

RASC History Committee



Late Autumn

(NC196 2019 December 1)

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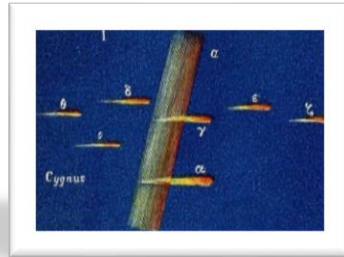
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Millman gift



In April of this year, at the invitation of Prof. Peter Brown of Western's Meteor Physics Group, the Society's Archivist travelled to London to select books on meteoritics, planetary science, astrophysics, and the history of astronomy from the library of Dr. Peter M. Millman. These were given to Prof. Brown by Peter Millman's son, Barry. Prof. Brown, and Prof. emeritus Howard Plotkin thought the books might be of interest to the RASC Archives for its Rare Book Collection. The Archivist went through the books, with the assistance of Prof. Plotkin, and Committee member Dr. Mark Tovey. Selection was determined by balancing rarity, proximity to Peter Millman's professional interests, and the presence of authors' inscriptions to Prof. Millman. The Archivist and Prof. Plotkin shipped the books to the RASC Archives, where they now reside. The inscriptions are a testament to Peter Millman's place in the astronomical world of his day, and to the respect in which he was held by equally prominent figures. They are a fine addition to our holdings, and will enhance the RASC Archives' Peter M. Millman Meteoritical Collection (*see the next section*).

The catalogue of the collection follows. It is divided into two parts: a) books already accessioned; and b), books which will be sent to the RASC Archives by Dr. Tovey, when he has finished working with them.



Catalogue of Books from the library of Dr. Peter M. Millman

a) books accessioned

[AAVSO,] *Variable Comments 1924-1928, I* (Cambridge MA: American Association of Variable Star Observers, 1924-1928). *Note: AAVSO ephemera, hard cover gold-embossed with "P.M. Millman"*

A Quarter Century of Skyscraping, ed. W. Edwin Stevens et al. (1957). *Note: inscribed to Peter Millman by one of the editors. The Skyscrapers are a venerable amateur astronomy club which owns and operates the historic Seagrave Memorial Observatory*

B. Baldanza, G. Cocco, & G.R. Levi-Donati, [*Catalogo di*] *Meteoriti* (Perugia: Istituto di mineralogia della Facoltà di scienze, 1969) with accompanying letter from a member of the Centro italiani di studi

meteoritici reporting on their samples of “Otasawian (sinonimo Alberta)”. *Note: according to Vagn. F. Buchwald, Handbook of Iron Meteorites (Berkeley-Los Angeles-London: University of California Press, 1975), III, Supplement, pp. 1408-1409, this is a piece of transported Canyon Diablo, and "Otasawian" is a chimera.*

Ralph B. Baldwin, *A Fundamental Survey of the Moon* (New York–St. Louis–San Francisco–Toronto–London–Sydney: McGraw-Hill Book Company, 1965). *Note: inscribed by the author. Ralph Baldwin, a RASC honorary member, was one of the major figures who realigned selenography in favour of the meteoritic hypothesis. His work provided the inspiration for the Dominion Observatory’s important Canadian Meteorite Crater Program (see Plotkin, in A Shared Sky: the RASC 1868-2018, forthcoming).*

Catalog of Antarctic Meteorites 1977-1978, ed. Ursula B. Marvin & Brian Mason, Smithsonian Contributions to the Earth Sciences 23 (Washington DC: Smithsonian Institution Press, 1980). *Note: inscribed to Peter Millman by the editors.*

Clarence Augustus Chant, *Our Wonderful Universe: an Easy Introduction to the Study of the Heavens*, 2nd ed. (London–Toronto–Bombay–Sydney: George G. Harrap & Co., and the Ryerson Press, 1940). *Note: inscribed to Peter Millman by the author.*

Donald Fernie, *The Whisper & the Vision: the Voyages of the Astronomers* (Toronto–Vancouver: Clarke, Irwin & Company Ltd., 1976). *Note: inscribed to Peter Millman by the author.*

Camille Flammarion, *Astronomie populaire*, ed. Gabrielle Camille Flammarion (Paris: Flammarion, 1955). *Note: inscribed from Madame Flammarion to Peter Millman.*

