

SCHPM

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Canadian Society for History and Philosophy of Mathematics Société canadienne d'histoire et de philosophie des mathématiques

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ABOUT THE SOCIETY

Founded in 1974, the Canadian Society for History and Philosophy of Mathematics/Société canadienne d'histoire et philosophie des mathématiques (CSHPM/SCHPM) promotes research and teaching in the history and philosophy of mathematics. Officers of the Society are:

President: Maria Zack, Point Loma Nazarene University, San Diego, CA 92106, USA, MariaZack@pointloma.edu

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Volunteer Positions

The Society's Web Page (www.cshpm.org) is maintained by Michael Molinsky, University of Maine at Farmington, Farmington, ME 04938, USA, michael. molinsky@maine.edu. The Proceedings of the Annual Meeting are edited by Maria Zack and Dirk Schlimm (see above). The Society's Archives are managed by Eisso Atzema, University of Maine, Orono, ME 04469, USA, eisso.atzema@maine.edu. Hardy Grant, hardygrant@yahoo.com, and Amy Ackerberg-Hastings, aackerbe@verizon.net, edit the CSHPM Notes column for *Notes* of the Canadian Mathematical Society. Maritza Branker, Niagara University, Lewiston, NY 14109, USA, mbranker@ niagara.edu, serves as CMS Liaison. New Members are most cordially welcome; please contact the Secretary.

President's Message

As I write this most of us are in week 4, 5 or 6 of social distancing, and some version of "shelter in place." It is certainly an interesting time for those of us in higher education as we try to finish this term with hastilybuilt online classes, continue with some coursework online in the summer, and plan for an unknown fall. Will we be teaching online? Will we be teaching "socially distanced" face-to-face classes? Or will it be something in between?

I find that these days, I am surrounded by people who want to know what I see in the epidemiological data, in light of both mathematics and history. History and data analysis do teach us that this will eventually pass, and that the world will recover. I am not in any way diminishing the loss and devastation caused by this pandemic, but there is still reason to hope in the future. It will undoubtedly mean some kind of yet to be discovered "new normal," and it has given us new vocabulary words such as Zoombombing, PPE and N-95.

As I look to the near-term future, I wanted to be sure that you are aware of a few important pieces of information:

- 2020 (now 2021) Annual Meeting: We are postponing our joint meeting with the BSHM and HOM SIGMAA at St Andrews University in Scotland for a year. Our colleagues in the BSHM are negotiating with St Andrews about dates. Assuming that it is possible to resume travel in a reasonable way, we expect to meet in late June or early July 2021. The dates will be communicated once we have them.
- CSHPM Annals (formerly called the Proceedings): Birkhäuser/Springer has allowed us to rename the series to remove the word "proceedings," since that term was causing some difficulties for members applying for promotion and tenure. They have also extended our contract for three more years (2020, 2021 and 2022). The one consequence of the pandemic is that we will be publishing a combined 2019/2020 volume. Some of you have papers in process already for the 2019 volume and I will be getting information to you now that I have a final decision from Birkhäuser.

I will also be putting out a fresh call for papers for this volume. If you had a paper that you were unable to get ready for the 2019 submission deadline, you may submit it for this 2019/2020 volume. If you have been working on a piece of scholarship that you had hoped to have in the 2020 volume, those submissions will also be welcome. I will send further details once I finish grading my final exams.

• Philosophy Co-Editor for the Annals: As part of the contract negotiations with Birkhäuser I have agreed to remain as the lead editor on the Annals, but it has been important for me to have a co-editor with a philosophy background. Elaine Landry and Dirk Schlimm have both ably served in that capacity in the past, but Dirk would like to "retire" from this job. If you are interested in serving as co-editor (it takes about 10– 15 hours per year), please contact me directly at mzack@pointloma.edu.

Finally, the CSHPM elections are in process so that in just a short while, I will become the Past President of the Society as Craig Fraser becomes the President. It has been a privilege to serve as the president and to be part of a team of volunteers who keeps all of the society running. So please join me in thanking the whole group for the dedication and work on your behalf: Craig Fraser, Pat Allaire, Greg Lavers, Elaine Landry, Duncan Melville, Andrew Perry, Richard Zack, Dirk Schlimm, Amy Ackerberg-Hastings, Eisso Atzema, Michael Molinsky, Hardy Grant, and Maritza Branker.

I look forward to hearing from you about papers for the 2019–2020 Annals and look forward to seeing you all in Scotland, if not sooner.

Maria Zack (mzack@pointloma.edu)

Announcements

As you probably know, the BSHM/CSHPM/HOM SIGMAA joint meeting in St Andrews, "People, Places, Practices," has been postponed until summer 2021. Housing and registration refunds should be in progress for those who had already paid.

Long-time CSHPM member Martin Muldoon died on 30 October 2019. See the memorial in this issue.

Peace to the memory of several mathematicians, physicists, and philosophers of particular note within

the history and philosophy of mathematics communities: Richard Askey (1933–2019); Mario Bunge (1919–2020); John Conway (1937–2020); Mic Detlefsen (1948–2019); Freeman Dyson (1923–2020); Reuben Hersh (1927–2020); and Mark Steiner (1942–2020). Mic's colleagues provided a memorial for this issue.

Glen Van Brummelen has accepted a position as Dean of Science at Trinity Western University in British Columbia. Oxford University Press recently released his newest book, *Trigonometry: A Very Short Introduction*.

Tom Drucker was elected Representative of the Wisconsin Section to MAA Congress for a term from 2020 to 2023.

Judy Grabiner's influence was honored with an article by Della Dumbaugh and Adrian Rice, "A Template for Success: Celebrating the Work of Judith Grabiner," *Notices of the AMS* 67, no. 3 (March 2020): 336–344.

A 1992 Historia Mathematica article by Jim Tattersall inspired Andy Platt to write No Horizon: A New Musical Journey, tracing the life of Nicholas Saunderson (1682–1739), the blind Lucasian Professor of Mathematics at Cambridge. Coronavirus unfortunately derailed the musical's spring tour, but a trailer and other information are available at nohorizonthemusical.com.

Richard Arthur published "États vagues, changements discontinues, et le principe de continuité chez Leibniz" in Leibniz et leibnizianismes, edited by Jan Makovský and issued in Prague in 2019. On 10 February 2020, he presented "Leibniz's analysis of change: vague states, physical continuity, and the calculus," as well as a version of David Rabouin's paper, "Leibniz on the reduction to identities" (in David's unexpected absence), at the OCIE Seminar in History and Philosophy of Science and Logic, hosted by Marco Panza at Chapman University, Orange, CA. Richard presented a joint paper with David, "Leibniz's Syncategorematic Infinitesimals II," at a 14 February Workshop on Leibniz and Infinitesimals, organized by Erich Reck and Adam Harmer at University of California, Riverside. Their joint article, "Leibniz's Syncategorematic Infinitesimals II: their existence, their use and their role in the justification of Differential Calculus," has been accepted for publication by Archive for History of Exact Philosophy. Richard's chapter, "Leibniz as a precursor to Chaitin's Algorithmic Information Theory," will appear in *Information and the History* of *Philosophy*, edited by Chris Meyns for Routledge.

