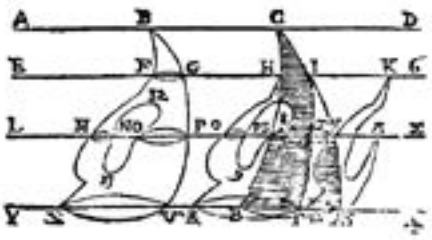
BULLETIN

CSHPM SCHPM



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WHAT'S INSIDE

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: **Nicolas Fillion**, Simon Fraser University, Burnaby, BC CV5A 1S6, CAN `nfillion@sfu.ca`
Vice-President: **Robert Bradley**, Adelphi University, Garden City, NY 11530, USA, `bradley@adelphi.edu`
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Volunteer Positions

The Society's Web Page (`www.cshpm.org`) is maintained by **Eisso Atzema**, University of Maine, Orono, ME 04469, USA, `eisso.atzema@maine.edu`; he also manages the Society's Archives. CSHPM *Annals* volumes are edited by **Maria Zack**, Point Loma Nazarene University, San Diego, CA 92106, USA, `MariaZack@pointloma.edu`, and **David Waszek**, Montréal, QC, H2H 2C9, CAN, `david.waszek@posteo.net`. The *Bulletin* is prepared by Interim Content Editor **Amy Ackerberg-Hastings**, Rockville, MD 20851, USA, `aackerbe@verizon.net`, Layout Editor **Eisso Atzema** (see above), and Production Editor **Maria Zack** (see above). **Amy Ackerberg-Hastings** (see above) and **vacant** edit the CSHPM Notes column for *Notes* of the Canadian Mathematical Society. **Nic Fillion** is temporarily serving as CMS Liaison.

New Members are most cordially welcome; please contact the Secretary.

President's Message

The CSHPM is proud to be celebrating its 50 years of existence. Our members love mathematics, be it classical or intuitionist, and our semi-century of existence has accordingly proved to be constructive! The exceptional range of interests and perspectives of CSHPM members continues to make the association a uniquely stimulating research forum. Since its creation, the CSHPM has organized activities providing a tribune for eclectic scholars that defy traditional disciplinary boundaries with one overarching motivation: pursue our love of mathematics—be it its theories, its traditions, its foundations, its practices, or its practitioners.

Figure 1: Kailyn Prichard at CSHPM 2023

Last year's annual meeting was held at York University and was well attended. Our Special Session on *Underrepresented Mathematics (in the History and Philosophy of Mathematics)* organized by Amy Ackerberg-Hastings was successful, and led to a rich discussion of the various ways in which mathematical activity is quintessentially human. This year's

annual meeting will be held at McGill University in the exciting city of Montréal, metropolis of *la belle province*, on June 15–17. Our Special Session will celebrate the history of our association, with a session entitled "CSHPM at 50: Looking Back, Looking Ahead."

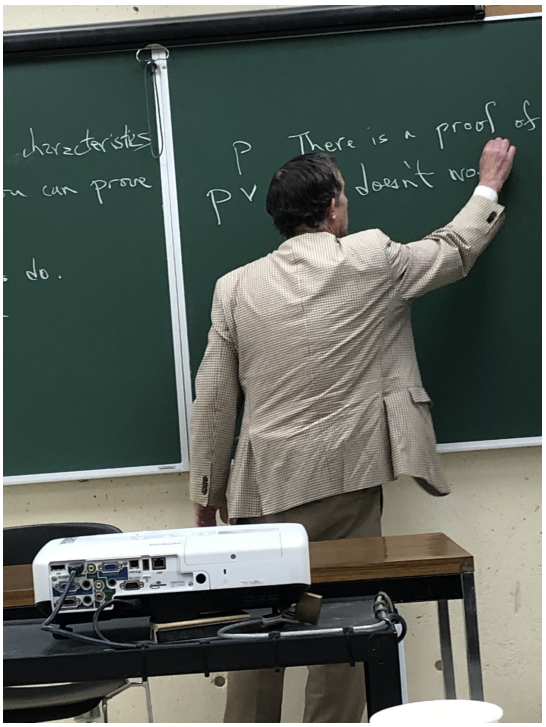


Figure 2: Tom Drucker at CSHPM 2023

As usual, graduate students are particularly encouraged to submit a proposal to present at our Annual Meeting. Young scholars may be too young to recount salient events in CSHPM's history, but your current work on the history and/or philosophy of mathematics will be the first step in its future! We are pleased to announce that financial support will be available for at least some graduate students. Our objective is to offer fertile grounds for original thinking about mathematics, and we hope that you will join us!

The CSHPM also has a tradition of closely interacting with the CMS, the CSHPS, and the HOM & POM SIGMAAs of the MAA, and it continues to host an online colloquium series. Make sure to keep your membership updated to receive information about all the available opportunities! As the CSHPM has one of the most affordable memberships, also encourage your colleagues and students to join the Society so that they can collect the rewards, too!

All the best for the ongoing academic year,
Nicolas Fillion

Announcements

Congratulations to new grandparents Craig Fraser and Alison Brannen! Leon arrived June 26, 2023, weighing 7 lb, 8 oz.

The long-awaited translation of and commentary on *The* Spherics *of Theodosios* by Robert Thomas and Nathan Sidoli is now available from Routledge. See `www.routledge.com/9780367557300`.

The Flawed Genius of William Playfair: The Story of the Father of Statistical Graphics, by David Bellhouse, is available from the University of Toronto Press. See `utorontopress.com/9781487545048/`.

The CSHPM Colloquium welcomed speakers Mélanie Frappier, "'Minding the Gap': Sophie Germain and the relation between mathematics, philosophy of mind, and gender equality," on July 21; and Jessie Hall, " Computing machines and the implementation of abstract automata," on September 22.

CSHPM Notes columns may always be found at `notes.math.ca` and at `www.cshpm.org/archives/cmsnotescolumn.php`. Entries published in 2023 include: Amy Shell-Gellasch, "Catching the Eye: Using Images to Bring History to Life in the Classroom" ; Craig Fraser, "The Birth of Modern Cosmology" ; Amy Ackerberg-Hastings, "When Organizational Histories, Anniversaries, and Women in STEM Intersect" ; Jessie Hall, "Computing Machines and the Philosophy of Mind" ; Eugene Boman and Robert Rogers, "Teaching Calculus Through History's Lens" ; and Christopher Baltus, "Geometric Transformations 1800–1855."

Submissions for CSHPM's 2024 volume of *Annals* may be sent to *mzack@pointloma.edu* at any time, but no later than October 1, 2024. Authors must be members of CSHPM, and the paper must be about the history of mathematics, the philosophy of mathematics, or the use of either history or philosophy in the teaching of mathematics.

Brigitte Stenhouse was awarded a 2023 DHST Dissertation Prize from the International Union of History and Philosophy of Science and Technology for "Mary Somerville: Being and Becoming a Mathematician," supervised by June Barrow-Green.

During JMM 2024, the Albert Leon Whiteman Prize of the American Mathematical Society will be presented to Leo Corry of Tel Aviv University and the Open University of Israel.

Peace to the memories of Canadian philosopher of science and cross-disciplinary scholar Ian Hacking (1936–2023), historian of astronomy and designer of educational instruments Owen Gingerich (1930–2023), feminist historian and philosopher of science Evelyn Fox Keller (1936–2023), and mathematician Patricia Clark Kenschaft (1940–2022). Natalie Zemon Davis (1928–2023), widow of 2006 May Lecturer Chandler Davis and a prominent cultural historian, died on October 21. 2003 May Lecturer Jim Bennett (1947–2023) passed away on October 28. Read about the many reasons he was beloved in the scientific instruments community at `www.hps.cam.ac.uk/news-events/jim-bennett`.

BSHM News: Brigitte Stenhouse organized an online quiz for International Pi Day on March 14. She and June Barrow-Green participated in LMS Education Day: Diversifying the Mathematics Undergraduate Curriculum on May 24. Robin Wilson presented "Connecting the Dots: Milestones in Graph Theory" at Gresham College on June 13. The Isaac Newton Institute-funded "History for Diversity in Mathematics Network" held focus groups between August and October. The annual Gresham afternoon was October 18 and featured the theme "Astronomy and the Forging of Mathematical Communities." See more news and events at `www.bshm.ac.uk/`.

CPA News: The following statement was issued on June 30: "The Canadian Philosophical Association stands united in empathetic solidarity with the professor and the students of Philosophy 202: Gender Issues, at the University of Waterloo. We are horrified by the attack that occurred in a Philosophy classroom on June 28, 2023. Hatred and violence have no place in any classroom.

"Our Executive Committee, Board of Directors, and general membership will be active, visible, and loud participants in the counter-demonstrations that will ensue, on university campuses across Canada and beyond. We aim to be a positive, driving force within vitally important conversations about how to prevent any such incidents in the future.

"We are especially mindful of, concerned about, and supportive of Canadian philosophers who teach and research in the areas of gender studies, equity, diversity, and inclusivity—and the various others, in Philosophy and other academic disciplines, whose work renders them vulnerable to hatred, abuse, and violence. We will not be silenced, and we will continue to carry out our work."

FedCan News: Grants from the Government of Canada for cutting-edge research announced in August 2023 include $45.7 million in SSHRC Partnership Grants, $14 million in Partnership Development Grants, and $90 million toward the SSHRC Insight Research Program. On October 5, the Federation sent an open letter to Prime Minister Justin Trudeau and others calling for new investment in Canada's graduate students and postdoctoral scholars in all disciplines.

HOM SIGMAA News: This past spring, the SIGMAA continued its Virtual Speaker Series with an excellent talk by Colm Mulcahy (Spelman), "The Annals of Irish Mathematics: Trying to Track Four Centuries of Mathematical Activity." If you have any suggestions for the series (now collaborating with CSHPM's Online Colloquium!), please contact Program Coordinator Jemma Lorenat. Antonia Cardwell, Electronic Resources Coordinator, is soliciting History of Mathematics course outlines and library resources.

HOM SIGMAA is pleased to announce the first annual Al-Khwarizmi Student Paper Contest. Submissions are due to Abdel Naser Al-Hasan, *naser.alhasan@newberry.edu*, or Noah Aydin, *aydinn@kenyon.edu*, by November 17, 2023. Submissions for the 21st Student Paper Contest on the History of Mathematics are due to Amy Shell-Gellasch, *ashellge@emich.edu* by April 30, 2024. Student travel grants up to $250–350 for presenting papers or posters in the history of mathematics are available. Find more information, along with current and previous newsletters, on the website, `homsigmaa.net/`.