George Foster, *The Meteor Crater Story: Full Dramatic Story of the World's First Proven Meteorite Crater* (Winslow AR: Meteor Crater Enterprises, Inc., 1978). *Note: inscribed to Peter Millman by J. Paul Barringer, President of the Barringer Crater Company.*

C.A. Franics & M.A. Phipps, *Harvard University Catalogue of Meteorites* (Cambridge MA: Harvard University, 1978)

Ruth S. Freitag, *Halley's Comet: a Bibliography* (Washington, DC: Library of Congress, 1984)

Bevan M. French & Nicholas M. Short, *Shock Metamorphism of Natural Materials* (Baltimore: Mono Book Corp., 1968)

Henry C. King, with John R. Millburn, *Geared to the Stars: the Evolution of Planetariums, Orreries, and Astronomical Clocks* (Toronto: University of Toronto Press, 1978)

Z. Kopal & R.W. Carder, *Mapping the Moon, Past and Present*, Astrophysics and Space Science Library, 50 (Dordrecht–Boston: D. Reidel Publishing Company, 1974). *Note: Peter Millman had a long-standing interest in solar-system cartography, and nomenclature. According to Ewen A. Whitaker’s authoritative Mapping and Naming the Moon (Cambridge: Cambridge University Press, 1999), p. 182, it was Millman who effectively began to reverse the effects of Donald Menzel’s uninformed meddling in lunar nomenclature when he succeeded him as chair of the IAU’s Task Group for Lunar Nomenclature (Millman was also chair of the Working Group for Planetary System Nomenclature).*

A.A. Kosmodemyansky, Konstantin Tsiolkovsky, *His Life and Work* (Moscow: Foreign Languages Publishing House, 1956). *Note: possibly acquired when Peter Millman attended the IAU General Assembly in Moscow in 1958 (<http://articles.adsabs.harvard.edu/pdf/1958JRASC..52..143>).*

John Kraus, *Big Ear* (Powell, OH: Cygnus-Quasar Books, 1976). *Note: inscribed to Peter Millman by the author.*

Samuel Pierpont Langley, *The New Astronomy* (Boston–New York: Houghton Mifflin Company, 1887). *Note: flyleaves bear the bookplate and signature of Otto Klotz, and the signature of Ralph E. DeLury.*

Ernst & Johanna Lehner, *Lore and Lure of Outer Space* (New York: Tudor Publishing Company, 1964). *Note: interleaved with Peter Millman's loose notes, and traced drawings.*

Willy Ley & Chesley Bonestell, *The Conquest of Space* (New York: The Viking Press, 1949)

Willy Ley, Wernher von Braun, & Chesley Bonestell, *The Exploration of Mars* (New York: The Viking Press, 1956)

Ursula B. Marvin, & Brian Mason, *Catalog of Meteorites from Victoria Land, Antarctica, 1978-1980*, Smithsonian Contributions to the Earth Sciences, 24 (Washington: Smithsonian Institution Press, 1982)

Newton Mayall, Margaret Mayall, & Jerome Wyckoff, with ill. by John Polgreen, *The Sky Observer's Guide: a Handbook for Amateur Astronomers...* (New York: Golden Press, 1959). *Note: inscribed to Peter Millman by all the authors and the illustrator.*

Meteors and Sunsets Observed by the Astronomers of the Lick Observatory in 1893, 1894, and 1895 (Sacramento CA: Regents of the University of California, 1895)

P.M. Millman, "A Complex Perseid Spectrum", *Publications of the Dominion Observatory* XV, 6 (Ottawa: Department of Mines and Technical Services[, 1956?])

Peter M. Millman, "Terminology in Meteoritic Astronomy", offprint from *Meteoritics* 2 (1963), 7-11, and *JRASC* 58 (1964)

Minerals, *Catalog no. 35*, April, 1935 (Rochester, NY: Ward's Natural Science Establishment, Inc., 1935)

Karen Motylewski, *Cambridge Chondrite Compendium Being the First Edition of a Listing of All Chondritic Meteorites and Their Classifications so Far as This Has Been Determined* (Cambridge MA: Center for Astrophysics, 1977)

Karen Motylewski, *The Revised Cambridge Chondrite Compendium. The Second Edition of a Listing of All Chondritic Meteorites and Their Classifications* (Cambridge MA: Smithsonian Astrophysical Observatory, 1978)

NASA, *Space Shuttle* (Washington DC: NASA, n.d.)