Calvin Jongsma published Introduction to Discrete Mathematics via Logic and Proof in Springer's Undergraduate Texts in Mathematics series. The text aims to incorporate some history of mathematics in an integrated way.

Fernando Gouvêa and Bill Berlinghoff have posted the 2-volume set of worksheets and teacher's guide that accompanies *Math through the Ages*, *Pathways* from the Past, at Fernando's website, personal. colby.edu/~fqgouvea/.

Jemma Lorenat was a keynote speaker at the Association for the Philosophy of Mathematical Practice 5th International Meeting in Zurich, January 18–21. Dirk Schlimm served on the organizing committee; he and Emily Grosholz were both on the scientific committee; and he presented "What the study of notations can tell us about mathematical practice." Other CSHPM members on the program included: Kenneth Manders (Pittsburgh), "Mathematical 'Error' in Descartes: Failure in Algorithmic-Exploratory Practice"; and Zoe Ashton (Ohio State), "Developing Dots: The Role of Audience in Proof Methods." Robert Thomas and Dirk Schlimm chaired sessions.

The January 2020 issue of the *Journal of Humanistic Mathematics* contains articles on the histories of the astrolabe and word problems in algebra textbooks as well as "Why Our Hand is not the Whole Deck: Embrace, Acceptance, or Use of Limitations" by Robert Thomas.

AMS has published *Meeting under the Integral Sign? The Oslo Congress of Mathematicians on the Eve of the Second World War*, by Christopher D. Hollings and Reinhard Siegmund-Schultze, as volume 44 in its History of Mathematics series.

Della Dumbaugh (Richmond) received the MAA Maryland/DC/Virginia Section's John M. Smith Distinguished Teaching Award, and Eve Torrence (Randolph-Macon) won the Sister Helen Christensen Service Award.

The University of Virginia hosted a conference, "Representations of Algebraic Groups and Quantum Groups," in honor of Brian Parshall's retirement.

William Noel, who directed the conservation and digitization of the Archimedes Palimpsest at the Walters Art Museum, was appointed Associate University Librarian for Special Collections at Princeton University Library

Elsevier offers the most-downloaded articles of the past 90 days on *Historia Mathematica* from a link on the journal's homepage, journals.elsevier.com/ historia-mathematica.

The International Commission on Mathematical Instruction awarded its 2019 Hans Freudenthal Medal to historian of mathematics education Gert Schubring.

HOM SIGMAA News: The MAA Special Interest Group on History of Mathematics sponsored two events at the 2020 Joint Mathematics Meetings in Denver, Colorado. The first was the annual HOM SIGMAA business meeting, reception, and invited guest speaker. Dr. June Barrow-Green (The Open University, UK) gave the enlightening keynote address, "The Historical Representation of Women in Mathematics." The representations of the women mathematicians included pictures and quotations, both from their own view and from how they were viewed by others. Most of the representations were of specific women mathematicians, such as Hypatia, Maria Agnesi, Émilie du Châtelet, Sophie Germain, Mary Somerville, Sofia Kovalevskaya, and Philippa Fawcett. More general representations from late 19th- and early 20th-century literature were also given.

The second HOM SIGMAA-sponsored event was a special session in honor of math historian David Zitarelli, who passed away in December 2018, just before finalizing the publication of the first volume of his A History of Mathematics in the United States and *Canada.* The session began with personal remarks on the life and contributions of Professor Zitarelli by Dr. Tom Drucker and a slideshow of family pictures with commentary by Paul Zitarelli, David's son. Seven presentations on a variety of topics inspired by Dr. Zitarelli's work followed. Presenters were (left to right in the accompanying photograph): Stephen Kennedy, Thomas Drucker, David Lindsay Roberts, Paul Zitarelli, Lawrence D'Antonio, Della Dumbaugh, Amy Ackerberg-Hastings, Patricia R. Allaire, and Cynthia Huffman. John McCleary is not pictured.

BSHM News: BSHM has begun a new blog. Its first entry was contributed by Ellen Abrams (Cornell), the Early Career Prize winner for her essay, "An Inalienable Prerogative of a Liberated Spirit':



Figure 1: HOM SIGMAA speakers

Postulating American Mathematics." President Mark McCartney won the Institute of Mathematics & Its Applications Catherine Richards Prize for "Fluids, Fluorescence and a Hat Full of Beetles," an article on George Stokes. Vice-President Sarah Hart has been appointed Gresham College Professor of Geometry, the first woman to hold the position in its 423-year history.

An online conference on "Mathematics in Times of Crisis" (defined broadly to include mathematical, economic, public or private health, political, military, or other crises) will be held on July 6. The meeting will include recorded presentations and live discussions. Contact Isobel Falconer, *ijf3@st-andrews.ac.uk*, if you would like to give a presentation of any length between 10 and 40 minutes.

For the time being, the May 2020 issue of British Journal for the History of Mathematics is only available through Taylor & Francis Online. Members who subscribe through CSHPM and who do not have access through their institutions should contact membership@bshm.ac.uk to register for electronic access. When printing resumes, BSHM & CSHPM members will receive print versions of this and any other missed issues.

FedCan News: Congress 2020, to be held at Western University, was cancelled. CFHSS leaders thanked the administration, staff, and faculty for all of the work they had done to prepare for the conference. The University of Alberta in Edmonton will host Congress 2021. The Federation regained its charitable status as of 3 January 2020. It has also moved into a new office at 141 Laurier Avenue West in Ottawa. Additional updates can be found at www.ideas-idees.ca/.

Seminars

Speakers on the 2019–2020 schedule for the Philadelphia Area Seminar on the History of Mathematics (PASHoM) included: David Perry (NSA), "The Cracking of Enigma" on September 19; Shelley Costa (Swarthmore and West Chester), "Sangaku: The exchange of geometrical problem-solving in 18th- and 19th-century Japan" on October 24; Brit Shields (Penn), "Engineering Education for 'Vital War Industries': Mathematical Foundations in the US Engineering, Science and Management War Training Program during the Second World War" on November 21: Karen Parshall (Virginia), "Growing Research-Level Mathematics in 1930s America?: An Historical Paradox" on December 12; Maryam Vulis (St. Johns and Norwalk CC), "The Lvov School of Mathematics" on January 23; and David Richeson (Dickinson), "Geometric Constructions using a Compass and Marked Straightedge" on February 20.

The Frederick V. Pohle Colloquium on the History of Mathematics, hosted by the Department of Mathematics & Computer Science at Adelphi University, presented the following speakers in 2019: Rob Bradley (Adelphi), "Series: Convergent, Divergent ...Whatever!" on October 2; Glen Van Brummelen (Quest and Inst. Adv. Study), "The Forgotten Man: Astronomy in the Transformative 15th Century" on November 6; and Josh Hiller (Adelphi), "A historical and axiomatic look at the Armitage and Doll multistage model of carcinogenesis" on December 4.

