contain some pleasingly accurate drawings of artistic merit. Particularly outstanding are the drawings by Klaus Brasch, who presently pursues astrophotography at Flagstaff AZ (for an example, see below).



JARRELL GIFT

Martha Jarrell has recently uncovered more of the documents which RASC member Prof. Richard Jarrell used in the writing of *The Cold Light of Dawn: A History of Canadian Astronomy* (Toronto–Buffalo: University of Toronto Press, 1988). She has graciously gifted these to us to add to the main part of the *Cold Light* documents donated earlier, as well as some of Prof. Jarrell's correspondence dealing with the history of astronomy. These documents can serve as a useful resource for additional investigations into Canada's astronomical history and heritage.

ACOM/MIAC ARCHIVE

There is no accession news to relate about this *fonds*, but we are glad to report that the Society's Archivist has completed calendaring (*i.e.*, analytically indexing the contents of) the archive of the NRC's Associate Committee on Meteorites (ACOM), and the CSA's Meteor Impact Advisory Council (MIAC). The resulting work (over fifty pages) will soon be published as a finding aid, and research tool.

CASCA ARCHIVE

The official Archive of the Canadian Astronomical Society—Société canadienne d'astronomie (CASCA), has finally been physically transferred from its temporary home in the Physics Department of the Royal Military College in Kingston to the keeping of the RASC Archives, a service we are glad to do for our sister society. The move was effected by the RASC's Web Master, Walter MacDonald, and the Archivist, on 2016 October 14. Prior arrangements were made in cooperation with the Secretary of CASCA, Dr. James Di Francesco (NRC Herzberg), and we were aided on-site by Prof. Kristine Spekkens (RMC, & Queens University), a member of the CASCA Board of Directors. While in the "Limestone City", the Web Master and the Archivist took the opportunity to do some agreeable on-site research in the Right Honourable Sir John A. Macdonald's former law office on King Street (now run, not inappropriately, as Sir John's Public House).

COMMITTEE MEMBERS' ACTIVITIES

Much of Chris Beckett's research activities meld astronomical history with active observing. He reports that:

On August 26th I attended Roy Bishop's presentation, "Sky Perspectives: Notes from a 77-orbit Visit to the Third Planet", at the Nova East Star Party, in Smiley's Park, NS. The talk focused on naked-eye sky events from eclipses to comets, inspiring attendees to appreciate the complexities, and challenges of observing seemingly simple celestial events. This was demonstrated the following afternoon when many of us observed the Venus-Jupiter conjunction during daytime through Roy's Astrophysics refractor. The large, bloated, sphere of Jupiter floated in and out of visibility next to the brilliant spike of Venus against a pale blue sky. Their appearance was far removed from prior expectations, such that many of us would have failed to achieve the observation without Roy's patient coaching.



Prior to Roy's talk I presented on "G.B. Hodierna's Admirable Objects of the Night Sky" as my star party contribution.² This talk focused on early 17th-century telescopic observations, and how

to use using binoculars to revisit the observing targets and experiences of Galileo, and his contemporaries.

Since 2012 I have been delivering practical astronomy courses through the University of Regina's Continuing Education Department. Presently there are two courses, *Exoplanets*, & *The Stars are for Everyone* (the allusion to Helen Hogg's book is deliberate). Each course consists of nine two-hour lecture slots, plus telescope time, weather permitting. The focus is squarely on the foundational experience of visual observing, and stargazing made meaningful by infusing relevant historical, scientific, and cultural contexts.

I am also collaborating with Committee member Clark Muir on an historically-informed project to test the limits of naked-eye lunar observation, employing that time-honoured recording technique of sketching what we can critically see, as a necessary accompaniment to historical

analysis. We are currently working towards an article for publication.