Joseph Needham, Wang ling, & Derek J. de Sola Price, with supplement by John H. Combridge, *Heavenly Clockwork: the Great Astronomical Clocks of Medieval China*, 2nd ed., Antiquarian Horological Society, Monograph 1 (Cambridge–London–New York–New Rochelle–Melbourne–Sydney: Cambridge University Press, 1986). *Note: Peter Millman spent much of his youth in the far east, and was fluent in Japanese, and afterwards evidenced an interest in non-western astronomies; Richard A. Jarrell, "Millman, Peter Mackenzie", in Biographical Encyclopedia of Astronomers, ed. Thomas Hockey et al., 2nd ed. (New York–Heidelberg–Dordrecht–London: Springer, 2014), 1481-1482, at p. 1481.*

Joseph Needham, Lu Wei-Djen, John H. Combridge, & John S. Major, *The Hall of Heavenly Records: Korean Astronomical Instruments and Clocks 1380-1780*, Antiquarian Horological Society, Monograph

25 (Cambridge–London–New York–New Rochelle–Melbourne–Sydney: Cambridge University Press, 1986). *Note: see above note.*

H.H. Nininger, *Out of the Sky: an Introduction to Meteoritics* (Denver CO: The University of Denver Press, 1952). *Note: inscribed to Peter Millman by the author.*

Friedrich Rinne, *Crystals and the Fine-Structure of Matter*, tr. Walter S. Stiles (New York: E.P. Dutton, 1924). *Note: carries the ownership inscription of Peter Millman when he was at Harvard, and has a subsequent stamp (“P.M. MILLMAN/DAVID DUNLAP OBSERVATORY/RICHMOND HILL, ONT.”).*

Henry Norris Russell, Raymond Smith Dugan, & John Quincey Stewart, *Astronomy, a Revision of Young's Manual of Astronomy. Vol. I: The Solar System; vol. II: Astrophysics and Stellar Systems* (Boston–New York–Chicago–London–Atlanta–Dallas–Columbus–San Francisco: Ginn and Company, 1926). *Note: inscribed to Peter Millman by the principal author, in volume I.*

Hiroshi Saika, *Photographic Star Atlas* (Tokyo: Seibundo-Shinkosha, 1979). *Note: inscribed to Peter Millman by the author.*

E.W.H. Selwyn, *Photography in Astronomy* (Rochester NY: Eastman Kodak Company, 1950)

Space Data (Redondo Beach CA: Space Technology Laboratories, Inc./TRW, 1962). *Note: ownership stamp and Ottawa address.*

Space Data (Redondo Beach CA: TRW Space Technology Laboratories, 1965). *Note: ownership stamp, signature, and address.*

Space Log 1962 March (Redondo Beach CA: Space Technology Laboratories, Inc./TRW, 1962)

F.J.M. Stratton, *Astronomical Physics* (London: Methuen & Co. Ltd., 1925). *Note: inscribed by the author.*

Dan Strickland, *Brent Crater Trail: History of the Crater* (Whitney, ON: The Friends of Algonquin Park, & The Ministry of Natural Resources, 1991/1998?). *Note: rare Canadian meteoritic ephemera.*

Tektites, ed. John A. O'Keefe (Chicago–London: The University of Chicago Press, 1963). *Note: inscribed to Peter Millman by the editor.*

Clyde W. Tombaugh, & Patrick Moore, *Out of the Darkness: the Planet Pluto* (Harrisburg PA–Guildford and London: Stackpole Books, and Lutterworth Press, 1980). *Note: inscribed to Peter Millman by the principal author.*

R.J. Traill, *Catalogue of the National Meteorite Collection of Canada[,]* Revised to December 31, 1979 (Ottawa: Energy, Mines and Resources Canada, 1980). *Note: rare Canadian meteoritic ephemera.*

TRW Space Log Winter 1965-66 (Redondo Beach CA: TRW, 1965)

TRW Space Log 1975 (Redondo Beach CA: TRW, 1975)

TRW Space Log 1989 (Redondo Beach CA: TRW, 1989)

Gerard de Vaucouleurs, *The Physics of the Planet Mars: an Introduction to Aerophysics* (New York: The Macmillan Company, 1954). *Note: inscribed to Peter Millman by the author.*

Fred L. Whipple, *Orbiting the Sun: Planets and Satellites of the Solar System* (Cambridge MA–London: Harvard University Press, 1981). *Note: inscribed to Peter Millman by the author.*