The Claremont History and Philosophy of Mathematics Seminar welcomed the following speakers in 2019: Della Dumbaugh (Richmond), "Does one man make a team? Solomon Lefschetz as Editor of the Annals of Mathematics" on September 30; Gabriel Greenberg (UCLA), "The Semantics of Iconic and Symbolic Representation" on October 14; Jeffrey Oaks (Indianapolis), "Arithmetical proofs in Arabic algebra" on November 11; and Michael Friedman (Humboldt, Berlin), "On branch points and branch curves at the turn of the 19th century" on December 2. A discussion of a reading by Charlotte Scott was held on September 16.

The following speakers presented at the Seminar on the History of the Exact Sciences at All Souls College, Oxford, in 2020: Adam Mosley (Swansea), "When was cosmology? The curious history of a disciplinary category, c. 1600–c. 1730" on January 21; Angela Axworthy (MPIWG Berlin), "Unity and diversity of practical geometry in sixteenth-century France" on January 28; Isobel Falconer (St Andrews), "To G or not to G: J. H. Poynting and the gravitational constant in the nineteenth century" on February 4; Lee Macdonald (History of Science Museum, Oxford), "Proposals to move the Royal Observatory, Greenwich, 1836–1945" on February 11; Alice Marples (Oxford), "Mastering the Mint: Isaac Newton's economic and numismatic work" on February 18; Tilman Sauer (Gutenberg, Mainz), "How general relativity resonated with differential geometers" on February 25; Lucia Bucciarelli (Oxford), "The 'Galilean Sect': Talented Mathematicians, devoted disciples" on March 3; and Ivahn Smadia (Nantes), "The puzzle of Brahmagupta's quadrilaterals: Hankel's reading of Colebrooke" on March 10.

The ORESME Reading Group met February 21–22 at Northern Kentucky University to read and discuss the first few lectures from Augustin-Louis Cauchy's famous *Résumé des leçons (...) sur le calcul infinitésimal*, his 1823 calculus course at l'École Royale Polytechnique, from the 2019 English translation by Dennis M. Cates. For information on future meetings, contact Danny Otero, *otero@xavier.edu* or Dan Curtin, *curtin@nku.edu*.

The ARITHMOS Reading Group went virtual with web conferences on April 11—to read and discuss Russell's and Frege's exchange of letters in June 1902—and on May 17—to read and discuss Leibniz' Nova methodus pro maximas et minimas, which is available in the original Latin, in English translation, and even in a French translation.

Additional Publications

European Journal of Philosophy of Science is preparing a special issue on teaching philosophy of science to students from other disciplines. Submissions are due December 1. A detailed prospectus appeared in the April issue of the HPS&ST Newsletter, hpsst.com/hpsst-newsletter.html.

Franz Steiner Publishing House has issued *Gottfried Wilhelm Leibniz: Reception, research, outlook*, edited by Friedrich Beiderbeck, Wenchao Li, and Stephan Waldhoff; and *Body, mind, monads: Monadology and metaphysics at Leibniz*, edited by Juan Antonio Nicolás.

Zubal Books of Cleveland seeks used books in the fields of mathematics, statistics, philosophy, history

of science, and the like. Contact books 1@zubal.com.

NCTM has combined Teaching Children Mathematics, Mathematics Teaching in the Middle School, and Mathematics Teacher into Mathematics Teacher: Learning and Teaching PK-12. Partially in recognition of its centenary this year, the organization received ICMI's 2020 Emma Castelnuovo Award for Outstanding Achievements in the Practice of Mathematics Education.

Patricio Herbst is now the editor-in-chief of the Journal for Research in Mathematics Education.

The latest issue of the *Philosophy of Mathematics Education Journal* is available at socialsciences. exeter.ac.uk/education/research/centres/stem/ publications/pmej/.

The Electronic Seminar on Mathematics Education is found at math.mit.edu/seminars/esme/.

Colm Mulcahy continues his Mathematics Ireland blog at mathsireland.ie/blog. Other publications on the history of mathematics in Ireland, Charles Mollan's 1995 Irish National Inventory of Historical Scientific Instruments and 2018 William E. Wilson (1851–1908) – The work and family of a Westmeath astronomer, are freely downloadable from Google-Books.

The History of Science Society Editorial Offices (for *Isis* and *Osiris*) have moved to Mississippi State University.

The Scientific Instrument Commission now has a presence on Facebook and Twitter to raise its public profile.

Videos demonstrating historical instruments in the collection of the Liceo Paolo Sarpi of Bergamo may be viewed at museovirtualesarpi.it/progetto.html.

Other Meetings

The Science in the City 1500-1800 conference went online. Links to the talks and other events can be found at metsci.wordpress.com/2020/03/30/ programme/. See, in particular, Boris Jardine, "What's in a (street) name? Humphrey Cole's London and the Specificity of Place in Elizabethan Practical Mathematics."

The Oughtred Society will host the International Meeting of Slide Rule Collectors, September 10–13 at the MIT Museum.

The XXXIX Scientific Instrument Commission Symposium, scheduled for September 14–19 in London,

will be a fully virtual meeting. Planning and logistics are still in process, but updates will be posted on the *rete* email list, hsm.ox.ac.uk/mailing-list. The 2021 Symposium will be in July in Prague.

The 48th Annual Miami University Mathematics Conference is scheduled for September 25–26, 2020, in Oxford, Ohio. This year's theme is History of Mathematics, and keynote speakers will be David Richeson and Glen van Brummelen. For more information, see the About and then the Events tabs at miamioh.edu/ cas/academics/departments/mathematics/.

The International Mathematics Union will celebrate its centennial with the meeting, "Mathematics without Borders," in Strasbourg, September 28–29.

ICME-14 has been rescheduled to July 11–18, 2021, at Putuo Campus of East China Normal University. For more information, see icme14.org. HPM 2020, a satellite meeting of ICME-14, will take place July 20–24, 2021.

Funding Opportunities

The Department of the History of Science at the University of Oklahoma seeks students to pursue MAs and PhDs in the History of Science, Medicine, and Technology. The department houses *Isis Current Bibliography* and *Technology & Culture*. Funding is available. Contact Hunter Heyck, *hheyck@ou.edu*.

Applications open in October for fellowships in book history at the Bodleian Library. Visit bodleian.ox. ac.uk/csb/.

Fellowship opportunities at the American Philosophical Society Library & Museum are described at amphilsoc.org/grants/fellowships. Historian of mathematics Karine Chemla was elected to membership in 2019.

The American Antiquarian Society offers short-term as well as long-term research fellowships. Deadline is 15 January 2021. See americanantiquarian.org/ fellowships.

Applications for fellowships at the Linda Hall Library in Kansas City are due in January. See lindahall. org/fellowships/.

Applications for short-term fellowships at the Library Company of Philadelphia are due 1 March 2021. A new offering funds joint research at the Library Company and the British Library. Visit librarycompany. org and look under Academic Programs.

The History of Education Society offers the Claude A.

Eggertsen Prize for the most outstanding dissertation in the history of education.

The University of Chicago has transferred Yerkes Observatory in Williams Bay, Wisconsin, to the Yerkes Future Foundation with the goal of restoring the telescopes and reopening the space to visitors and scholars.