HSS News: History of mathematics on the program at the 2023 annual meeting in November includes the session, "Exclusion, Adaptation, and Expansion: Defining Standards in Mathematics and its History," sponsored by the Forum on the History of the Mathematical Sciences. FoHoMS will hold its annual business meeting just before the session. The Sarton Medal will be presented to Ted Porter for his transformation of the history of statistics and statistical practice and other career achievements. Projit

Bihari Mukharji, Elise K. Burton, and Pablo Gómez (Book Reviews) will be the next editorial team of *Isis*.

Conferences, Talks, & Workshops

The first Workshop on Aristotelian Philosophy of Mathematics, organized by Ryan Miller of the Université de Genève, was held June 15, 2023. Information about the field can be found in PhilPapers (category "Mathematical Aristotelianism"), *Wikipedia* ("Aristotelian Realist Philosophy of Mathematics"), and a YouTube playlist for the conference.

"Mathematics, Language, and the Moral Sense of Nature" and the 6th Irish History of Mathematics Conference were held at Maynooth University, August 30–September 1, 2023.

The ORESME Reading Group met September 22–23 at Xavier University to celebrate the 400th anniversary of the birth of Blaise Pascal by reading his *Traité du triangle arithmétique* (1665). See `www.exhibit.xavier.edu/oresme/` for information on past and future events.

A conference on Blaise Pascal's Legacy: Calculating Machines, Calculators was held September 28–29, 2023, in Clermont-Ferrand, France. See the full program at `ancmeca.org/wp-content/uploads/2023/08/Programme-GB-OK-New.pdf`.

The theme for the International Day of Mathematics (March 14, 2024) is "Playing with Maths."

The 15th International Congress on Mathematics Education (ICME-15) will be held in Sydney, Australia, July 7–14, 2024. A Survey Report will be presented on "Mathematics education and Indigenous perspectives." Daniel Chazan, Edward Doolittle, Ioannis Papadopoulos, and Nathalie Sinclair are among the invited lecturers. Topic Study Groups include "Ethnomathematics and First Nations/Indigenous people's mathematics and mathematics education,"‘"The role of the history of mathematics in mathematics education," and "Philosophy of mathematics and mathematics education." Discussion Group and Workshop proposals remain open until December 31.

The World Congress of Philosophy will take place in Rome, August 1–8, 2024. See `wcprome2024.com`.

The 27th International Congress of History of Science and Technology will have a hybrid format, with the in-person portion at the University of Otago, June 29–July 5, 2025. The theme is "Peoples, Places, Exchanges, and Circulation." Proposals for symposia are due by April 1, 2024.

The 4th Mathematical Congress of the Americas will be held in Miami, July 21–25, 2025.

The next International Congress of Mathematicians, ICM 2026, will be held in Philadelphia, June 23–30, 2026. The IMU General Assembly will precede the Congress in New York City, June 20–21. See `icm2026.org`.

Publications

The American Mathematical Society published two books based on primary historical sources as part of the Classroom Resource Materials series of the MAA Press imprint: *Number Theory Through the Eyes of Sophie Germain: An Inquiry Course*, by David Pengelley; and *Teaching and Learning with Primary Source Projects: Real Analysis, Topology, and Complex Variables*, edited by Janet Heine Barnett, David K. Ruch and Nicholas A. Scoville.

Deborah Kent and Alisz Reed observed the 500th anniversary of the publication of the first mathematical text in England in 2022 with their article in the May 2023 *Newsletter of the London Mathematical Society*, "Practical Mathematics and Latin eloquence: *De Arte Supputandi*, the First Mathematics Book Printed in England" (pp. 18–23). See `www.lms.ac.uk/sites/default/files/inline-files/NLMS_506_for%20web2_0.pdf`.

"Cultural Studies in Science Education: A philosophical Appraisal" was published open-access by Michael R. Matthews in the May 2023 issue of *Cultures of Science*.

"Investigating How Prospective Mathematics Teachers Prepare History Integrated Lesson Plans with Assessing Historical Elements in Mathematics Textbooks," by D. Girit-Yildiz and F. Ulusoy, appeared on *International Journal of Science and Mathematics Education* in 2023. See `doi.org/10.1007/s10763-023-10375-w`.

Deck 2 in the Association for Women in Mathematics' EvenQuads playing cards honoring women mathematicians will be available for purchase soon. See `awm-math.org/`.

Philosophy of Science has posted an open-access collection of articles for its 90th anniversary.

Royal Society Publishing has launched "Science in the making," which offers access to 30,000 archival records related to the Society's 400-year history of publishing.

See makingscience.royalsociety.org/.

The Eighteenth-Century Libraries Online Database continues to grow, with over 90,000 borrowing records from before 1801, 33,000 library holding records, and 15,000 people. The database will be open-access when it is complete.

Also open-access are primary source activities for classroom use from Jisc Historical Texts, sponsored by EEBO, ECCO, the UK Medical Heritage Library, and the British Library 19th-Century Collections. A search for "mathematics" returned 23,863 hits. See historicaltexts.jisc.ac.uk/.

The "Tools of Knowledge" Zooniverse crowdsourcing transcription project is working on the Royal Navy's Admiralty Chronometer Ledgers held at the Royal Observatory Greenwich. See toolsofknowledge.org/2023/05/10/join-us-on-a-voyage-in-time/.

The Spring 2023 issue of *Science Museum Journal* is available.

H-NET 3.0 launched on July 5, 2023.

Funding Opportunities

The Scientific Instrument Society awards grants up to £750 for research on the history of scientific instruments. Applications are due January 5, 2024. See scientificinstrumentsociety.org/.

A consortium of Science Museum Group, BT Group Archives, Royal Botanic Gardens Kew, Royal Geometrical Society with IBG, and the Royal Society of London will support 9 doctoral studentships over three years. See www.sciencemuseumgroup.org.uk/our-work/research-public-history/collaborative-doctoral-awards/.

Each September, the Bibliographical Society of America receives applications for its New Scholars Program, which includes a $1,000 cash award and $500 travel stipend.

Ashley Sanders (UCLA) and Jessica Otis (George Mason) have received an NEH grant to create a series of workshops, "Mathematical Humanists," that will teach humanist scholars about the mathematical concepts underlying common digital humanities methods.

New Primary Sources Teaching Cohort

The Nurturing Mathematical Discourse by Teaching with Primary Sources initiative cordially invites faculty at U.S. institutions to apply for a year-long fellowship opportunity in 2024–2025. For more details, see sites.google.com/msu.edu/edwards/nurturing-discourse.

Pending NSF funding, this will be the first of three fellowship cohorts taking part in an investigation of whether and how classroom use of primary historical sources in undergraduate mathematics courses affects both instructors and students. Faculty who may wish to join a later cohort are also strongly encouraged to register their interest in the fellowship at this time.

Many of you have already witnessed first-hand the exciting benefits of engaging students with primary historical sources as part of their mathematical learning experiences, perhaps by using a primary source project (PSP) such as those found in the TRansforming Instruction in Undergraduate Mathematics via Primary Historical Sources (TRIUMPHS, blogs.ursinus.edu/triumphs/) collection. Inspired by our own participation in the TRIUMPHS project, the Nurturing Mathematical Discourse by Teaching with Primary Sources initiative seeks both experienced and novice users of PSPs who wish to explore how their classroom use of PSPs can help students to find their own mathematical voices and to persist in STEM degrees by developing fluency in mathematical discourse.

Participants in the first fellowship cohort will enjoy an in-person workshop at Michigan State University focused on teaching mathematics using PSPs with the goal of enhancing classroom discourse about mathematics. During the subsequent academic year, participants will implement PSPs in their classes, assist in collecting data on classroom mathematical discourse, and participate in online professional-development sessions with other fellows and experienced mentors. Fellows will receive a stipend for participation as well as all travel costs associated with attending the summer workshop in East Lansing (sometimes known as the "Paris of the Midwest").

Applications are now being accepted and we will seek letters of intent from fellows by December 15, 2023, for participation in the 2024–2025 cohort. As previously noted, faculty who wish to join a later cohort are also strongly encouraged to register their interest at this time. We are especially seeking faculty who will be teaching courses in the calculus sequence.

If you would like to participate, or want more informa-

tion about this professional development opportunity, please contact Abe Edwards at *aedwards@msu.edu.*

Abe Edwards

2023 Gung and Hu Awardee: Victor Katz

The Yueh-Gin Gung and Dr. Charles Y. Hu Award for Distinguished Service to Mathematics is the most prestigious award for service offered by the MAA. It is to be made for service to mathematics that has been widely recognized as extraordinarily successful. The period of service may be long or short, and the award may be made on the basis of one or several activities. The contribution should be such as to influence the field of mathematics or mathematical education in a significant and positive way on a national scale. This year's recipient was Victor J. Katz, Professor of Mathematics emeritus at the University of the District of Columbia (UDC). Excerpts from the citation and response that appeared in the awards booklet are reprinted below.

Figure 3: Victor Katz

Victor Katz is widely recognized as a top scholar in the history of mathematics. The award committee honored him for the way he leveraged this exceptional scholarship in the service of mathematics. In particular, Katz's work has served a generation of teachers and students by repositioning the role of historical perspectives in mathematics education, revealing the human face of our field. It has also served the larger mathematical community by creating and organizing materials to show that mathematics is a multicultural enterprise that involves all humanity.

An early sign that Katz was poised to influence a generation is the reception of his text, *A History of Mathematics: An Introduction*, first published in 1992. This text, written after he had taught the history of mathematics for many years at UDC, showed the influence of his students who came from many places around the world. About to appear in its fourth edition, the book won the Watson Davis Prize of the History of Science Society in 1995. Already we see a commitment to highlighting non-Western contributions to mathematics. Perhaps the most significant of Katz's service contributions was founding the Institute for the History of Mathematics and Its Use in Teaching (IHMT) with Fred Rickey and Steven Schot, funded by an NSF grant initially obtained in 1995. The institute produced several cohorts of teachers trained to develop their own courses on the history of mathematics. It is not too strong to say that this institute changed the way the subject is taught.