H. Percy Wilkins & Patrick Moore, *The Moon: A Complete Description of the Surface of the Moon, Containing the 300-Inch Wilkins Lunar Map* (London: Faber and Faber Ltd., 1955). *Note: see the note to Kopal & Carder above.*

J. Tuzo Wilson, *IGY: the Year of the Two Moons* (New York: Alfred A. Knopf, 1961). *Note: inscribed to Peter Millman by the author.*

John A. Wood, *Meteorites and the Origin of Planets* (New York–St. Louis–San Francisco–Toronto–London–Sydney, 1968). *Notes: inscribed by the author.*

b) books awaiting shipment, and accessioning

Louis Bell, *The Telescope* (New York–London: McGraw Hill Book Co., Inc., 1922). *Note: ownership signature.*

Clarence Augustus Chant, *Our Wonderful Universe: an Easy Introduction to the Study of the Heavens* (Toronto: Ryerson Press, n.d.). *Note: inscribed by the author; possibly the first Canadian edition.*

Photographic Atlas of Auroral Forms and Scheme for Visual Observations of Aurorae, ed. A.W. Brøgggers Boktrykkeri, 1st ed. (Oslo: International Geodetic Union, 1930). *Note: ownership stamp.*

Lucien Rudaux, *How to Study the Stars*, tr. A.H. Keane (London: T. Fisher Unwin, 1909). *Note: ownership stamp.*

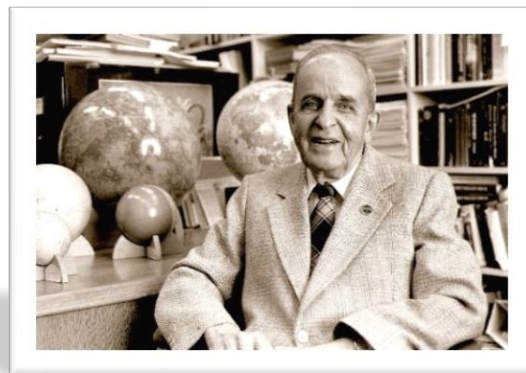
Le P. A. Secchi, *Les Etoiles: essai d'astronomie sidérale*, Bibliothèque scientifique internationale, ed. É.M. Alglave, XXVIII, 2 vols. (Paris: Librairie Germer Baillière et Cie, 1879). *Note: ownership stamp.*

R.A. Smith & Arthur C. Clarke, *Exploration of the Moon* (London: Frederick Muller Ltd., 1954)

E. Weiss, *Bilderatlas der Sternenwelt. Eine Astronomie für Jedermann*, 2nd ed. (Stuttgart: Verlag von J.F. Schreiber, 1892)



Consideration of this gift leads naturally to the next item...



Peter M. Millman Meteoritics Collection...



At the Board of Directors' meeting BOD19-04 (2019 April 17) the following motion was passed:

Peter Millman Recognition: MOTION BOD 19 -4-3: Charles Ennis moved to approve the renaming and upgrading of the RASC Archives' meteoritics collection to the "Peter Millman Meteorite Collection", to honour Dr Millman's sixty-five year active commitment to the Society, seconded by Rob Thacker. CARRIED.

The purpose of this initiative is to find some significant and suitable way to actively commemorate one of our most distinguished National and Honorary Presidents. Formerly, this was done through the naming of one of the RASC's major funds as the "Peter M. Millman Fund", to acknowledge his decades-long contribution to the Society, and to the development of astronomy in Canada and abroad (Minutes of the National Council 1991 February 2, item 12, p. 15). Recently, that mode of honoring him was negated when his name was dropped from the fund, and it became the "RASC Legacy Fund".

It was originally envisioned by the RASC Archivist that renaming the RASC Archives' meteorite collection in Dr. Millman's honour would be the principal symbolic means of continuing his acknowledgement, yet given the modest nature of the collection, that measure was soon perceived as inadequate on its own. The collection would require a plan for upgrading, perhaps best accomplished by the acquisition of samples of Canadian finds and falls. That effort is worth pursuing, and should be the goal of the collection, but unless circumstances change, the collection is likely to remain modest, and symbolic. Clearly more is needed to constitute a meaningful commemorative gesture.