Digitized Smithsonian Mathematics Objects

Historians of mathematics and mathematicians intrigued by the history of their discipline tend to look at written texts. Manuscripts, correspondence, published papers, and books receive much attention. However, particularly in the past few centuries, other sorts of objects have come to play an increasing role in the application, diffusion, and creation of mathematical ideas. Instruments of calculation such as the abacus and counters have been around for millennia. Slide rules, adding and calculating machines, and, more recently, electronic calculators have gradually displaced most mental reckoning. Aids to mathematics education also abound. The blackboard, drawing instruments like the protractor, geometric models, graphing calculators, whiteboards, and special computer software all merit attention. Of course, blackboards, whiteboards, and computer programs also play a substantial role in working out and even in inventing mathematical proofs.

As Amy Ackerberg-Hastings and Amy Shell-Gellasch pointed out some years ago [1], some such devices reside in museum collections, including the Smithsonian's National Museum of American History (NMAH). This note is to announce that a much larger share of the museum's collections is now available online. Through the efforts of staff and volunteers, mathematical objects also are generally photographed and described in some detail.

To reach the Smithsonian-wide computer database, see collections.si.edu/search/index.htm. For the NMAH collections only, see americanhistory. si.edu/collections/. For the mathematics collections (though not all the mathematical objects—and certainly not manuscript or archival materials), go to the NMAH search page, enter "mathematics" in the search box and press the enter key, look at the "Filter Your Results" box on the right side of the page, and choose "Set Name: Medicine and Science: Mathemat-



Figure 2: International Mathematical Congress, Toronto, 1924.

ics." This process currently returns 6,245 records.

To bring up more information and images relating to a given object on the NMAH site, click on the object title. Pushing "View Full Record," should this appear, reveals yet more material. There also is space for comments and corrections. Not all images have yet been uploaded—and the collections continue to expand. Nonetheless, we hope these records may be of use.

Although NMAH is focused on the United States, some items have Canadian connections. For example, high school teacher and geometric-model maker Harry A. Wheeler donated his copy of the group photograph taken at the 1924 International Mathematical Congress held in Toronto. The original objects sold in a set of drawing instruments were intended for use with Alexander Hiram McDougall's *The Ontario High School Geometry: Theoretical* (Toronto: Copp, Clark, 1910). A circular slide rule was distributed as a promotional item by the aircraft manufacturer Canadair.

Some objects at the Smithsonian are one-of-a-kind. However, faculty and students may well find historic mathematics objects—drawing instruments, slide rules, geometric models and so on—in the collections of their own institutions. Identifying these and ferreting out their history, using local archival sources as needed, would be excellent historical training for students and might lead to fruitful discussions across generations. Besides the guides to incorporating historical research into the classroom found at *Convergence*, see [2] for more information.

With over 6000 objects in the mathematics collec-



Figure 3: Set for use with McDougall's Geometry.

tions alone, there is not space to list all these primary sources here. Rather, I urge you to look for yourself!

References

[1] Ackerberg-Hastings, Amy, and Amy Shell-Gellasch. "Online Museum Collections in the Mathematics Classroom," *MAA Convergence* 11 (December 2014) (see bit.ly/3boPxqM).

[2] Kidwell, Peggy Aldrich, and Amy Ackerberg-Hastings. "Exhibiting Mathematical Instruments: Making Sense of Your Department's Material Culture," in *Hands on History: A Resource for Teaching Mathematics*, edited by Amy Shell-Gellasch, 163–174. *MAA Notes No. 72.* Washington, DC: Mathematical Association of America, 2007.

Peggy Aldrich Kidwell

Book Review: Republic of Numbers

Republic of Numbers: Unexpected Stories of Mathematical Americans Through History, by David Lindsay Roberts. Baltimore: Johns Hopkins University Press, 2019, 244 pp. US\$29.95.

David Lindsay Roberts's *Republic of Numbers* is billed as "unexpected stories of mathematical Americans through history." The format and style of this book were indeed unexpected, at least to me. I expected that the twenty-three Americans featured in this book would be arguably the twenty-three most famous American mathematicians, and that all would be neat and clean and sanitized.

In actual fact, this is a unique narrative that captures the complexity of the subject of American mathematics and its human side, as much as it can be captured in around 200 pages. It is a work of art, in the sense that it feels new and original, and leaves the reader (at least this one) with a bit of awe. The author himself even states that he could not have conceived of this book had not his editor, Vincent Burke of Johns Hopkins University Press, suggested it.

The book features individuals that come from "a variety of backgrounds, and with a variety of relationships to mathematics: pure and applied, advanced and elementary, popular and technical" (p. 1). They aren't all heroes—"Encountering mathematics does not automatically produce noble souls" (p. 2). Roberts doesn't rant about social injustice, and doesn't need to. In many chapters he paints slightly disturbing pictures, apparently without trying, and without having to portray purely villainous characters. For example, Charles M. Austin, a prominent high school teacher from Chicago, is featured in Chapter 12. Austin founded the Men's Mathematics Club, a forerunner of the National Council of Teachers of Mathematics (NCTM, established in 1920). Austin is portrayed as an advocate of mathematics, to be sure, and math historians can applaud him for that reason. But Austin's advocacy for mathematics is seen to be narrowly selfserving and sexist. The Men's Mathematics Club rebuffed the overtures of women to join, even as its leaders later claimed that the women teachers of Chicago had voluntarily formed a parallel organization merely to avoid the cigar smoke of the men.

Chapter 9, titled "Straggler," features Kelly Miller, the first African American graduate student of mathematics in the United States. Miller faced an uphill struggle and a lonely road. The epigraph to this chapter is moving. Miller wrote:

The negro should plant one foot on the Ten Commandments and the other on the Binomial Theorem: he can then stand steadfast and immovable, however the rain of racial wrath may fall or the angry winds of prejudice blow and beat upon him.

All in all, however, these tales are more uplifting and inspiring than they are disconcerting. Chapter 1, titled "A Practical Navigator," describes Nathaniel Bowditch (1773–1838), a self-taught mathematical genius. Bowditch, the son of a cooper, was only schooled until the age of ten. His hometown of Salem happened to have an impressive library, the Salem Athenaeum. Curiously, the basis of this library was an Irishman's private library, captured by an American privateer in 1780. There Bowditch borrowed scientific books as a youth. Through reading and his work aboard sailing ships, Bowditch learned mathematics and navigation as well as Latin, French, Italian, Spanish, Portuguese, and German. In Bowditch's time, John Hamilton Moore's book, A New Practical Navigator, published in London, was a standard reference for sailors. Bowditch found over 8,000 errors in this volume and published a new, improved volume, the New American Practical Navigator. This book became the new standard and Bowditch's first claim to fame, even though it is not only practical but also highly mathematical. Later, Bowditch would go on to translate four volumes of Pierre-Simon de Laplace's *Mécanique Céleste* and fill in some of its gaps. Bowditch's achievements were remarkable, and this chapter left me waving an American flag in my mind.