While the first rounds of IHMT focused primarily on teaching a history course, Katz's continued success winning NSF grants expanded the program to include secondary teachers and facilitated bringing historical materials into any mathematics course, thus humanizing mathematics. In the IHMT project and in Katz's widely adopted text, non-Western perspectives on the history of mathematics play a strong role. A further sequence of sourcebooks amplified this theme: *The Mathematics of Egypt, Mesopotamia, China, India, and Islam* (Princeton University Press, 2007) and *Sourcebook in the Mathematics of Medieval Europe and North Africa* (Princeton University Press, 2017). In a time when we want to show that mathematics is not just something inherited from European thinkers, these materials are invaluable.

Victor responded, "It is a great honor to be recognized by the MAA through this award. But the accomplishments cited could never have been done without the assistance of numerous people. First and foremost, it was my wife Phyllis who encouraged me to write the textbook in the history of mathematics, when a publisher asked me to do so after rejecting my submission of a text teaching secondary mathematics using history. She has continued to support and encourage me in so many aspects of my career. Among the many historians of mathematics who were influential in my thinking about the history of mathemat-

ics were Ubiratan D'Ambrosio, Marcia Ascher, Joseph Dauben, Barnabas Hughes, Karen Parshall, and Uta Merzbach. And many people were influential in the creation and success of IHMT, including Fred Rickey, Florence Fasanelli, Marcia Sward, and Tina Straley. I also want to thank all of the participants in IHMT, many of whom continue to contribute to teaching the history of mathematics and its use in the classroom after many years. As to *Convergence*, it was created through a grant to the MAA, with myself and Frank Swetz as the original editors. But much of its success is due to the editors who followed, Janet Beery, Janet Barnett, and Amy Ackerberg-Hastings, to each of whom I extend my profound thanks and appreciation. I look forward to many more years of watching so many people humanize the teaching of mathematics through its history."

Hardy Grant (1939–2023)

Hardy Grant's death on the 19th of September came as a blow to many members of the Society. This is not intended as an obituary—a death notice from the family is forthcoming to several Canadian media outlets. It is rather a set of personal recollections of a friend who could describe himself with the words '*Homo sum: humani nihil a me alienum puto.*'

Figure 4: Hardy Grant in 2010

Before starting on the personalia, let me mention a few basic facts. He was born on 8 October 1939 and received his mathematical education at Queen's and McGill. He taught at York University in Toronto for many years, retiring in the late 1990s. He joined the CSHPM by 1991, co-editing the *Proceedings* that year. He was a member of the Executive Council on more than one occasion and edited the *Bulletin* both singly and in cooperation with Sharon Kunoff. In 2010, he delivered the May Lecture, "Mathematics and the Liberal Arts: The Beginnings." His book, *Turning Points in the History of Mathematics*, written with his longtime York colleague Israel Kleiner, was published by Birkhäuser in 2015. His work in editing the column written by Society members for the Canadian Mathematical Society's *Notes* in conjunction with Amy Ackerberg-Hastings continued up until the time of his death. He suffered a massive stroke on the 13th of September and never recovered consciousness.

My wife and I do the Wordle puzzle from the *New York Times* every day. Hardy and I used to discuss strategies and tricky situations in which the would-be solver could be embroiled. When my wife and I got to 100 consecutive days of correct solutions, I knew that Hardy would have been interested, but the ears were senseless that should have given hearing to the news.

The day after hearing of Hardy's death I managed to do the crossword puzzle in the *New Yorker* reasonably quickly. I couldn't help being reminded of his skill in solving the British style of crossword puzzle, which is at a significantly higher level of difficulty. I had posed him one of that sort a couple of months before and he was working his way through it. I am sorry not to have been able to give him the final solution, although he had already made his way through much of it. Hardy was also a zealous bridge player, and he was grateful for the opportunity to play remotely when local foursomes were ruled out during the pandemic.

The Gilbert and Sullivan company of New York sent out a plug for their upcoming production of *Patience* about that time. Pat Allaire and I agreed that our first reaction was to see what Hardy thought of it. He was a devotee, not just of Gilbert and Sullivan, but of operettas in a variety of languages from the period close to the turn of the 20th century. Another feature of technology for which he was grateful was the availability on YouTube of versions of light opera that would be hard to find in any company's current repertoire. He also enjoyed musical theatre and frequently salted his correspondence with lines from popular songs of generations ago.

Hardy was a loyal correspondent, and his electronic messages always offered material for consideration. About the only things that would slow down his rate of response were time spent with relatives and important events on the sporting scene. He could keep me

informed about developments in hockey and baseball, and we could talk about the accomplishments of tennis players representing Canada. Even when a player had dropped out of the top hundred in the rankings, Hardy did not lose interest.

There are different ways of expressing patriotism, but Hardy always struck me as a model Canadian citizen. He was well informed about his country's history and could use the lessons of the past as a means for judging the present. While he was appalled at some of the actions of the Harper government, he did not give the Trudeau *fils* regime a free ride. He was especially concerned with displays of trying to cozy up with dictatorships around the globe. Human rights were a cause to the promotion of which he was indefatigable.

When it came to other parts of the globe, Hardy was no slouch. When he could travel, he did so, and took in countries in hemispheres north and south, east and west. What is more, rather than just playing the tourist and seeing the sights, he was eager to get to know people and to try to understand their view of the world. He remained a friend and correspondent of those he had been able to meet many years after his travels became limited by knees that required replacement. While I was living in Pennsylvania, he paid me a visit en route to a conference in Charlottesville, Virginia. When I was attending a conference in San Francisco, he took a lunch break and came down with me to the Peninsula to meet my father. While the latter's hearing was already not of the best, Hardy spoke warmly in subsequent years about the opportunity to have heard about my father's life and professional career.

During Hardy's years of teaching at York University, he was best known for his course on the humanistic side of mathematics. That was a topic of boundless interest to him, and he did not restrict his curiosity to any period or place. When he spoke about Greek mathematics, he saw it as a part of Greek civilization rather than a collection of technical results. Of course, it helped that he had more than a nodding acquaintance with the history of so many regions and their culture.

If there was one skill that Hardy brought to his professional work in abundance, it was his concern for language. He was always interested in what one had to say in print, but he did not mind taking issue with the way in which one had said it. That made him an invaluable collaborator with Abe Shenitzer and Israel Kleiner, to say nothing of those whose contributions to the CMS *Notes* he edited. There were times when he would resign himself to a usage of which he did not approve, but it usually took a good deal of persuasion (and perhaps the citation of an example from an author whom Hardy respected).

Hardy's interest in my friends and family was a constant theme of his correspondence. He did not always go on at length about his own family or friends, but he had a remarkable knack for staying in touch with those with whom he had once gone to school. It was also the case that while my sister and I were trying to figure out the best way of providing care for our father as he suffered from dementia, Hardy would mention some of the challenges that he and his younger sister, Kathy, faced in providing similar care for their older sister, Nancy. (*Editor's Note:* Hardy was also survived by two nephews, their wives, and multiple great-nieces and -nephews.)

I carry a Canadian ten dollar bill in my wallet as a souvenir of Hardy. After my most recent trip to York for a Society meeting, I came back with the bill bearing an image of Viola Desmond. When I looked her up, I saw that she had played somewhat the same role in Canada as Rosa Parks had played in the United States. When I asked Hardy about how well she was known by young Canadians, he expressed the suspicion that she was not as well known as she deserved. He also asked me how well Rosa Parks is known in the United States, and this sort of *tu quoque* was a frequent feature of our conversation.

I am saddened by not having had the chance to see Hardy for the last few years of his life and being dependent on correspondence. One final example of his thoughtfulness comes to mind every time I look at my bookshelves. Hardy was aware of my interest in the work of Jorge Luis Borges and brought back a copy of Borges's *Atlas* from one of his trips. What lends this copy some distinction is that he picked it up at the Boutique del Libro in Tierra del Fuego, the southernmost bookstore on the globe of which either of us was aware. I think it fitting to have Hardy's memory brought to mind by any sort of atlas, when he was someone who could be so much a citizen of the globe on which we live and the intellectual world to which we devote our attention. Hardy, *ave atque vale*!

Tom Drucker

At the 1992 meeting of the Society in Charlottetown, at which it kindly adopted *Philosophia Mathematica* as its philosophical journal, Abe Shenitzer and Hardy Grant made me an offer I couldn't refuse. Disappointed by the poor English appearing in many scholarly journals, they volunteered to help with the language of non-English speakers. I would send something in questionable English to Abe, who would do whatever surgery he felt was necessary and pass it to Hardy, who did a second pass on it. By the time the copyeditor and I had also looked at it, most things weren't bad. The arrangement lasted in that form for as long as Abe was up to it, and then Hardy did it on his own. He did the last thing, a Belgian book review of a French book, in August of 2023. One French philosopher, whom Hardy helped out more than once, wrote that he wished he could write the English he was publishing in *PM*. This seems the time and place to acknowledge gratefully over thirty years of volunteer work done for the scholarly community.

Robert Thomas

Hardy has been such a constant and caring part of our community for so long. He will be sorely missed.

Amy Shell-Gellasch

My special recollection of Hardy is advice he gave me the very first time I met him. I believe he had just retired. He suggested to me that I retire the first moment I could because those first retirement years would be the best. Over the years, our correspondence was often about his travels, and then, when he no longer could, it was often about my travels. Of late, we shared Wordle tips. Hardy's advice turned out to be excellent advice indeed; those first retirement years were the best for him and for me.

Pat Allaire

I feel very sorry by the loss of Hardy Grant. With Israel Kleiner, he has represented York University very well for our society. We shall miss him deeply.

Roger Godard

Hardy and I made two memorable trips together. We went to a conference about the year 1759 (a very specific topic) held in Belfast. We also went to a conference in Wellington, New Zealand (renting an apartment for the week). Hardy loved seeing all of the sights in these cities. Among other sights, I will always remember our visiting the Giant's Causeway outside Belfast and the Te Māra a Tāne wildlife sanctuary in Wellington. Hardy was a wonderful friend and a great traveling companion.

Larry D'Antonio

Hardy was well known to me (and the whole North American history of math community) for well over 20 years—probably over 25, actually—during which time I enjoyed his congenial company and his thoughtful conversation, as well as benefitted from his wide erudition on many occasions. It is hard to imagine the CSHPM without him.

Adrian Rice

Hardy was one of those rare scholars who combined rigour of thought with infinite collegiality and kindness. He was a very important mentor to me, perhaps more than he realized, in the way that he pursued knowledge and insight with a deep sense of grace and respect, for both his historical actors and his academic colleagues. I will miss him a lot.