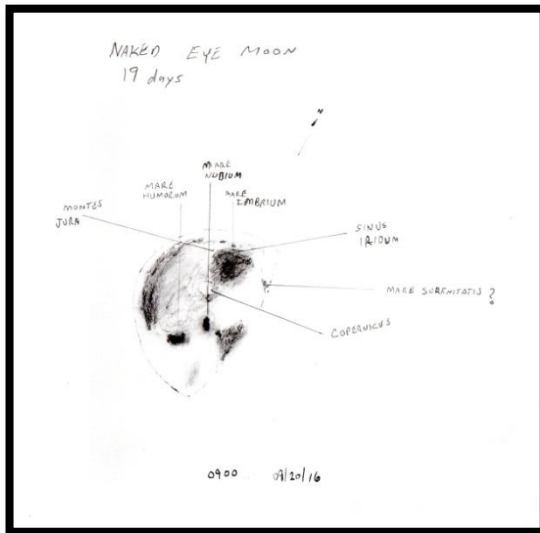


Image on left by Clark Muir, Moon 2016 September 20; image on right by C.A. Becket, Mercury & Moon, 2016 September 29.

Dr. Roy Bishop's activities since the last Committee Report are richly varied:

For the 36th year I have contributed to the RASC *Observer's Handbook*. Several of my articles contain historical notes.

On July 9 I was the guest speaker at the 55-year reunion of Acadia University's Class of 1961. My topic was "Some Advances in Technology & Science During Our Lives". Among the topics, I described a few major advances in astronomy, such as the explanation of stellar energy by Bethe (1939),³ the "BBFH" paper on the synthesis of the elements (1957),⁴ the discovery of the microwave background by Penzias and Wilson (1965), the first detection of neutrinos from a supernova (1987), and the detection of gravitational waves (2015).

On August 26 I was the guest speaker at the 30th Nova East star party held at Smileys Provincial Park in Nova Scotia. My topic was "Sky Perspectives: Notes from a 77-orbit Visit to the Third Planet". In addition to personal observations, as in my talk of July 9, I reviewed some major advances in astronomy during my lifetime.

As in past years I chaired the committee that assembles the *Natural History Calendar* for the Blomidon Naturalists Society (our 20th edition). Among the many anniversaries cited in the

calendar are the birth dates of a few astronomers, including Isaac Newton, Simon Newcomb, Albert Einstein, Carlyle Beals, plus Herschel's discovery of Uranus, the discovery of Neptune, Gagarin's flight, Kennedy's Moon proposal, and one of David Levy's comet discoveries. In addition to historical items, the calendar also gives many astronomical events for the year. More than 700 calendars are sold each year, so these astronomy-related notes are a small but significant form of public outreach.

Once again I gave my talk "A Matter of Some Gravity" (re: p. 4 of our committee's report to NC162), on September 16 to the RASC Halifax Centre, at St. Mary's University.

Eric Briggs has been compiling an index for C.A. Chant's massive autobiography (UTARMS A1974-0027-010), a rather daunting task. This will doubtless make the contents of the work much more accessible. He also reports having "made a couple of phone inquiries, so far unsuccessful, to the University of Maryland College Park to ask after Prof. Thomas Arnold Matthews, a Canadian pioneer in radio astronomy, who retired from the faculty there in 1995. His trail has gone cold".

Peter Broughton has also produced a very useful finding aid for a portion of the UTARMS C.A. Chant *fonds*:

My only new activity I can think of relates to the papers of C.A. Chant at the University of Toronto Archives and Records Management Services (<http://tinyurl.com/zkaf76f>).

Until now, all of Chant's correspondence at UTARMS has been filed alphabetically, so a researcher wanting to find out if Chant corresponded with Simon Newcomb, for example, would have had to specifically ask an archivist to look, or make a personal visit to the archives. I thought it would be useful to actually list the names of his correspondents and, since the archives claimed they did not have the resources to do so, I undertook the project. I hope in time the results of my labours will appear online... I realize a list of names is only a small improvement on what existed before; an indication of the subject as well would have made the index even more helpful, but I gather that the UTARMS Archivist thought that would make the finding aid too extensive.