In 2016 the RASC Archives' acquired the papers of the Associate Committee on Meteorites (ACOM) of the National Research Council of Canada (NRC), and the Meteorites and Impacts Advisory Committee (MIAC) of the Canadian Space Agency (CSA) (http://www.rasc.ca/sites/default/files/ACOM-MIAC_Calendar_of_Documents_3.pdf). Those materials, in combination with our existing files on Canadian meteoriticists, make the collection a serious resource for work on the history of Canadian meteoritics. As Peter Millman long cultivated an interest in the history of his discipline, upon further reflection it would seem that a more

meaningful way of commemorating his role would be to form a “Peter Millman Meteoritics Collection” within the RASC Archives, comprising the meteorite collection, the ACOM & MIAC Archives, and Dr. Millman’s books. The possibility of further important historical acquisitions from Western’s Meteor Physics Group would only serve to enhance the standing and utility of the collection. This is likely the best active way of commemorating Peter Millman, as it has the potential to lead to further valuable published results.

Team projects originating within the Committee

The History Committee is possibly unique among the Society’s Committees in regularly producing published work, often at a professional standard, and some of the members of the Committee have given papers on the history of astronomy at professional conferences. It is not a negligible achievement, yet as Eric Briggs has pointed out on several occasions, little of that work represents group projects of the Committee as a whole. Here we propose two possible projects, the *Astronomical Landscape of Canada*, and the *RASC Oral History Project* which, once protocols and standards have been established, could be contributed to by any Committee member who wished to take part, or, after mentoring, by any RASC member. Both projects would be cumulative, long-term, and have the potential to uncover hitherto unknown aspects of astronomy in Canada, and, in the first case, to literally map the cultural resonances of astronomy onto the natural and built landscape of the country. The *Astronomical Landscape of Canada* project could also potentially be a resource for the tourism sector of the Canadian economy (under the category of science tourism).

Astronomical Landscape of Canada

The *Astronomical Landscape of Canada* was a project first broached to the Society as a possible sesquicentennial project for 2018

(https://rasc.ca/sites/default/files/2015and2018_Anniversry_Projects_NAC151.pdf, project 10 on pp. 9-10). It was described at that time as

a resource giving access to the sites across Canada of astronomical history and heritage. This could include past and present active professional institutions, significant amateur observatories, sites of observing campaigns, former observatory sites, sundials, astronomical instrument making workshops or historically significant retailers, institutions involved in significant astronomical education, domestic and other buildings associated with figures from the astronomical past, buildings with astronomical decorative or design elements, planned astronomical landscapes, imaginative or conceptual astronomical landscapes, museums with significant astronomical content, planetaria, science centres, Canadian Earth impact sites, places where discoveries happened, where significant astronomers lived, and space-science sites [this passage has been slightly adapted].

It would be a country-wide, searchable, online catalogue illustrated with images, modern and historical, descriptions, and links to literature and other resources in print, and electronic media. It would be in the tradition of the *Victoria History of the Counties of England* (<https://www.history.ac.uk/research/victoria-county-history>), but more dynamic.

From a practical standpoint the normative cultural tradition of the project would be that from which the RASC sprang, namely the scientific tradition of the west. That does not mean, however, that other cultural traditions, either pre-settler, or non-western would be neglected. Including the astronomical landscapes of First Nations' cultures, if members of those groups would agree to be collaborators, would make the project even more valuable, as would the inclusion of the astronomical landscape of Canada viewed through Canadian Muslim, or other lenses (and it is important to recognize that multiple cultural standpoints need not be exclusive). Safeguards against cultural appropriation would have to be built into the design of the project.

The UK Society for the History of Astronomy has embarked on a project somewhat similar to what is suggested here, the Survey of Astronomical History (<https://shasurvey.wordpress.com/>—the name is misleading, for it is not the “Survey of Astronomical History”, but only a much more limited “Survey of Astronomical History *in the British Isles*”!), although with perhaps an insufficient level of detail, and without due regard to effective elements of online graphic presentation. Nonetheless, that project exists, and can be expected to improve with time.

The Astronomical Landscape of Canada is not time sensitive, unless there are elements of the material or conceptual astronomical landscape in imminent danger of dissipation.

RASC Oral History Project

This project has not, as far as is known, been previously proposed. Its aim would be to record traditions of amateur and professional astronomy from the standpoint of the RASC, through oral interviews with amateur and professional members of the Society who have been members for three, four, and more decades. The temporal reach of such members would be longer than the period of their membership, because in their early years in the Society they would have known and learned from members who were then “elders”. To judge by other oral history projects, much interesting history never makes it into print, and conducting oral interviews is one way to capture and preserve such histories. Interesting stories of interesting members now deceased could become resources for the ongoing history of the Society. Interviewing someone who was involved in cardinal events in the Society's past can convey the flavour of what transpired in a way which is difficult or impossible to do afterwards from written sources alone. The spoken word can only join the paper trail if it is recorded for posterity.