Glen Van Brummelen

Hardy's friends were as many and varied as the range of interests he enjoyed, and he truly treasured the relationships and connections he made throughout his life. As well as a feeling of sadness, hopefully the news of his death will trigger in those who knew Hardy well a pleasant memory or two of moments spent with him: an engaging conversation (on any topic under the sun); a shared adventure (during organized trips or an afternoon's trek along a local nature trail); a gathering for a convivial dinner at a conference; or just a very ordinary happening that felt a little more interesting by his engaging presence. Added to all of his encounters with anyone was a graciousness of manner that seemed to come naturally, and only very rarely deserted him. And although his death has come much too soon for his family, we who proudly claim to have known him best are left with a lasting belief—for every one of us, from the oldest to the youngest—that he had a very compelling way of making everything—quite simply—just a little more—special.

Kathryn Wallace, Hardy's younger sister

Hardy's last email to me on the morning of September 13 (the day of his stroke) included the following remarks: "But with characteristic perversity :-) I'll again disagree . . . on mortality. Our dying may indeed be a "burden", but that's NOT the same thing as being a "mystery"—I don't know why [French anthropologist Claude Lévi-Strauss] conflates the two things! A

"mystery", by definition, needs explanation, but mortality does not: we understand how and why it occurs. For me the greater mystery by far is our being here at all: whence sprang the universe? Was it Leibniz who pondered the riddle that anything at all exists? That's the one we'll never solve." Very well said, I think. So, so sad that Hardy is gone.

Craig Fraser

Messages of condolence for the family may be directed to Kathryn Wallace at *jkathrynwallace@yahoo.com*.

CSHPM is Turning 50!

In 2024, the Canadian Society for History and Philosophy of Mathematics will mark its 50th anniversary, having formally established itself on 3 June 1974 during the Learneds (now Congress) at the University of Toronto. Please join us at McGill University in Montréal 15–17 June 2024 to celebrate in person.

CSHPM/SCHPM 14th ANNUAL MEETING
UNIVERSITY OF WINDSOR, ONTARIO
May 29 - June 2, 1988

Table of Contents

Figure 5: Table of Contents for first *Proceedings*

It would be great to have a party that lasts all year, but your help is needed. In addition to submitting an abstract and traveling to Congress in June, here are some specific opportunities for volunteering your time and talents:

- Review abstract submissions for the annual meeting.
- Assist with coordinating the "Looking Back" portion of the special session.
- Assist with coordinating the "Looking Ahead" portion of the special session.
- Organize an in-person or virtual social event (e.g., birthday cake or an excursion in Montréal).
- Share photos, brief reflections (200–1000 words), or other contributions related to your experiences in CSHPM with the *Bulletin*.
- Prepare a CSHPM Notes column that, for instance, explores any aspect of the philosophy or history of CSHPM, compares CSHPM with other societies, or discusses other anniversaries occurring in 2024 (those identified by David Orenstein before his illness include the overlapping British Association for the Advancement of Science and International Congress of Mathematicians meetings in Toronto in August 1924 and the 1974 Vancouver ICM). A potential Notes piece should be 1200–1800 words long, include images if possible, and be accessible to a general audience of mathematicians.
- Encourage colleagues to become active in CSHPM so the Society thrives for its next 50 years.

Contact Maria Zack, *mariazack@pointloma.edu*, to assist with planning the meeting. Ideas for social events or other ways of marking CSHPM's anniversary can be directed to the Council. Submissions for the CSHPM *Bulletin* or Notes can be sent to Amy Ackerberg-Hastings, *aackerbe@verizon.net*, who is happy to talk about ideas and answer questions any time. Deadlines for the *Bulletin* are April 1 and October 1. Drafts for CSHPM Notes should be completed by February 1, April 1, July 1, August 15, or October 1.

TRIUMPHS Society Established

The founding members of the TRIUMPHS Society, TRansforming Instruction: Understanding Mathematics via Primary Historical Sources, announced its official launch earlier this year. The aims of this new society are to:

- bring together practitioners and others interested in the use of primary historical sources in the teaching and learning of mathematics;
- encourage and support the development and use of classroom resources based on primary historical sources;
- share teaching experiences and publicize research based on the implementation of such resources; and

- promote the proliferation of primary source-based pedagogy in mathematics through conversation and professional development.

Figure 6: Founding members of the TRIUMPHS Society

Founding members include Adam E. Parker, Michael P. Saclolo, Kathleen M. Clark, Mark Watford, Kenneth M Monks, Daniel E. Otero, Dominic Klyye, and Janet Heine Barnett.

Through its peer-reviewed journal, *The Annals of the TRIUMPHS Society*, the society intends to publish Primary Source Projects (PSPs) and similar classroom-ready materials designed to teach specific mathematical topics by engaging students with excerpts from primary historical sources, artifacts related to the development of such projects, and articles on scholarship related to the use of such materials. If a topic is related to teaching and learning mathematics with primary historical sources, then it is potentially of interest to the journal. The *Annals* editorial board is currently working to establish a home for the journal. The first issue of the *Annals* is projected to appear in Fall 2024. Editorial policies and submission guidelines are forthcoming. For more information about the new TRIUMPHS Society and journal, visit `https://triumphssociety.org`.

Janet Heine Barnett

Quotations in Context

> "It is India that gave us the ingenious method of expressing all numbers by means of ten symbols, each symbol receiving a value of position as well as an absolute value; a profound and important idea which appears so simple to us now that we ignore its true merit. But its very simplicity and the great ease which it has lent to computations put our arithmetic in the first rank of useful inventions; and we shall appreciate the grandeur of the achievement the more when we remember that it escaped the genius of Archimedes and Apollonius, two of the greatest men produced by antiquity."

In 1796, Pierre-Simon Laplace published the first edition of *Exposition du Système du Monde*, which contained his theory of the formation of the solar system. The fifth and final book of the work contained a history of astronomy. The first chapter of this book began with a brief survey of ancient knowledge of eclipses, the calendar, constellations of the Zodiac, and the motion of the planets. This chapter included information on Egypt, Mesopotamia, China, Persia, and Greece through the founding of the school at Alexandria.

This chapter also included an evaluation of Indian astronomical tables, in which Laplace argued that it was impossible to determine exactly what knowledge the Indian astronomers had in antiquity, and that their existing astronomical tables had clearly been changed and corrected in more recent years. The material on India concluded with a brief acknowledgment that India clearly had a long history of astronomical work:

> Cependant, l'antique réputation des indiens ne permet pas de douter que dans tous les tems, ils ont cultivé l'astronomie; et l'exactitude remarquable des moyens mouvemens qu'ils ont assignés au soleil et à la lune, a nécessairement exigé des observations très-anciennes [1, p. 210].
>
> Nevertheless, the ancient reputation of the Indians does not permit us to doubt, but that they have always cultivated astronomy, and the remarkable exactness of the mean motions which they have assigned to the Sun and Moon, necessarily required very ancient observations [4, pp. 252-253].

In the second edition, published in 1798, this sentence was revised and expanded. In particular, in addition to wrapping up the discussion of Indian astronomy, the conclusion now mentioned the development in India of the base 10 place-value numeral system:

> Cependant, l'antique réputation des Indiens ne permet pas de douter qu'ils ont dans tous les temps, cultivé l'astronomie: lorsque les Grecs et les Arabes commencèrent à se livrer aux sciences; ils allèrent en puiser chez eux, les pre-

> miers élémens. C'est de l'Inde, que nous vient l'ingénieuse méthode d'exprimer tous les nombres, avec dix chiffres. L'idée de n'employer pour cet objet, qu'un nombre limité de caractères, en leur donnant à-la-fois, une valeur absolue, et une valeur de position, n'a point échappé au génie d'Archimède; mais il ne l'a pas réduite à ce degré de simplicité, qui met notre système d'arithmétique, au primier rang des inventions utiles [2, p. 294].

In this revised conclusion, Laplace appeared to credit Archimedes with the creation of a numeral system similar to that of India, but somehow not as simple. (Perhaps Laplace was referring to the system in *The Sand-Reckoner* used to express extremely large numbers?) In any case, Laplace apparently came to regret this claim about Archimedes, since he removed it and made additional revisions to this concluding text in the third edition, published in 1808. It was in this edition that the subject quotation of this column first appeared:

> Cependant, l'antique réputation des Indiens ne permet pas de douter qu'ils aient dans tous les temps, cultivé l'astronomie. Lorsque les Grecs et les Arabes commencèrent à se livrer aux sciences; ils allèrent en puiser chez eux, les premiers élémens. C'est de l'Inde que nous vient l'ingénieuse méthode d'exprimer tous les nombres avec dix caractères, en leur donnant à-la-fois, une valeur absolue et une valeur de position; idée fine et importante, qui nous paraît maintenant si simple, que nous en sentons à peine, le mérite. Mais cette simplicité même, et l'extrême facilité qui en résulte pour tous les calculs, placent notre système d'arithmétique, au premier rang des inventions utiles; et l'on appréciera la difficulté d'y parvenir, si l'on considère qu'il a échappé au génie d'Archimède et d'Appollonius, deux des plus grands hommes dont l'antiquité s'honore [3, p. 276].

Laplace was clearly happy with this new phrasing, leaving it mostly unchanged in the next two editions published in 1813 and 1824. But here we had a chance to see a quotation evolve over the first three editions into the final form that appears in modern media.

Mike Molinsky

References

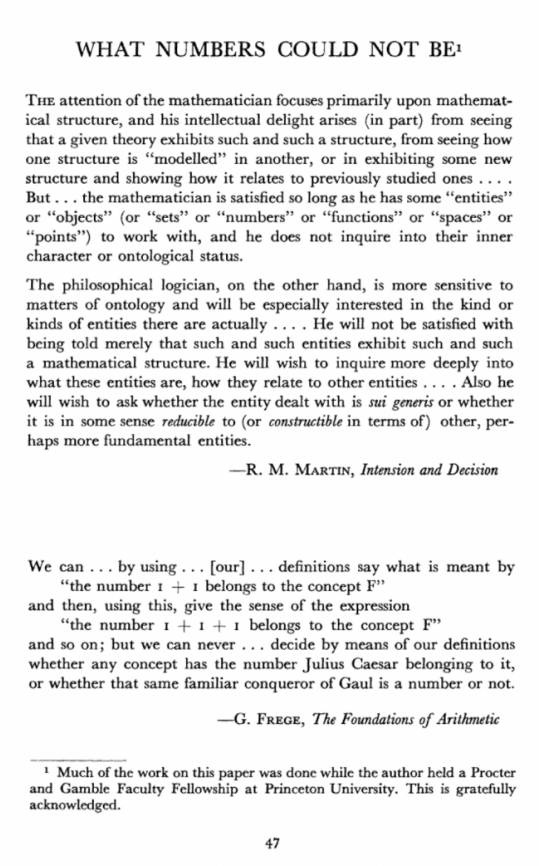
[1] Laplace, Pierre-Simon. *Exposition du Systeme du Monde*. Vol. 2, 1st edition. L'imprimerie du Cercle-Social, 1796.
[2] Laplace, Pierre-Simon. *Exposition du Systeme du Monde*. 2nd edition. J.-B.-M. Duprat, 1798.
[3] Laplace, Pierre-Simon. *Exposition du Systeme du Monde*. Vol. 2, 3rd edition. Courcier, 1808.
[4] Laplace, Pierre-Simon. *The System of the World by P. S. Laplace*. Vol. 2. Translated by John Pond. Richard Philips, 1809.