Each of the twenty chapters is approximately ten pages long. Seventeen of the chapters feature a single person, and the other three chapters each feature two people. In the case of major thinkers such as Nathaniel Bowditch, the content of the chapter is as one might expect: the mathematical American's life is described, along with their connections to mathematics, and if appropriate, some description of the content of the mathematics (though without formulas, and not in a technical manner). Other chapters meander in surprising ways, giving the reader a great deal of bonus material and showcasing the interconnections of various historical figures. In each case we are thrown into the middle of a historical drama in a certain year.

For example, Chapter 4 starts with Lyman Beecher, the clergyman, leaving Boston with his family to become the first president of the Lane Theological Seminary in Cincinnati, Ohio. In the first paragraph, the reader is introduced very naturally to Catherine Beecher, Harriet Beecher, Calvin Stowe, Joseph Ray, Eliakim Hastings Moore, and William Howard Taft. Moore was the sixth president of the American Mathematical Society, and we are informed that he has over 21,000 mathematical descendants, by the genealogy of doctoral advising. Similarly, in each of the chapters, there are multitudes of facts, stories and references that allow the reader to take advantage of the author's encyclopedic knowledge of the history of American mathematics—all woven together in clever and natural ways.

For anyone interested in the history of American mathematics, this book is a must read. I'm confident that most CSHPM members would enjoy this book, even if their primary interests in history lie elsewhere. The *Republic of Numbers* offers readers a fascinating and very human journey through a wide swath of history. I'm amazed at what Dave Roberts has been able to pack into a relatively compact book.

Andrew Perry

Books Borrowed Registers

Before the due date card, there was the books borrowed register. When you borrowed a book from a library, the register would be opened to your page and the title of the book and the date it was to be returned were recorded on the next blank line. Some 19thcentury libraries, including the Boston Athenaeum, have digitized their books borrowed registers and made them available on the web.

Wondering if what people read could be linked to what they were doing, I read through volumes I through IV (covering the years 1825–1850) of the Athenaeum's books borrowed registers and sifted out all of the borrowings of books in mathematics, science, and technology. During this period 388 individuals checked out 3,761 books in these categories.

It comes as no surprise that what people read did connect to what they were doing. If you were building railroads, then you read about steam engines. If you were writing children's books, you borrowed books related to your topics. If you were computing a table of logarithms, you consulted other tables to vet against yours.

What came as a surprise, however, was the realization that in many cases one book or one author was clearly preferred to all the others available on the shelf. If you were wondering about heating a building, Thredgold's *Principles of Warming and Ventilating* was the go-to text even though works by Arnott, Wyman, Hood, and Leslie were also on offer. If you were interested in geology, you turned to Lyell and forsook Bakewell, Cuvier, Greenough, and Buckland. I formed an hypothesis as to why this might be the case and examined it in my book, *Practical Purposes: Readers in Experimental Philosophy at the Boston Athenaeum* (1827–1850) (Docent Press, 2016). The oft-quoted conclusion of Smith and Ginsburg that mathematics was neglected in America until the final quarter of the 19th century is not supported by this data set. Indeed, university-level mathematics was at the core of the hypothesis as it was found to play a key supporting role in almost all of the scientific and technical reading. Readers in hydraulics turned to Euler for their mathematical modeling. Readers in chemistry read Sylvester's articles on combinatorics. Priestley's Familiar Introduction to Perspective and Lacroix's Treatise on the Differential and Integral Calculus were the two most read mathematics texts. Tangentially, the mathematics curriculum at Boston's English High School, where two of the readers in mathematics (Thomas Sherwin and Solomon Miles) taught, was far stronger than at the institution of higher learning across the Charles.

It must be noted that Nathaniel Bowditch was the head of the library committee at the Boston Athenaeum and his reading in mathematics late in his life reflects his reading at the Salem Athenaeum early in his life—although his late reading does include Howell's The Life and Adventures of Alexander Selkirk and Plumbe's On Ringworm of the Scalp, Scalled head, and other Species of Porrigo in addition to the *Transactions* of the Royal Society of Turin. Of course, by this time he also had a considerable library of his own. Strangely, Bowditch checked out each volume of Mécanique Céleste twice. I examined each page in each of the four volumes, hoping for some marginalia, but came away disappointed. Since any marginal notes were surely in his own copy and also since the head of the library committee wouldn't want to be called out for writing in library books, I conjectured that he checked them out for use by a proofreader of his translation of Laplace.

Books borrowed registers are, in my view, underutilized primary sources in the study of the history of mathematics, science, and technology. Plus, they are a lot of fun to read.

Scott Guthery

New Content from MAA Convergence

MAA Convergence has offered articles on the history of mathematics and its use in teaching alongside an ever-expanding collection of online resources to help readers teach mathematics using its history



Figure 4: Diagram from Sykes's textbook.

since 2004. Recent publications include two contributions to women's history. First, in "Mabel Sykes: A Life Untold and an Architectural Book Rediscovered," Maureen Carroll and Elyn Rykken provide a biography of this little-known Chicagoarea high school mathematics teacher and explore her lavishly-illustrated 1912 textbook. Second, Julia Parker's "An Explication of the Antilogism in Christine Ladd-Franklin's 'Algebra of Logic'" examines Ladd-Franklin's contributions to symbolic logic while applying the primary-source analysis technique introduced in last year's "More Than Just a Grade: The HOM SIGMAA Student Contest Fosters Writing Excellence at UMKC," by Richard Delaware.

In a piece that has new relevance in a time of quarantining, Abe Edwards and his undergraduate student, Marie Savoie, described a European study-abroad course and provided suggestions on planning virtual as well as actual excursions in mathematics history in "A Mathematical History Tour: Reflections on a Study Abroad Program." Those seeking illustrations for use in online classrooms may wish to consult *Convergence*'s ever-growing "Index to Mathematical Treasures," which includes hundreds of images from dozens of libraries and archives. Our chief "treasure hunter" is *Convergence* founding editor Frank Swetz; Cynthia Huffman also prepared descriptions of another 10 rare books from the Linda Hall Library in



Figure 5: Abe Edwards with Students

2019.

Convergence also provides reprints to bring articles on using history to teach mathematics to wider audiences. The editors of *Vector*, the semiannual magazine of the British Columbia Association of Mathematics Teachers, generously shared Glen Van Brummelen's "Why History of Mathematics?" Under a longstanding agreement with NCTM's *Mathematics Teacher*, the journal offered "Bringing Historical Methods for Astronomical Measurements into the Classroom," by Seán Madden, Jocelyne Comstock, and James Downing; "Correspondence from Mathematicians," by Jennifer Horn, Amy Zamierowski, and Rita Barger; and "Word Histories: Melding Mathematics and Meanings," by Rheta Rubenstein and Randy Schwartz.

In the ongoing "Series of Mini-projects from TRansforming Instruction in Undergraduate Mathematics via Primary Historical Sources," the TRIUMPHS team has added two more mini-Primary Source Projects (mini-PSPs):

- "Regression to the Mean: A Mini-Primary Source Project for Statistics Students," by Dominic Klyve;
- "Investigations Into d'Alembert's Definition of Limit: A Mini-Primary Source Project for Students of Real Analysis and Calculus 2," by David Ruch.

Meanwhile, Danny Otero began a new series, "Teaching and Learning the Trigonometric Functions through Their Origins," which is based on one of his full-length PSPs.