Dr. Chris Gainor continues his research work on the official NASA History of the Hubble Space Telescope, and its associated archive. He has spoken about HST at the Centre of the Universe this summer as part of the speakers' series there, and will soon be giving a talk on that subject to the Nanaimo Astronomy Club on November 24. And he continues a busy schedule as editor of *Quest: The History of Spaceflight Quarterly*.

Heather Laird gave her presentation on "Canadian Women in Astronomy" to the Calgary Centre on October 20, and it was very well received. She has subsequently been invited to present the talk online to the Thunder Bay Centre. She is in the process of arranging her research into discrete articles, commenting that: "I have a lot more research to do, and am looking forward to it!".

Clark Muir's article "Sudbury's "Vatican mirror"" appeared in the August issue of *JRASC*. In response he received feedback from a gentlemen whom he describes as "very familiar with the college in Montreal, who forwarded the story to former staff members of the facility".

Clark also sent a poster based on his 5-minute presentation delivered at the RASC 2016 London GA on the same topic to Sudbury—the present home of the historic 50.8-cm mirror. He believes it will form part of a modest display on the mirror.

Andrew Oakes sends word that his paper "An Account of Stellar Spectroscopy and John S. Plaskett's Leadership within Early 20th-Century Astrophysics in Canada" will be presented at the Historical Astronomy Division (HAD) of the American Astronomical Society's (AAS) sessions at the AAS's 229th meeting, 2017 January 3-7, 2017, in Grapevine, Texas. Congratulations to Andrew, and we look forward to hearing his report of the experience (also see the section on HONOURS below).

PRESENTATIONS

Chris Beckett, "G.B. Hodierna's Admirable Objects of the Night Sky", 2016 August 26, Nova East Star Party, in Smiley's Park, NS

Roy Bishop, "Some Advances in Technology & Science During Our Lives", 2016 July 9, Acadia University's Class of 1961 Reunion

—, "Sky Perspectives: Notes from a 77-orbit Visit to the Third Planet", 2016 August 26, Nova East Star Party, in Smiley's Park, NS

—, "A Matter of Some Gravity", 2016 September 16, RASC Halifax Centre, at St. Mary's University

Heather Laird, "Canadian Women Astronomers", 2016 October 20, RASC Calgary Centre, Kirby Centre

Clark Muir, "Sudbury's "Vatican mirror"", 2016 May 20, RASC 2016 General Assembly, Fanshawe College

R.A. Rosenfeld, "Music of the Spheres: The Ultimate Observing Music, or the Big Silence?", 2016 May 22, Fanshawe College, 2016 RASC GA

—, "Outside the Radio-Quiet Zone: Reflections of Radio Astronomy in Canadian Society", 2016 July 26, A Workshop on the History of Canadian Radio Astronomy, Dominion Radio Astrophysical Observatory, 2016 July 25-26

(<https://www.youtube.com/watch?v=WSDXSYaWmfM&list=PLbvmO2TFfPk-EhU1Pcysw71LT9TO7pNva&index=28>)

R.A. Rosenfeld also provided the accompaniment for David H. Levy's presentation on the inspiration of astronomy through literature and music, Teacher's Workshop, 2016 May 19, Fanshawe College, 2016 RASC GA

PUBLICATIONS

Clark Muir, "Two Telescope Mysteries in One: Sudbury's "Vatican mirror"", *JRASC* 110, 4 (2016 August), 145-147

R.A. Rosenfeld, "Obstacles to Hearing Herschel", *JRASC* 110, 4 (2016 August), 152-155

HONOURS

Three members of the Committee have been honoured by the Historical Astronomy Division (HAD) of the American Astronomical Society (AAS).

Andrew Oakes has won the prestigious HAD Student Travel Award, which will enable him to attend the AAS's 229th meeting in early 2017 to deliver his paper on J.S. Plaskett's spectroscopic leadership of Canada's nascent astrophysical community in the early 20th century.