Course Ideas and Resources from *Convergence*

Now in its 20th year, *Convergence* is the MAA's refereed, online journal for using the history of mathematics in the teaching of mathematics. It offers materials suitable for the full range of courses in the K–16 curriculum, with a focus on grades 8–14. Check out our Classroom Resources Index, `bit.ly/3NmjpYc`, to find teaching suggestions, lessons, and informative background articles for the courses you are currently teaching. Here, we highlight some of our newest articles and features.

Kevin DeLapp and Jessica Sorrells described their team-taught course at Converse University, which draws on sources by philosophers such as Paul Benacerraf, in "Numbers, Infinity, and Reality: An Interdisciplinary Undergraduate Philosophy of Mathematics Course." Michael Saclolo and Erik Tou told the story of Euler's deathbed work on a problem of the mechanics of hot air balloon flight and provided a classroom capsule based on these mathematical concepts for differential equations or physics courses in "Things Certain and Uncertain." Adin Charles Tinsley shared her winning paper from the 2023 HOM SIGMAA Student Paper Contest, "Nicole Oresme and the Revival of Medieval Mathematics."

The long-running series of reprints from NCTM's *Mathematics Teacher* came to a close with "Who? How? What? A Strategy for Using History to Teach Mathematics," by Patricia Wilson and Jennifer Chauvot, and "Seeking Relevance? Try the History of Mathematics," Frank Swetz's final article for *Convergence*, which included his new reflection on 40 years of developments in the use of history to teach mathematics. A new series began with one of V. Freder-



WHAT NUMBERS COULD NOT BE[1]

THE attention of the mathematician focuses primarily upon mathematical structure, and his intellectual delight arises (in part) from seeing that a given theory exhibits such and such a structure, from seeing how one structure is "modelled" in another, or in exhibiting some new structure and showing how it relates to previously studied ones . . . . But . . . the mathematician is satisfied so long as he has some "entities" or "objects" (or "sets" or "numbers" or "functions" or "spaces" or "points") to work with, and he does not inquire into their inner character or ontological status.

The philosophical logician, on the other hand, is more sensitive to matters of ontology and will be especially interested in the kind or kinds of entities there are actually . . . . He will not be satisfied with being told merely that such and such entities exhibit such and such a mathematical structure. He will wish to inquire more deeply into what these entities are, how they relate to other entities . . . . Also he will wish to ask whether the entity dealt with is *sui generis* or whether it is in some sense *reducible* to (or *constructible* in terms of) other, perhaps more fundamental entities.

—R. M. MARTIN, *Intension and Decision*

We can . . . by using . . . [our] . . . definitions say what is meant by
"the number 1 + 1 belongs to the concept F"
and then, using this, give the sense of the expression
"the number 1 + 1 + 1 belongs to the concept F"
and so on; but we can never . . . decide by means of our definitions whether any concept has the number Julius Caesar belonging to it, or whether that same familiar conqueror of Gaul is a number or not.

—G. FREGE, *The Foundations of Arithmetic*

[1] Much of the work on this paper was done while the author held a Procter and Gamble Faculty Fellowship at Princeton University. This is gratefully acknowledged.

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Figure 7: Benacerraf's classic 1965 paper

ick Rickey's "Historical Notes for the Calculus Classroom": "Fermat's Integration of Powers."

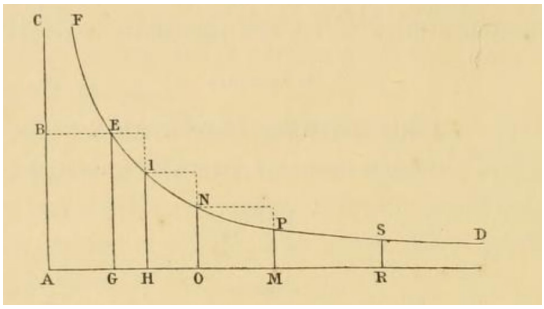

Figure 8: A Diagram by Fermat

Meanwhile, our other article series are growing. Associate editor Betty Mayfield added "The Oldest American Slide Rule," by Philip S. Jones, with new commentary by Peggy Aldrich Kidwell, to "Historically Speaking." In his "Quotations in Context" series, Mike Molinsky added entries for John Adams, Charles Darwin, Oliver Wendell Holmes, Jr., Napoleon, Voltaire, and J. Robert Oppenheimer—which appeared just in time to celebrate last summer's movie craze revolving around him and Mattel's Barbie.

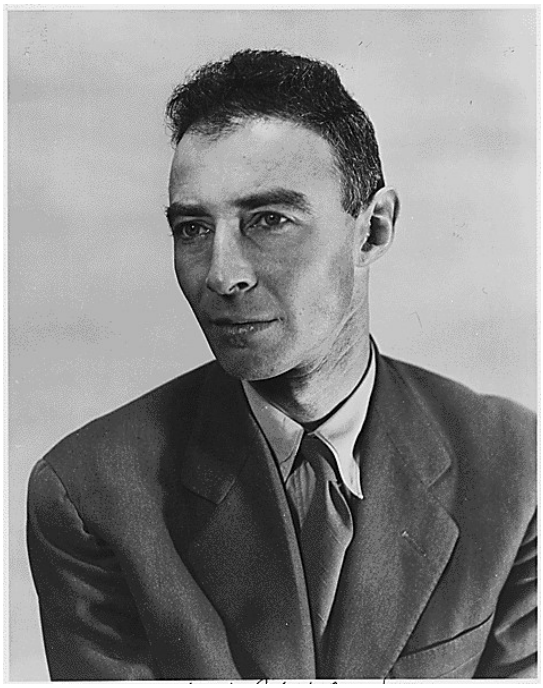

Figure 9: J. Robert Oppenheimer

Finally, the TRIUMPHS team has added two mini-Primary Source Projects (mini-PSPs) to the "Series of Mini-projects from **TR**ansforming **I**nstruction in **U**ndergraduate **M**athematics via **P**rimary **H**istorical **S**ources":

- "The Closure Operation as the Foundation of Topology: A Mini-Primary Source Project for Topology Students," by Nicholas A. Scoville;
- "Beyond Riemann Sums: Fermat's Method of Integration – A Mini-Primary Source Project for First-Year Calculus Students," by Dominic Klyve.

Find all of these articles and much more at `bit.ly/MAAConvergence`. Please also consider sharing your classroom applications of historical materials for use by other instructors. Guidelines for authors are linked on our home page; contact the editors at *convergence@maa.org*.

Janet Heine Barnett & Amy Ackerberg-Hastings

AGM of CSHPM/SCHPM

The Annual General Meeting of the Canadian Society for History and Philosophy of Mathematics took place at York University, Toronto, ON, on May 29, 2023.

The meeting was called to order at 12:20 pm by Nic Fillion, President, with 28 members present.

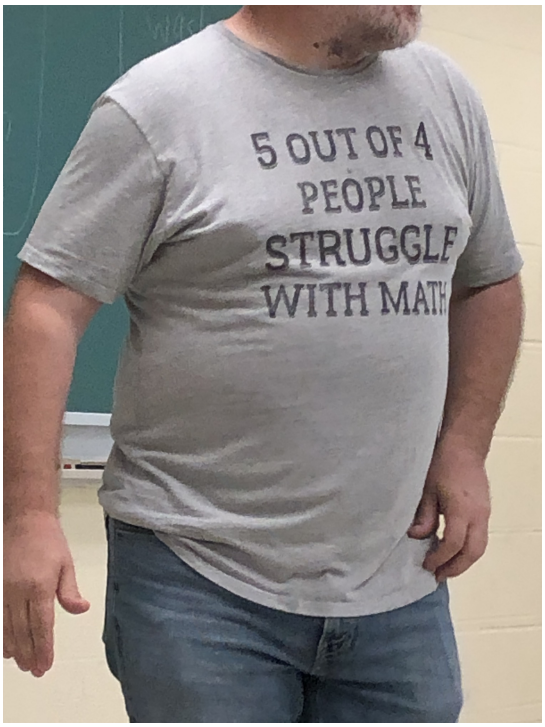

Figure 10: Nic's Shirt for the AGM

Agenda for the General Meeting

1. Approval of agenda
2. Approval of minutes of 2022 AGM
3. Treasurer's report
4. Ratification of Treasurer appointment
5. Secretary's report
6. CSHPM Notes Editors' report
7. *Annals* Editors' report
8. Webmaster's report
9. Archivist's report
10. Online colloquium report
11. *Bulletin* Editor's report
12. CMS Liaison duties and recruitment
13. Nominating Committee formation
14. 2024 meeting
15. Other business and adjournment

1. The agenda for the general meeting was approved.

2. Minutes from the 2022 AGM were accepted as printed in the November 2022 *Bulletin*.

3. The Treasurer's written report appears in the May 2023 *Bulletin*. Craig Fraser reported that a substantial portion of CSHPM's money at PayPal has been transferred into the CAD bank account.

4. The membership approved the Council's decision to appoint Craig Fraser to complete the term of David Orenstein.

5. Patricia Allaire presented comparative membership data for 2022 and 2023. Please refer to the CSHPM Executive Council Minutes in this issue of the *Bulletin* for the data.

6. Amy Ackerberg-Hastings repeated the points she and Hardy made in their report to the Executive Council (printed elsewhere in this issue of the *Bulletin*).

7. Similarly, details of Maria Zack's report can be seen in the Executive Council Minutes. During the AGM, she emphasized that the deadline for submissions to the 2023 volume of *Annals* is October 1, 2023. In response to a question from Robert Thomas about sending the material to India already set in LaTeX, Maria said that she does not want to have to reset all submissions. Robert asked if authors might be required to submit in LaTeX. Maria replied that not all authors know LaTeX, and she doesn't want to discourage submissions.