Beyond the obvious benefit to strengthening knowledge of the Society and the practice of astronomy in a national sense, the results of this project would be of great benefit to individual centres in recording and extending their cumulative knowledge of themselves (and the knowledge uncovered may even be of use institutionally, as well).

The “gold-standard” for such interviews is that employed successfully for decades by the American Institute of Physics (AIP)'s Oral History Interviews (many of the subjects are prominent astronomers, and many of them are Canadian). Relevant AIP resources are:

- <https://www.aip.org/history-programs/niels-bohr-library/oral-histories>
- <https://www.aip.org/history-programs/physics-history/oral-history-interviewing>
- <https://www.aip.org/history-programs/physics-history/oral-history-interview-questions>

The RASC Oral History Project protocols ought to be modelled on them.

The stages in this project would be to:

1. Succinctly define its goals and purposes
2. Develop protocols, policies, and recommended practices for interviews
3. Create a website for hosting 1-2 above, and the interviews as they accumulate
4. Announce and advertise the program, and invite Centres to participate as partners in doing interviews in their regions

One final note; unlike the Astronomical Landscape of Canada, the RASC Oral History Project *is* time-sensitive. Older members whom one would most like to interview are *older* members, and their continued participation in the RASC is time-limited by inescapable mortality. This project is best commenced sooner, rather than later.

Presentations

Eric Briggs, “SpaceX Texas Update”, poster presented at the 2019 RASC General Assembly, held jointly with the AAVSO, 2019 June 13-16, York University

Peter Broughton, “Astronomers' Productive Lifetimes”, American Astronomical Society (AAS) meeting, Historical Astronomy Division, 2019 Seattle January 5-7

Peter Broughton, Joe Tenn, & Arnold Rots, “The Astronomy Genealogy Project”, poster presented at the American Astronomical Society (AAS) meeting, Historical Astronomy Division, 2019 Seattle January 5-7

Peter Broughton, “Canada Heads for the Stars” (on J.S. Plaskett), at the Toronto Reference Library, 2019 February 11

Chris Gainor, “The Hubble Space Telescope and the Growth of Mass Science”, American Astronomical Society (AAS) meeting, Historical Astronomy Division, 2019 Seattle January 5-7

Chris Gainor, “History of the Hubble Space Telescope”, Edmonton Centre of the RASC, 2019 January 14

Chris Gainor, “History of the Hubble Space Telescope”, Prince George Centre of the RASC, 2019 February 2

Chris Gainor, “History of the Hubble Space Telescope”, to the Okanagan Centre of the RASC, 2019 March 19

Chris Gainor, “Canada's Contributions to Apollo”, Centre of the Universe, Dominion Astrophysical Observatory, 2019 July 16

Chris Gainor, “The Apollo 11 Moonwalk”, Apollo 11: a Celebration, Centre of the Universe, Dominion Astrophysical Observatory, 2019 July 20

Chris Gainor, “Canada’s Contribution to Apollo’s Moon Landing”, Algonquin College Speaker Series, Algonquin College, Pembroke ON, 2019 October 17

Chris Gainor, “Hubble Space Telescope (HST)”, RASC Mississauga Centre, University of Toronto Mississauga, 2019 October 18

Clark Muir, “Update on the Vatican Mirror”, presentation to the RASC Sudbury Centre, Doran Planetarium, Laurentian University, 2019 September 6

Andrew Oakes, “(Early) Modern Canadian Astronomy 1900-1935—Leadership in Early Twentieth-Century Astronomy within the Dominion of Canada”, University of Toronto, Mississauga Campus, 2019 March 18

R.A. Rosenfeld & David H. Levy, “*Who doth not see the measures of the Moon/Which thirteen times she danceth every year?/And ends her pavan thirteen times as soon*”, 2019 RASC General Assembly, held jointly with the AAVSO, 2019 June 15, York University

R.A. Rosenfeld, “Dorner Telescope Museum”, 2019 RASC General Assembly, held jointly with the AAVSO, 2019 June 15, York University

R.A. Rosenfeld, “Dorner Telescope Museum: Why? Who? What? How? When?”, presentation to the RASC Sudbury Centre, Doran Planetarium, Laurentian University, 2019 September 6