Additionally, Erik R. Tou added "The Logical Symbols" to his series on Math Origins, and frequent con-



LIMITE, f. f. (Mathamat,) On dit qu'une grancur efi la limite d'une autre grandeur, quand la fenode peut approcher de la premiere plus près que une grandeur donnée, fi petite qu'on la puiffe unfort, fans pourtant que la grandeur dont ella approche, uiffe jamais furpaffer la grandeur dont ella approche, e conforte que la différence d'une pareille quanhe; enforte que la différence d'une pareille quanerit de la lattit a un cercle, si elle évient que l'on peut en multiplier les côtés autant que on voudra 1, é dans ce cas, chaque polygones aprochera toujours de plus ea plus de la circonféence que cercle, le contour du polygone inferit d'interre ou le contour du permier ne furpaffera muis la longueur de la circonférence, é accelui da condorter esti acirconférence e de cercle efit donc la mis de l'augmenzation du premier polygone, & da

Figure 6: D'Alembert and Limit Article.

tributor Sid Kolpas teamed with Stu Ockman on the crossword puzzle, "Here's Looking at Euclid." See all of these articles and more at www.maa.org/press/periodicals/convergence.

Interested in contributing? We'd love to hear from you at *convergence@maa.org*! *Convergence* publishes expository articles on the history of topics in the grades 8–16 mathematics curriculum; translations of primary sources; classroom activities, projects, or modules for using history to teach mathematics; and classroom testimonials after applications of such activities, projects, or modules. Guidelines for Authors may be found on the journal's website.

Janet Heine Barnett & Amy Ackerberg-Hastings

Michael Detlefsen (1948–2019)

It is with great sadness that we announce the passing on October 21, 2019, of our friend and colleague Michael ("Mic") Detlefsen. Mic had been on the faculty of the Philosophy Department at the University of Notre Dame since 1983, and since 2008 had held the McMahon-Hank Chair of Philosophy. Mic also held an appointment from 2007 to 2012 as Senior Chaire d'Excellence from the Agence Nationale de la Recherche (France), including an appointment as Distinguished Guest Professor at the University of Paris Diderot. At Notre Dame, Mic received the 2016 University Research Achievement Award in recognition of the impact of his research on the history and philosophy of mathematics and logic. He also received, in 2015, the Rev. James A. Burns, CSC, Award for exemplary contributions to graduate education, an award that recognized his years of service as the Director of Graduate Studies; his work in founding and maintaining Notre Dame's Joint Doctoral Program (with Notre Dame's Mathematics Department) in Logic and Foundations of Mathematics; and the many doctoral students he supervised. Mic was editor in chief of the *Notre Dame Journal of Formal Logic*, was the prime mover behind the first 20 years of the Midwest PhilMath Workshop, and was the founding president of the International Association for the Philosophy of Mathematics (PMA). Recently, Mic founded the Paris Intersem workshop, an annual seminar devoted to bringing together established scholars and students from around the world to work together in Paris on the philosophy of mathematics.

Mic's research focused on the foundations of mathematics, especially on deep investigations into the viability of foundational programs in the face of technical and philosophical challenges. Particularly important to him were the legacies of Hilbert, Brouwer, and Gödel. Mic argued that Gödel's incompleteness theorems do not offer an easy argument against the viability of Hilbert's Program, but instead point the way toward a deeper understanding of the central notions involved in that program, especially of the various conceptions of consistency and completeness that can be teased out of the interaction between Hilbert's goals and Gödel's results. Parts of this work appeared in his book Hilbert's Program (Reidel, 1986), and the project continued in more recent journal articles. In addition to writing his 1986 book and a long list of journal articles, Mic edited the volumes Proof, Logic and Formalization and Proof and Mathematical Knowledge (both Routledge, 1992). He was at work on several articles and two more books at the time of his death.

Mic was born on October 20, 1948, and grew up in Fremont, Nebraska, where his father was a meat inspector and his mother a homemaker. He attended Wheaton College (Illinois) on a football scholarship. While at Wheaton, he also worked as a garbage collector, an honest job that he was always proud to have had and that served as the source of a number of good stories. Mic did his doctoral work at Johns Hopkins University, writing a dissertation under Dale Gottlieb. He joined the faculty of the University of Minnesota Duluth in 1975, moving to Notre Dame eight years later. He also held visiting professorships at the University of Split (Croatia) and the University of Konstanz, in addition to the appointments in Paris. Mic had a long and happy marriage to Martha, with whom he tied the knot in 1969, and who survives him. Mic is also survived by their three children and six grandchildren, for whom Mic was the paradigmatic doting grandfather.

Mic was an excellent chef who enjoyed cooking for his friends, family and students. He was unfailingly generous with his time and talents, particularly to younger members of the profession in whose success he took special interest. His colleagues and friends, far and wide, feel his loss deeply.

Patricia Blanchette, Tim Bays, and Curtis Franks

From the Archives: Councillors

These lists were reconstructed from previous Newsletters/Bulletins and meeting minutes. Past Council members are presented in alphabetical order, in part to help readers see the large number of scholars who have served the Society, including those who have served multiple nonconsecutive terms. The editors welcome corrections. In particular, unlike the lists of officers (November 2019) and volunteer positions (May 2019) that appeared in previous issues, there are known gaps around 1982 and between 1992 and 1996. Careful readers may also notice that the Society has not always observed the two-term limit specified in the bylaws.

Abeles, Francine (ca 1988, 2004–2014) Ackerberg-Hastings, Amy (2002–2006) Adams, Rebecca (1998–2002) Archibald, Tom (1985–1989) Barbeau, Edward J. (1979–1981) Berggren, J. L. (1983–1984) Berry, John W. (1983–1984) Byers, V. (1978–1980) Charbonneau, Louis (1979–1981) Closs, M. (1979–1981) Crawford, William (1974–1975) Fauvel, John (1998–2000) Flower, Maureen (1976–1977) Fraser, Craig (1985–1987, 1998–2000, 2014–2018) Godard, Roger (2000–2002, 2004–2006) Grant, Hardy (1996–1998, 2000–2004) Gridgeman, Norman T. (1974–1976) Gupta, H. N. (1985–1987) Herz-Fishler, Roger (1985–1990) Higginson, William (1975–1976) Jones, Alexander (1998-2002)Jones, Charles V. (1989-1991)

Katz, Victor (1987–1991) Kleiner, Israel (1988-1990, 1996-1998, 2002-2004) Kunoff, Sharon (1996–1998) Landry, Elaine (2018–2020) Lavers, Gregory (2008–2014) Lefebvre, Jacques (1996–1998) Lehman, Hugh (1976–1977) Marquis, Jean-Pierre (2006–2008, 2014–2018) May, Kenneth O. (1975–1976) Melville, Duncan J. (2018–2020) Miller, B. A. (1983–1984) Moore, Gregory H. (1975–1976, 1987–1988) Muldoon, Martin (1991–1992) Nelson, E. (1978) Parshall, Karen Hunger (2014–2018) Perry, Andrew (2018–2020) Rice, Adrian (2002–2014) Schlomiuk, Norbert (1990–1991) Silverberg, Joel (2014–2018) Svitak, Sylvia (2006–2014) Tattersall, Jim (1991–1997) Thomas, Robert (1989–1991) Turgeon, J. (1978) Willard, R. D. (1983–1984) Ustina, Fred (1974–1975) Zach, Richard (2018–2020)