8. Nic read Eisso Atzema's report as it appears in the Executive Council Minutes. Rob Bradley confirmed that he has cancelled the domain registration for schpm.org.

9. Similarly, see the Executive Council Minutes for Eisso's report.

10. Details on the colloquium talks for 2022–2023 appear in the Executive Council Minutes. Nic expressed concern that the balance of talks was tilted toward philosophy and requested that a historian help co-organize. Jemma Lorenat volunteered to co-organize and will also try to coordinate the presentations with HOM SIGMAA's online talks. Chris Baltus asked if one needs to be a member to attend the Zoom colloquium; Nic replied that all are welcome. Rob Bradley asked if these talks have been a recruiting tool. Pat replied that several new membership requests have been received after most talks.

11. Sylvia Nickerson's report appears in the Executive Council Minutes. During the AGM, Sylvia emphasized that, although she is not able to continue as Content Editor, this position is an excellent opportunity for professional growth for a member. Amy presented a job description. The committee reviewing

the *Bulletin* will send a survey to the membership to solicit feedback about the role, value, and future of the *Bulletin*.

12. The primary function of the liaison is to organize a session at the CMS Winter Meeting. The organizer must be a member of CMS. Nic volunteered to take on this position, if necessary. Craig remarked that the organizer is usually someone from a math department.

13. Tom Drucker (chair) and Greg Lavers have agreed to serve on the 2024 Nominating Committee. One more volunteer is needed.

14. Our default is to meet as part of Congress with the Federation. The location for the 2024 Congress is McGill University, Montreal. Congress is from May 8 to 17. [The Federation later changed the dates to June 12–21.] 2024 is the 50th anniversary of the founding of CSHPM. It was suggested that our special session reflect our history. Pat suggested "CSHPM—Looking Back and Looking Ahead" as a title for the special session.

Chairs for the special and general sessions are needed. Maria volunteered to chair the general session. Conny Knieling offered to work with Maria. An organizer who coordinates with the Federation on paperwork and local arrangements (catering, reserving rooms and A/V) is needed. Sylvia noted that it will be most efficient if that person is from Montreal. Bernd Buldt asked if would be possible to avoid parallel sessions. Maria replied that it may be possible only if we were to extend the meeting to 4 days; it will depend on the number of submissions. Greg offered to work with CSHPS on planning joint sessions. Nic asked for suggestions as to how to encourage more students to participate. Discussion followed.

15. The meeting was adjourned at 1:47 pm.

Patricia Allaire, Secretary

New Journals in Philosophy of Mathematics

This year marks the beginning of a new era in publishing philosophy of mathematics with the launch of one new journal and the organization of a second.

The *Annals of Mathematics and Philosophy* (`https://mxphi.com/`) has published its first issue at the above URL. It is free to download, with also a printed version that can be ordered, and it is edited by our Jean-Pierre Marquis and the French mathematician Frédéric Patras. It has a number of features that distinguish it from other journals, *Philosophia Mathematica* in particular. It is interested in connections between mathematics and philosophy, not just philosophy of mathematics. It is interested in the philosophical thoughts of mathematicians even if they don't add up to professional philosophy. And it is prepared to publish papers in several languages as well as an English translation (space online being cheap). It needs to be checked out. The first issue was by invitation, but it is now open to submissions.

The *Journal for Philosophy of Mathematics* (`https://philmath.eu/jpm/`) is being approached in a way somewhat similar to *Historia Mathematica*. Unlike the *Annals*—and *PM* before it found a home at OUP—it is not a freestanding journal but rather is based on and owned by an organization, the European Society for the Philosophy of Mathematics, which held its inaugural general meeting on 6 September 2023 in London, despite Brexit, in the context of a conference (5–7 September 2023) of the normal kind with papers given by Øystein Linnebo (president pro tem), Davide Sutto, Simon Schmitt, Rosalie Iemhoff, Michele Contente, Volker Halbach, Maciej Głowacki, Philip Welch, Benjamin Zayton, Deborah Kent, Andy Arana, Mary Leng, Daniel Isaacson, Nata Yang, and Matteo Zicchetti, some invited and some contributed. The Society is intending to host a week-long summer school (Konstanz in 2022, Vienna in 2024) and a conference in alternate years as well as publish the journal through the University of Florence Press. It too will be online and free. The first volume, filled by invitation, is aimed at the first half of 2024. It will then be open to submissions. The editor is Belgian philosopher Leon Horsten (*leon.horsten@uni-konstanz.de*). The Society is looking for members and already has dozens, not all in Europe. The very low dues will support the costs of publication. The journal is setting out to be complementary to *PM* by welcoming more technical material than *PM* has traditionally published and by dealing with both foundations and philosophy of mathematical practice. The editor of *PM* welcomed the journal at the September meeting.

Robert Thomas

PhilMath 2023 Report

On the morning of Thursday, May 11, 2017, the

PhilMath-Archive section of philsci-archive went live. It was a new section of the preprint archive whose goals match those of philsci-archive, but it is dedicated to philosophy of mathematics and is curated by philosophers of mathematics. Coordination and moderation of the section is carried out by Elaine Landry, who initially proposed addition of the section. Sponsors of the mathematics section are:

- International Association for the Philosophy of Mathematics (PMA)
- Canadian Society for History and Philosophy of Mathematics (CSHPM)
- British Society for the History of Mathematics (BSHM)
- Association for the Philosophy of Mathematical Practice (APMP)
- Philosophy of Mathematics Special Interest Group Mathematical Association of America (POM SIGMAA)

The use of the mathematics section is healthy. Postings to it are added to the existing mathematics subject heading. The growth of the philosophy of mathematics section is shown by its total size at the following checkpoints:

- May 2017 – 234
- May 2018 – 299
- May 2019 – 383
- May 2020 – 449
- May 2021 – 535
- December 2021 – 608
- May 2023 – 671

Elaine Landry

CSHPM/SCHPM Executive Council Meeting

The meeting of the CSHPM/SCPHM Executive Council was held virtually via Zoom on May 17, 2023. The following members were present: Amy Ackerberg-Hastings, Patricia Allaire, Marion Alexander, Eisso Atzema, Robert Bradley, Nicolas Fillion, Craig Fraser, Jemma Lorenat, Hardy Grant, Jean-Pierre Marquis, Andrew Perry, and Maria Zack. Nic Fillion, President, called the meeting to order at 5:05 pm EDT.

The agenda for the meeting was approved, and minutes from the 2022 Executive Council Meeting were accepted as printed in the November 2022 *Bulletin*.

Treasurer's Report: Craig Fraser reminded the Council that he assumed the duties of this position after Treasurer David Orenstein fell ill in January 2023. The Council extended its heartiest thanks to David for his service and wished him all the best in his recovery. Craig also reminded the Council of the details of his report on the 2022 financials, which appeared in the May 2023 *Bulletin*.

During discussion of the report, Council members noted that David's illness made it clear that a back-up person to the Treasurer is required (with access to the accounts, etc.). Nic agreed to serve as the back-up. Eisso Atzema remarked on the necessity for all passwords to be available in the event of unforeseen circumstances. As Archivist, he is gathering those passwords. Craig noted that Greg Lavers, a former Treasurer, had been most helpful with the transition. Pat Allaire thanked Craig for his work in assuming the responsibilities under very complicated circumstances.

Secretary's Report: Pat presented comparative membership data for 2022 and 2023 (please note that the 2022 data was updated from last year's report to include members who joined after the 2022 Executive Council Meeting):

	2022	**2023**
Total Members	172	144
Members By Address or Organization		
Can	40	38
US	98	81
Other	34	20
BSHM	27	17
CSHPS	3	3
Complimentary	0	0
Members By Status		
Active	76	66
Retiree	49	39
Student	11	13
Developing Nations	2	5
Unemployed	2	1
Student Associate	2	1
Unknown	30	19
Members by Pay Method		
Online	127	110

CALL FOR PAPERS / DEMANDE D'EXPOSÉS

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

Annual Meeting / Colloque annuel
McGill University/ L'université McGill
15-17 June 2024 / 15-17 juin 2024/ Montreal, Quebec

Special Session / Séance Spéciale
CSHPM at 50: Looking Back, Looking Ahead
Les 50 ans de CSHPM: un regards vers le passé et un regards vers l'avenir

The CSHPM will be holding its 2024 Annual Meeting in Montreal at McGill University in conjunction with the 2024 Congress of the Humanities and Social Sciences. The meeting will be held Saturday June 15 – Monday June 17, 2024.

Special Session: Looking Back: We are seeking papers that consider history and philosophy of mathematics through a Canadian lens. This theme is intentionally broad and can include topics such as the history of mathematics or philosophy in Canada, the founding of the CSHPM, and profiles of significant Canadian mathematicians or philosophers of mathematics.

Special Session: Looking Ahead: Graduate students and early career scholars (PhD awarded in the last two years) are the future of CSHPM and are invited to present papers on any topic in the philosophy or history of mathematics. *Travel stipends of $500 CAD are available for up to six papers given in this session.*

General Session: Members are invited to present papers on any subject relating to the history of mathematics, its use in the teaching of mathematics, the philosophy of mathematics, or a related topic. Talks in either English or French are welcome.

Please send your title and abstract (200 words or less) in Word or in the body of an email by February 10, 2024, to:

La SCHPM organise son colloque annuel de 2024 à l'Université McGill à Montréal, dans le cadre du Congrès des sciences humaines et sociales 2024. Le colloque aura lieu du samedi 15 juin au lundi 17 juin 2024.

Séance spéciale : Regard vers le passé. Nous invitons des contributions portant sur l'histoire et la philosophie des mathématiques d'une perspective canadienne. C'est à dessein que ce thème est vaste et il peut inclure des sujets tels que l'histoire et la philosophie des mathématiques au Canada, ainsi que des portraits de mathématiciens ou philosophes des mathématiques canadiens importants.

Séance spéciale : Regard vers l'avenir. Les étudiants gradués et jeunes chercheurs (PhD octroyé dans les deux dernières années) sont le futur de la SCHPM et sont invités à présenter sur tout sujet portant sur l'histoire et la philosophie des mathématiques. *Jusqu'à six bourses de voyages de 500$ CAD sont offertes à ceux présentant au sein de cette séance.*

Séance générale : Les membres sont invités à faire une présentation sur n'importe quel sujet de l'histoire des mathématiques, son utilisation dans l'enseignement des mathématiques, de la philosophie des mathématiques, ou tout autre sujet connexe. Les présentations en anglais ou en français sont bienvenues, comme le sont les présentations sur des travaux en cours.