And Peter Broughton and R.A. Rosenfeld are among the winners of the 2017 Donald E. Osterbrock Book Prize for Historical Astronomy, awarded by the Historical Astronomy Division (HAD) of the American Astronomical Society (AAS) for their contributions to the *Biographical Encyclopedia of Astronomers*, 2nd edition, ed. Thomas Hockey *et al.* (New York—Heidelberg—Dordrecht—London: Springer Verlag, 2014)

(<http://www.springer.com/us/book/9781441999160>)

ACKNOWLEDGEMENTS

We wish to thank Julia Neeser, RASC Marketing Coordinator, Renata Koziol, Office Administrator, and Randy Attwood, FRASC, Executive Director, for advice, assistance, and administration during the period covered by this report. Particular thanks are due to Walter MacDonald (RASC Webmaster) as ever for his care in continuing to make our material heritage accessible.

Respectfully submitted,
R.A. Rosenfeld, Chair

Committee Members:

- *Randy Attwood, FRASC (ED)
- *Chris Beckett (consultant)
- Dr. Roy Bishop, FRASC (Halifax)
- Eric Briggs (Toronto)

- Peter Broughton, FRASC (Toronto)
- *Craig Levine (President, London)
- Dr. Karen Finstad (Ottawa Centre)
- Dr. Chris Gainor (Victoria)
- *Dr. Robert Garrison (Toronto, consultant)
- *Renata Koziol (Office Administrator)
- Heather Laird (Calgary)
- *Barry Matthews (Ottawa Centre, observer)
- Clark Muir (Kitchener-Waterloo)
- Andrew Oakes (Unattached)
- Randall Rosenfeld (Unattached), Chair
- Dr. Mark Tovey (London)
- *=non-voting members



(Can you spot the Society's Archivist?)

Grote Reber (NRC) :: "The Wheaton 31.5 ft Paraboloid: Construction and First Measurements"

Canadian Radio Astronomy History

RASC Honorary member & major Society benefactor Grote Reber speaking at the 1987 NRC workshop "Radio Astronomy and Canada: Fifty Years of Progress". Dr. Reber's talk, as well as those of other pioneers in radio astronomy (many of them also RASC members) can be viewed at: https://www.youtube.com/playlist?list=PLbvmO2TffPk_VucGhQLhgnyOrpb0o3RjM (thanks to the generosity of Joe Fletcher, the engineer who built four successive VLBI rooms for major Canadian radio astronomy facilities, including the one for the first radio astronomical observations using VLBI in 1967, a triumph of Canadian astronomy and engineering: http://ethw.org/Milestones:First_Radio_Astronomical_Observations_Using_Very_Long_Baseline_Interferometry,_1967)



Society's Archivist causing the ED to panic that he might be contemplating acquiring one of these for the Archives.

¹ This model is more than likely that shown in the image of Col McLaughlin with Prof. MacRae in Donald A. MacRae, "Planning the McLaughlin Planetarium", *JRASC* 59, 6 (1965 December), 249-252, at p. 251, fig. 2, also reproduced in *The Globe and Mail* 1965 September 16, 5. A latter photograph featuring the model is in *The Globe and Mail* 1967 January 31, 5 .

² Fr. Giovanni Battista Hodierna (1597-1660), among the first generation of astronomers employing telescopes, was also one of the most important early observers and discoverers of DSOs.

³ Hans Bethe, "Energy Production in Stars", *Physical Review* 55, 434 (1939 March), 434-456, (<http://journals.aps.org/pr/pdf/10.1103/PhysRev.55.434>).

⁴ A key paper in modern astrophysics, "Synthesis of the Elements in Stars", by the team of Margaret Burbidge, Geoffrey Burbidge, William Fowler, and Fred Hoyle, published in *Reviews of Modern Physics* 29, 4 (1957 October), 547-654 (https://www.pmf.unizg.hr/_download/repository/burbidge_RMP_29_547_1957.pdf). It is most often colloquially referred to as B²FH. It was one of the key works moulding the field of stellar nucleosynthesis. Billy Fowler's 1983 Nobel Prize in Physics was largely due to this work (he shared the prize with Chandra).