2020 CSHPM Nominating Committee Report

In keeping with the bylaws of CSHPM/SCHPM, the Nominating Committee (see undersigned) has contacted the following people who agreed to stand for the positions below. It is the recommendation of this committee that the following people should stand for election:

President: Craig Fraser, University of Toronto
Vice-President: Nicolas Fillion, Simon Fraser University
Secretary: Patricia Allaire, Queensborough Community College, CUNY
Treasurer: Greg Lavers, Concordia University
Council:
Duncan Melville, St. Lawrence University
Andrew Perry, Springfield College
Amy Shell-Gellasch, Eastern Michigan University
Richard Zach, University of Calgary
Members who wished to nominate themselves or an-

other member for any of the offices were asked via email to notify a member of the committee before 7 May 2020. After that date, the Secretary will distribute electronic ballots for electronic voting. Due to the cancellation of the 2020 AGM and the inability to print and mail paper copies of the *Bulletin* caused by closures of university campuses, voting by postal mail and hand delivery is impossible this year. Please note that only those who have paid membership for 2020 are eligible to vote.

We thank the candidates for their willingness to serve the Society. Terms are two years and thus run from June 2020 to May 2022. The other positions on the Executive Council (Past President, various editors, Webmaster, Archivist, CMS Liaison) do not require elections.

Chris Baltus, Dan Curtin, and Elaine Landry

Quotations in Context

"And perhaps, posterity will thank me for having shown it that the ancients did not know everything."

The French scholar and lawyer Pierre de Carcavi (1600–1684) held a number of different jobs during his career, which was capped off by two decades maintaining the Royal Library in Paris. He corresponded with many of the greatest mathematicians and scientists in Europe, including Descartes, Pascal, Torricelli, Roberval, Huygens, Leibniz and Galileo. Early in his career, Carcavi joined the Parliament of Toulouse in 1632, where he met Pierre de Fermat. Even after Carcavi left Toulouse for Paris in 1636, they both continued to correspond and Carcavi made many (unsuccessful) attempts to publish the mathematical manuscripts that Fermat shared with him.

In August of 1659, Fermat sent Carcavi a short letter entitled *Relation des nouvelles découvertes en la science des nombres*, which can be found on pages 213–216 of *Recherches sur les Manuscrits de Pierre de Fermat* by Charles Henry, published in Rome in 1880. In this letter, Fermat described his method of infinite descent, stating that at first he was able to use the method only to show negative results, such as the fact that if a right triangle has sides with whole number lengths, then the area of the triangle cannot be a square number. Fermat claimed that if such a triangle exists, then there would have to be a smaller triangle with the same property, and then an even smaller triangle, and so on, leading to a contradiction since whole numbers cannot be decreased indefinitely. Fermat intentionally did not justify his claim that if a right triangle with such a property existed, there would have to be a smaller triangle with the same property, stating both that the explanation would be too long, and that he wanted to keep mathematicians such as Pascal and Roberval guessing (page 214):

Je n'adjouste pas la raison d'ou j'infere que s'il y auoit un triangle rectangle de cette nature, il y en auroit un autre de mesme nature moindre que le premier, parce que le discours en seroit trop long, et que c'est la tout le mystere de ma method. Je seray bien aise que les Pascals et les Roberuals et tant d'autres scavants la cherchent sur mon indication.

Fermat stated that eventually he saw how to apply the method to positive assertions, and gave the example of the claim that any prime number which is one more than a multiple of four can be written as a sum of squares. Fermat again provided an outline of the argument, stating that if the prime could not be written as a sum of squares, there would have to be a smaller prime with the same property, and then a smaller such number, and so on until finally the prime was decreased to five, the smallest possible prime which is one more than a multiple of four. But $5 = 1^2 + 2^2$, which would be a contradiction. As before, Fermat did not provide the details for how one finds the smaller prime in each case of the descent.

Fermat included several more examples of problems that can be resolved using infinite descent, and concluded that he wrote this short summary because he feared he would never have the time to write a detailed account of the method. He expressed a hope that Carcavi would share the letter with other mathematicians, who might be inspired to master the method and publish a complete account themselves. It is at this point that the subject quotation of this column appears (page 216):

Et peut estre la posterité me scaura gré de luy avoir fait connoistre que les anciens n'ont pas tout sceu...

Mike Molinsky

2019 Financial Statements

The following financial statements cover the period 1/1/2019 through 31/12/2019.

Income	\$Can
Dues/Subscriptions	12,755.85
CFHSS speaker grant	650.00
TOTAL	$13,\!405.85$
Expenses	
Proceedings	2,405.47
Philosophia Mathematica	1,365.00
Historia Mathematica	6,413.26
SCIAMVS	560.00
BSHM reciprocal memberships	1,343.46
CFHSS dues for 2019	1,266.06
May Speaker	2,102.17
Student Travel	1,500.00
CUMC contribution	300.00
Postage, office expenses, Bulletin	40.96
PayPal service charge	412.92
Bank fees	57.92
TOTAL	17,767.22
NET	(4, 361.37)
Bank balance, $12/31/19$	28,624.59
PayPal balance, $12/31/19$	6,997.97
TD Mortgage Corporation GIC	4,440.43
TD Mortgage Corporation GIC	4,620.03
TOTAL ASSETS	44,683.02

Comments:

Hope you are all well in these strange times. The Society has three accounts: a TD Canada Trust account for Canadian funds (CDN), a TD Canada Trust account for American funds (USD), and a PayPal account (CDN). The two bank accounts are used to deposit income or pay expenses in the appropriate currency. For example, journal subscriptions are usually paid in US dollars. Memberships paid by cheque can be in CDN or USD. The PayPal account is used to collect membership dues and journal subscriptions via the Internet; the PayPal account is kept in Canadian dollars.

The numbers in the table above reflect combined figures for the accounts, presented in CDN. (Separated statements were provided to the Executive Council and are available from the Treasurer upon request.) A conversion factor of 1.30 has been used to convert USD to CDN, as that was the exchange rate on 31 December 2019. The first GIC fund earns interest at 1,80% and matures 16 September 2022; the second has a 1,35% rate and matures 10 April 2021. Both funds automatically renew.

On the whole, our assets have decreased since last year. Our Canadian account is down \$11,000, due nearly entirely to a large transfer to our US account (as almost all our expenses are in USD and our revenue in CDN). That said, our PayPal account had about \$1,000 more and our US account had about \$4,000 (USD) more. So we are down about \$5,000 Canadian year-to-year. There are two things to take into account.