Veuillez envoyer le titre de votre communication, ainsi qu'un bref résumé de 200 mots ou moins en format Word ou dans le corps d'un courriel avant le 10 février 2024 à:

Maria Zack
Department of Mathematical, Information and Computer Sciences
Point Loma Nazarene University
mzack@pointloma.edu

Snail Mail	11	12
Recipr. Members	30	20
Complimentary	4	2
New Members	28	14
Reciprocal Memberships		
To BSHM	49	44
To CSHPS	21	21
Journal Subscriptions		
Historia (paper)	36	29
Historia (electr.)	8	5
Philosophia	13	10
SCIAMVS	3	3
Proceedings/Annals		
Federation	1	1
Hardcover	7	29
Paperback	10	N/A
Electronic	16	6
Bulletin		
Paper	26	20
Donations		
No. Donors	26	12
Amount	CDN1,494.60	CDN724.45

Pat pointed out that there is some overlap of members in the "by address or organization category" and that the status of reciprocal members from BSHM and CSHPS is not known. She also noted that the number of members has declined in all categories, as have journal subscriptions. For both years, some of the donations were made in US currency, but the amounts have been converted to Canadian dollars.

***Bulletin* Editor's Report:** Content Editor Sylvia Nickerson was unable to attend. Pat said that, in an email exchange, Sylvia reiterated that her overwhelming academic responsibilities make it impossible for her to continue in her *Bulletin* position. She has not been successful in her attempts to find a replacement and asks that the Council do so.

During discussion, Amy Ackerberg-Hastings estimated that, from her experience as Content Editor, about 80 hours of work is required for each issue.

Maria suggested that the Council look at ways to reduce the time required. Jemma Lorenat suggested that CSHPM could consider establishing a fellowship that would include editing *Bulletin* content and other responsibilities. Amy volunteered to edit the next two issues while a new editor is being sought. A committee of Amy, Eisso, Nic, Andrew Perry, and Maria was formed to work on the questions raised. Amy will present the Content Editor's job description at the AGM in hopes of recruiting a new Editor from the membership.

CSHPM Notes Editors' Report: Amy and Hardy Grant reported that columns appeared in all six issues of *Notes of the Canadian Mathematical Society* in 2022. The CMS staffer in charge of the *Notes* turned over twice this year; additionally, CMS now prepares the *Notes* completely in-house without sending the layout to an outside consultant. This means that the CSHPM Notes editors must now assist with troubleshooting typesetting issues and converting mathematical expressions from Word's Equation Editor or LaTeX to MathJax.

Fifty-three columns have appeared, supplied by 38 authors, including seven jointly-authored submissions. One member has prepared five individual and collaborative columns; three members have provided four installments; two have written three pieces; and eight members have authored two columns. Twelve of the 38 authors are women, and six of the 38 were students at the time of their first submission. The ratio between philosophical and historical topics has dropped to around 1:4. The editors intend to reach out soon to several of the Society's philosophers and solicit commitments to write a column in the next 12–18 months. They have not made any progress on the idea to republish CSHPM Notes columns as a book.

Members are invited to contact the editors with ideas for columns that are relevant to the history or philosophy of mathematics, whether they plan to write a piece themselves or want to recommend a potential author. At least one author of a submission must be a current member of CSHPM. Submissions should be aimed at a general audience of mathematicians. Topics typically fit within one or more of the following approaches:

- providing an intriguing taste of a larger research project;
- raising a point about the practice of history or philosophy of mathematics and applying that point to an episode in the history or philosophy of mathematics;
- discussing the current state of historiography or methodology in a particular subfield;
- suggesting a classroom application for a case study or story from the philosophy or history of mathe-

matics.

Although space on a webpage is theoretically unlimited, the editors prefer that contributions remain within the range of 1200–1800 words, and they should include a brief biographical note. It is helpful if authors are able to provide or suggest possible images, given the visual nature of the *Notes'* online format. It typically takes about 3–4 rounds of suggested changes before the editors and authors are satisfied with the final product. These exchanges can unfold over a few days or 2–3 weeks, depending on the availability of the author and the proximity of the next CMS deadline. Amy and Hardy especially enjoy coaching students and helping them broaden their CVs!

***Annals* Editors' Report:** On behalf of co-editor David Waszek, Maria reported that the 2021 *Annals* is done, and the printed copies were being shipped to the authors. The editors experienced significant issues with typesetting with Birkh´auser/Springer's vendor, necessitating multiple rounds of proofreading. A lack of cooperation by some authors also contributed to delays. This is the first year that Birkh´auser will be sending the copies ordered by members to Maria for distribution.

The 2022 volume is in the last stages of preparation for the production process. The editors are finishing ordering the chapters, completing some edits on a few chapters, and preparing the introduction. The 2023 *Annals* will have a deadline of October 1, 2023. Maria remarked that it will be important to enforce the ground rules for authors. CSHPM's contract with Birkh´auser has been successfully renewed for a five-year term. Under the new contract, CSHPM will receive a fixed number of books to distribute; these will have to be mailed to those who requested paper copies, and the Executive Council will have to set a price that will cover mailing costs. Non-members have begun to contribute papers. Maria closed by emphasizing that David has been an invaluable co-editor.

Webmaster's Report: Eisso reported that no major changes were made to the website itself. However, the website is no longer housed on Michael Molinsky's private server. Instead, the site is now housed at koumbit.org out of Montreal. As a result, CSHPM now pays a small monthly fee for the hosting of the CSHPM site. Also, the cshpm.org address ownership has been transferred from Rob Bradley to Eisso. Rob also owned the alias schpm.org, but Rob and Eisso decided to part with that alias. Rob always paid for the annual renewal of the CSHPM address out of his own pocket, and Eisso will continue that practice.

As before, the maintenance of the CSHPM site is completely up to us. Currently our site is pretty minimalist, while its maintenance is not very user-friendly and its overall security is dubious. Eisso is exploring options to spiff up the site and at the same time make its maintenance more user-friendly. It might be good to enhance the security of the site as well—even though currently there is no sensitive information that is stored on the site. In order to maintain the integrity of the website in the case of hacking and other mishaps, Eisso set up a daily backup to the CSHPM Google Drive. In addition, he installed secure layers (SSL). This change should be almost completely invisible, except that the address box on one's browser now will show a padlock (or some variation thereof) next to the site's address. There no longer are any warnings that the site is not safe. Eisso documented all of these changes along with any credentials in two documents and put copies of these in the folder for the description of the duties of the webmaster (copies of which also reside on the CSHPM Google Drive and Eisso's own laptop).

Archivist's Report: Eisso noted that no requests for materials were made this year. He has continued to update the archives' inventory to include the most recent CMS *Notes*. He also reorganized some of the electronic archives and put most of the electronic material on the virtual private server at Koumbit that also hosts the CSHPM website (see report from the webmaster). All of the excluded archival material is publicly available on the website and there is no need for duplication in the same (virtual) location. All this material (both in the archives and on the website) are now also backed up daily to the CSHPM Google Drive and irregularly to a USB stick in Eisso's study at home. As this year's imbroglio as a result of David Orenstein's health situation made clear, there still is some work to do on the annual collection of job descriptions within CSHPM as well as any concomitant credentials, account numbers, etc. Eisso is also hoping to make headway with collecting emergency information for all officers and Council members.

The PhilMath Preprint Archive annual report was received after the meeting and is printed elsewhere in this *Bulletin*.

Nic noted that a successor to Maritza Branker as CMS Liaison is needed.

Online Colloquium Report: Nic reported that the 2022–2023 online colloquium series featured 6 talks. Attendance remained good, in the vicinity of 30. The presenters included four Canadians, two of which are working abroad. The number of female and male presenters was perfectly balanced. On the whole, the talks were slightly more leaning towards philosophy, but many of the talks contained nicely-overlapping philosophy and history. Speakers and attendance figures included: Ximena Catepillán, "Ethnomathematics and Kinship Systems" on July 22, 2022 (21 attendees); Teresa Kouri, "Stebbing and Common Sense" on September 23, 2022 (14); Richard Zach, "Hilbert's program and infinity" on October 28, 2022 (42); Jean-Charles Pelland, "Which numeral is that? On notational privilege" on November 28, 2022 (22); Tom Archibald, "Hermite and Analysis" on March 10, 2023 (attendance not recorded); and Patricia Blanchette, "Conceptual Analysis and Logic in the Foundations of Mathematics" on May 5, 2023 (24). Nic is interested in adding a historian as co-host.

Future Meetings: Nic pointed out that our default is to meet as part of Congress with the Federation. At that time, the location for the 2024 Congress was expected to be Saskatoon, SK. 2024 is the 50th anniversary of the founding of CSHPM. Amy suggested that this should be our Special Session theme. Perhaps an original or long-serving member would be an appropriate Special Session speaker. Organizers are needed for both the General and Special Sessions as well as for local arrangements and to deal with the Federation organizers.

Other Business: 2024 is an election year. A Nominating Committee will need to be selected. At least one member should be someone who has served on the committee in the past.

The meeting was adjourned at approximately 6:50 pm EDT.

Patricia Allaire, Secretary

Joint Math Meetings in San Francisco

A number of events in history and philosophy of mathematics have been planned for the Joint Mathematics Meetings, to be held in San Francisco, California, January 3–6, 2024. More information can be found on the conference website: `jointmathematicsmeetings.org`.

Wednesday, January 3

- 8:00–13:00: Black Mathematicians Edit-A-Thon, organized by Edray Goins.
- 9:00–11:00: Professional Enhancement Program 8A on Bringing Ethics and Justice to the Mathematics Classroom Through Historical Case Studies, organized by Jemma Lorenat and Deborah Kent.
- 16:00–16:20: "Exploring Ancient Vessel Morphology using Model Based Clustering," presented by Rasitha R. Jayasekare, Mark W. Kimpel, Lynne A. Kvapil, and Kim Shelton.