R.A. Rosenfeld, “The Royal Astronomical Society of Canada's Dorner Telescope Museum”, Antique Telescope Society (ATS) Convention, Sunspot Astronomy Visitors Centre, Sacramento Peak Observatories, Sunspot, NM, 2019 October 20

R.A. Rosenfeld, “Truth at the Eyepiece”, 2019 Enchanted Skies Star Party, Astronomical Lyceum, Magdalena NM 2019 October 23

R.A. Rosenfeld, “Music of the Spheres”, 2019 Enchanted Skies Star Party, Astronomical Lyceum, Magdalena NM 2019 October 24

Publications

Chris Beckett, “Is M41 really Aristotle’s “star with a tail”?”, *JRASC* 113, 3 (2019 June), 105-106

Chris Beckett, “What is an Observation?”, *JRASC* 113, 4 (2019 August), 154-156

Chris Beckett, “The Classic RASC Observing List The Observers Handbooks 1943–1980: A Foundation for Deep-sky Observing in Canada”, *JRASC* 113, 5 (2019 October), 204-205

Chris Beckett & R.A. Rosenfeld, “Feature Star Field: Cassiopeia, the Queen”, in *The Observer’s Handbook 2020*, ed. James S. Edgar (Toronto: Royal Astronomical Society of Canada, 2019), pp. 272-273

Chris Beckett, “Antonín Bečvář’s Atlas of The Heavens 1950.0”, *JRASC* 113, 6 (2019 December), 238-239

Chris Gainor, “The Canadians Behind Apollo’s Triumph”, *SkyNews* 2019 July/August, 8-11

Chris Gainor, “Bruce Aikenhead: Spaceflight Pioneer Trained North America’s First Astronauts”, *The Globe and Mail*, 2019 August 21, B16

Chris Gainor, “Flying Gemini to the Moon”, *Quest: The History of Spaceflight Quarterly* 26, 2 (2019), 23-2

Chris Gainor, “Harry S. Truman and the Prelude to the Space Race”, *Quest: The History of Spaceflight Quarterly* 26, 3 (2019), 5-14

Clark Muir, “Science and Art: 150 Years of Astronomical Imagery”, *JRASC* 113, 2 (2019 April), 52-54

Clark Muir, “Thomas Lindsay, Toronto Astronomical Society Member—A Remarkable Life”, *JRASC* 113, 6 (2019 December), 227-230

R.A. Rosenfeld, “The Pleiades, the Deluge, and the Dead: How the RASC Became a Publisher of Anthropology in the Service of Theology”, *JRASC* 113, 3 (2019 June), 98-104

R.A. Rosenfeld, “The Republic of Letters”, *JRASC* 113, 4 (2019 August), 157-160

R.A. Rosenfeld, “Requirements for a Good Astronomical Drawing: An Evolving Landscape of Purpose?”, *JRASC* 113, 6 (2019 December), 252-256

Acknowledgments

The Committee wishes to thank Randy Attwood, FRASC, the recently retired Executive Director, for his support during the period covered by this report. We wish him the best of health as he enjoys his retirement. We also wish to thank Walter MacDonald, the RASC Webmaster, for his continued services in digitizing our documentary heritage, and curating its web presence, and Renata Koziol, Accounting Manager, Julia Neeser, the former Office Manager, and her successor, Adela Zyfi, Membership Coordinator & Office Administrator, and Jenna Hinds, Youth Outreach Coordinator, for assistance during the period covered by this report. And we wish to welcome Dr. Philip Groff, the new RASC Executive Director, and *ex officio* member of this committee.

Respectfully submitted,
Clark Muir, Chair

(this report has been written by R.A. Rosenfeld, Vice Chair)

Committee Members (*=non-voting members):

- *Dr. Phil Groff (ED)
- Chris Beckett (Unattached)
- Dr. Roy Bishop, FRASC (Halifax)
- Eric Briggs (Toronto)
- Peter Broughton, FRASC (Toronto)
- Dr. Karen Finstad (Ottawa Centre)
- Dr. Chris Gainor (RASC National President, Victoria)
- *Renata Koziol (Accounting Manager)
- Heather Laird (Calgary)
- *Barry Matthews (Ottawa Centre, observer)
- Clark Muir (Kitchener-Waterloo), Chair
- Andrew Oakes (Unattached)
- Randall Rosenfeld (Unattached), Vice Chair
- Dr. Mark Tovey (London)