First, the Elsevier expense for *Historia Mathematica* (HM) is high (by about \$2,300 USD) due to them sending an invoice toward the end of the year that included an amount previously paid. I have contacted them and they assure me they will straighten it out. I was hoping this would be settled by publication of the May 2020 Bulletin, but it is seeming to take a bit longer. They recognize that they received the first check I sent, and that it was cashed, but they can't track down to which account it was applied. They tell me they will get to the bottom of it, though. I expect this will eventually be applied to this year's order of HM. I will keep you updated. Second, the student prize has not been paid yet. This is \$1,000 CDN. The winner lives in Germany and can't cash a Canadian check. I wrote to him offering to send him a PayPal transfer, but never heard back.

Once these two things are settled, our accounts will show a loss in 2019 of about \$4,000 CDN. However, we continue to maintain a healthy reserve. We decided over the past few years to increase the student prize as well as to offer the student travel bursaries. This may lead to us losing a little money in the typical year.

Gregory Lavers

Martin Muldoon (1939–2019)

Martin Muldoon, a member of our Society for many years, passed away in Toronto on August 1 last year, after a short illness. He had been a mainstay of the Department of Mathematics at York University in Toronto for nearly 40 years.

Martin was born in County Mayo in 1939, and took Bachelor's and Master's degrees in mathematics at



Figure 7: Martin Muldoon (1939-2019)

the National University of Ireland Galway. He emigrated to Canada in 1960, where he completed his PhD in 1966, under Lee Lorch at the University of Edmonton, and started his career at York. Lorch joined him there, and they produced, singly and together, a formidable array of research papers in analysis, many on "special" functions—Bessel, Sturm-Liouville, gamma... Martin also served a stint as department chair.

Though his scholarly specialization was elsewhere he took a keen interest in the history of mathematics, and he often attended CSHPM meetings. In 1993 he gave a memorable talk, which to many listeners was a revelation, that the great Irish statesman Eamon de Valera "was unsuccessful in establishing a career in mathematics but continued to pursue it as a hobby throughout his long life." At York Martin was part of a departmental subgroup that campaigned successfully to increase the presence of history in the mathematics curriculum; the results were a third-year halfcourse, for math majors, on the history of their subject, and a full course, co-listed with the Humanities Division, on the role of mathematics in western cultural history.

Martin retired from York in 2003 but retained an active role in university life. Outside academia he was a keen supporter of Science for Peace, based in Toronto, which seeks "peace, justice and sustainability" through "nonviolent action, at home and abroad". He is survived by his wife, Jay, three daughters, and a grandson. He was gentle and quiet-spoken, but firm when occasion demanded; a friend described him as "a man of few words, but much presence." A twinkle in his eye hinted at a wonderful sense of humour. On the occasion of Martin's retirement Israel Kleiner, another long-time mainstay of mathematics at York (and another long-time CSHPMer), paid eloquent tribute: "Martin, you have been an inspiration—a model of decency, fairness, integrity and wisdom. We're lucky to have had you as a member of the dept. all these years." Those words sum up my own sentiments very well—I consider it a privilege to have enjoyed his company, as colleague and friend, for several decades. He was a very fine scholar, and a very good guy.

Additional obituaries may be found at York University (yfile.news.yorku.ca/2019/08/14/passings-martin-muldoon/) and Legacy.com (under the subdirectory /obituaries/theglobeandmail/obituary.aspx?pid=193602506).

Hardy Grant

Help (Still) Wanted

The Society is looking for two ongoing volunteers: Webmaster and *Bulletin* Content Editor.

The responsibilities of the Webmaster include hosting and maintaining the CSHPM website (www.cshpm. org), updating the online membership form each year, moderating the Council and Announcement list-servs, creating the online ballot for biennial elections, and supervising the CSHPM Facebook and Twitter accounts. For more information or to volunteer, contact Mike Molinsky, *michael.molinsky@maine.edu*.

The Content Editor collects announcements and other materials on an ongoing basis and maintains a list of items needed for each issue of the *Bulletin*. Twice a year, calls for contributions are sent to the Executive Council and general membership. It usually takes between 20 and 30 hours to lightly copyedit and add basic LaTeX formatting to all of the submissions and Society reports, and to write items as needed. The files are then sent to the Layout Editor. The Content Editor reviews proofs of each issue and transmits the final copy to the Production Editor and the Secretary. For more information or to volunteer, contact Amy Ackerberg-Hastings, *aackerbe@verizon.net*.

New Members

Congratulations to the following new members who have joined the Society since our last Bulletin. We look forward to your contributions. Maria Amuchastegui York University Toronto, ON Canada Leslie Digdon St. Mary's University Halifax, NS Canada Alan Richardson University of British Colombia Vancouver, BC Canada Jean-Louis Trudel Québec, QC Canada

From the Editor

Most of you are likely reading this issue at home, as stay-at-home orders and institutional closures show no signs of ending while I finish putting together materials. The team of volunteers who complete the Bulletin—Eisso Atzema, Layout Editor; Maria Zack, Production Editor; Pat Allaire, Secretary; and Mike Molinsky, Webmaster—appreciates the flexibility of those of you who would normally receive a print copy. Even though we will not be able to see each other in St Andrews until next year and have to do without an annual business meeting, we are fortunate to have had the foresight to amend the bylaws to permit online voting and seat a new Executive Council. (The PTAs in Maryland have no such capability, which means that the current officers have been instructed to persist in their positions indefinitely. My life as a parent is interesting in multiple ways at present.) Yet, while we are glad to be serving in a well-run professional society, our greatest desire is that every CSHPM member remains safe and healthy.

One of the themes of this issue is the variety of primary sources we might explore in our research. If you have a type of document or artifact that is particularly useful in your work, please consider writing about it for a future issue. Please also take some time to review our usual features for May, particularly the financial statements. I hope the reading materials as a whole help you feel connected to our community and offer some respite from the ongoing adjustments to our teaching practices and daily habits.

The next submission deadline for the Bulletin is 1 Oc-

tober 2020. As always, the editors seek news items of interest to historians and philosophers of mathematics, reports on conferences attended, and personal and professional announcements. We also welcome suggestions for memorials and informative or thoughtprovoking column-style articles. Our ongoing column series include:

- Models of Mathematics (using unique or eyecatching clothing or portraits as an entrance point into a historical mathematician),
- Off the Shelf (re-examination of classic or overlooked works in the history or philosophy of mathematics),
- Mathematical Ephemera (sightings of oddities in the history and philosophy of mathematics).

The preferred formats for submissions are Microsoft Word (please turn off its auto-formatting features such as "curly quotes") or LaTeX data files (not compiled PDFs). Submissions may be sent to *aackerbe@verizon.net*.

Amy Ackerberg-Hastings

About the Bulletin

The *Bulletin* is published each May and November by a team of 3 volunteers: Content Editor Amy Ackerberg-Hastings (aackerbe@verizon.net), Layout Editor Eisso Atzema (eisso.atzema@maine.edu), and Production Editor Maria Zack (Maria-Zack@pointloma.edu). Material without a byline or other attribution has been written by the editors. Les pages sont chaleureusement ouvertes aux textes soumis en français. Comments and suggestions are welcome and can be directed to any of the editors; submissions should be sent to Amy Ackerberg-Hastings at the above email address, or by postal mail to 5908 Halsey Road, Rockville, MD 20851, USA.