Thursday, January 4

- 9:00–11:00: Professional Enhancement Program 8B on Bringing Ethics and Justice to the Mathematics Classroom Through Historical Case Studies.
- 13:00–17:00: AMS Special Session on Mathematics and Philosophy, I, organized by Tom Morley and Bonnie Gold.
- 13:00–16:30: AWM Special Session on EvenQuads Live and in person: The honorees and the games, I, organized by sarah-marie belcastro, Sherli Koshy-Chenthittayil, Oscar Vega, Monica D. Morales-Hernandez, Linda McGuire, and Denise A. Rangel Tracy.
- 15:00–15:20: "Looking back: Two ancient approaches illustrated in the past century of elementary school mathematics," presented by Cathy B. Kessel and Liping Ma.
- 18:30–19:30: Dance Concert on Nevertheless She Persisted: The Daughters of Hypatia, organized by Karl Schaffer.

Friday, January 5

- 8:00–12:00: AMS Special Session on The History of Mathematics, I, organized by Adrian Rice, Sloan Evans Despeaux, Deborah Kent, and Jemma Lorenat.
- 8:00–12:00: AMS Special Session on Mathematics and Philosophy, II.
- 8:00–12:00: AWM Special Session on EvenQuads Live and in person: The honorees and the games, II.
- 10:30–12:00: AWM Workshop on Mathematicians + Wikipedia—A Training Edit-a-thon, organized by Xavier Ramos Olive and Francesca Bernardi.
- 13:00–17:00: AMS Special Session on the History

of Mathematics, II.

- 14:00–16:00: AMS Special Session on Epistemologies of the South and the Mathematics of Indigenous Peoples, I, organized by Maria Del Carmen Bouilla Tumialán, Wilfredo Vidal Alangui, and Domingo Yojcom Rocché.
- 17:30–18:30: POM SIGMAA Guest Lecture and Discussion, "The Unreasonable Effectiveness of Mathematics: Dissolving Wigner's Applicability Problem," by Arezoo Islami, organized by Bonnie Gold and Kevin Iga.
- 20:00–22:00: MAA Reception Celebrating Project NExT and Special Interest Groups of the MAA, organized by Cheryl Adams.

Saturday, January 6

- 8:00–12:00: AMS Special Session on the History of Mathematics, III.
- 9:00–12:00: AMS Special Session on Epistemologies of the South and the Mathematics of Indigenous Peoples, II.
- 11:30–13:00: SLMath (MSRI)–NAM World Premiere Film Presentation of Journeys of Black Mathematicians, Part I, directed by George Csicsery, and Panel Discussion, organized by Tatiana Toro.
- 13:00–17:00: AMS Special Session on the History of Mathematics, IV.

Readers attending the JMM who are interested in getting together to remember Hardy Grant over a meal are invited to contact Tom Drucker, *druckert@uww.edu*, or Larry D'Antonio, *ldant@ramapo.edu*.

Write and/or Edit for CSHPM

CSHPM supports three publications, as well as its website, `www.cshpm.org`. (Have you checked out CSHPM's extensive online archives lately?) Contributions are welcomed by each outlet, but they have different purposes, audiences, and requirements.

***Annals*:** Published annually, the *Annals* contains relatively short academic research articles, which are often based on the author's presentation at an Annual Meeting of the CSHPM. The editors accept submissions of varying lengths, but a typical article is roughly 10–15 single-spaced pages exclusive of diagrams or figures. Birkhäuser publishes the *Annals* and makes the papers available to libraries through its ebook subscription service. Submission in LaTeX according to the publisher's style for formatting and citation is preferred. Volunteer referees provide acceptance recommendations and author feedback, constituting an editorial board for each volume. To express an interest in becoming a referee or to discuss the possible submission of longer format articles, please contact the editors, who are currently Maria Zack and David Waszek.

***Bulletin*:** Published twice a year (May and November), the *Bulletin* serves as the Society's newsletter and organ for building community. It is typeset in LaTeX and distributed as a PDF in electronic and paper formats. It serves as the publication of record for CSHPM, collecting meeting minutes and programs, reports, and other Society business in one location. It also distributes information about the activities of other scholarly organizations and offers opportunities for informal academic writing. Articles are typically brief (200–1000 words), and topics are often relatively timely. Some materials may be volunteered by or commissioned from outside the Society, but the *Bulletin* is mainly by members for members. At present, Amy Ackerberg-Hastings is gathering and editing the content, Eisso Atzema lays out each issue, and Maria Zack distributes print copies. Pat Allaire announces the appearance of the electronic version to the membership, which Eisso adds to the website in his capacity as Webmaster.

NOTES FROM THE CSHPM — CMS Notes, Volume 46 No. 2, March–April 2014

Past and Present in Mathematics: Notes from the CSHPM

Tom Archibald, *Simon Fraser University*

Mediæval and Renaissance Algebra

These columns, originating with the Canadian Society for History and Philosophy of Mathematics, are intended to make *CMS Notes* readers a little more aware of research in the history of mathematics. Various approaches will be taken to this project, but in this case I thought it would be useful to draw the attention of a larger audience to recent work on the history of mathematics in mediæval and renaissance Europe. I was stimulated in the choice of topic by the recent award of the K. O. May Prizes and Medals in the history of mathematics (see http://www.unizar.es/ichm/maymedal.html) to two distinguished researchers whose activity touches on this period: Menso Folkerts of the University of Munich, and Jens Høyrup from Roskilde University. This is not a scholarly article, so referencing will be sloppy; and the point of view is mine alone, and doubtless very liable to criticism by serious scholars of this period.

Let's begin with the passage of Hindu-Arabic numerals and algebra to Europe. This is associated with the well-known name of Fibonacci, Leonardo Pisano, whose *Liber abbaci* first appeared in 1202. This work was translated into English by L. E. Sigler, and published in 2002. The term abbaco of the title refers not to the familiar abacus but rather to the practice of calculation. A key feature of the work is its introduction of what are now our usual numerals to the Latin-reading "public." Who that public was remains difficult to know, though 12 manuscripts survive, three of them complete (this is a rather large number, indicating a certain popularity). Fibonacci was associated with the emperor Frederick II, founder of the University of Naples, though the work itself was dedicated to Michael Scot (or Scotus), who according to Dante wound up in hell:

> Quell' altro che ne' fianchi è così poco,
> Michele Scotto fu, che veramente
> de le magiche frode seppe 'l gioco.

Perhaps Leonardo avoided such games of magical deceit and avoided this fate (damnation, that is: the skinny flanks are less worrisome). Michael would at least have looked at Leonardo's work, no doubt. However, such a detailed treatise would mostly be of use to those who wanted to learn the contents thoroughly. These contents include the algorithms for calculating with the Hindu-Arabic numerals and their applications, and they were at the very least of interest to those who wanted to make a living with them, for example by teaching calculations. There is also an algebraic portion to the *Liber abbaci*, and we return to it below, where interestingly the proofs are based on Euclid, Book Two.

These circumstances seem to have created a demand for works in the vernaculars of the northern Mediterranean: not only the various languages of the Italian peninsula, but Provençal, Catalan, and so forth. There is a constellation of such works, though the record is fragmentary, and there are natural questions about the relationships among the various surviving texts. In the context of algebra, we have a very nice recent survey article by Rafaella Franci, in [Franci 2010]. She points out that until the work of Pietro Cossali around 1800 it was generally thought that Fibonacci was a century later, and no one noticed his algebra chapter. Algebra in Italy was first examined in the work of Pacioli in the (very) late fifteenth century, though Pacioli himself acknowledged his debt to Fibonacci. It was Cossali who concluded that algebra came to Europe from Arabic sources via Fibonacci. A manuscript catalog compiled by W. van Egmond in 1980, and the many works of Franci herself and her colleague Laura Tota Rigatelli, provide the foundation for what we now know about the history of algebra in Italy leading up to the solution of the cubic. This is a long story, full of rules both right and wrong, and it reminds us, if we needed reminding, that mathematics is hard and that notation is crucial.

As for the subcategory of algebras in the vernacular, here we have a controversy concerning which was the first such work. This has more historical interest than some firsts do, since it may be relevant to the history of the transmission of the technology. In 1978, Van Egmond identified Paolo Gherardi's 1328 chapter in his *Libro di ragioni* as having this status. This work, written in Montpellier a century and a quarter later than the Latin manuscript of Fibonacci, differs from the latter in various respects, notably in the absence of geometric proofs and the introduction of problems having to do with interest calculations. More recently Høyrup has proposed another candidate, a 1307 work by Jacopo de Florentia, likewise produced in Montpellier in a version of Italian, as differing from Fibonacci and from Gherardi – and, significantly, also differing from Al-Khwarizmi. Gherardi's text contains some wrong rules, not in Jacopo's, which suggests different sources despite other resemblances. Høyrup argues for a common origin, not Arabic directly, but from a non-Italian source, possibly in the region where Catalan was spoken. This claim was contested by Jeff Oaks in a review appearing in the CSHPM *Bulletin* (which you can receive by joining, see http://www.cshpm.org). Readers are invited to make up their own minds, by looking at [Høyrup 2007].

A further recent landmark in the scholarship of a slightly later period is a new edition of Girolamo Cardano's *Artis Magnæ* by Massimo Tamborini. The "Great Art" was published in Nuremberg in 1545, and the original is not an easy read due to the use of abbreviations in the printed text. [Tamborini 2011] simplifies this, providing expanded readings and the usual healthy critical apparatus that goes along with a solid edition. The modern notation for the equations in the verbal text are found in an appendix, so you can test your skills: quick, write "numerus et cubus cubi aequalia cubo et cubo quadrat" as an equation, not forgetting to include arbitrary coefficients where warranted.

I'll conclude this survey of recent work of interest by mentioning not a single "research product" but a huge body of work by a researcher on the borders of our field, Charles Burnett. Burnett is the professor of the History of Islamic Influence in Europe at the

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Figure 11: The first CSHPM Notes column

Notes: CSHPM Notes appears six times a year (February, March/April, June, September, October/November, and December) in *Notes of the Canadian Mathematical Society*, CMS's online newsletter. This column is aimed at a general audience of mathematicians, so the pieces should explain events and concepts so that they are accessible to readers who are not experts at philosophy or history of mathematics. They often emphasize the research process and methodology, showing the audience how authors go about making sense of the history and philosophy of mathematics. *CMS Notes* is published on a WordPress platform and uses MathJax for mathematical symbols. Final columns are transmitted in a Word document so that CMS staff can copy and paste the text and symbols into the platform. Because Notes is a web publication, images and links to, for instance, biographies and digitized primary sources are valuable for engaging readers. The amount of text should not fatigue readers (1200–1800 words is the rule of thumb). Amy Ackerberg-Hastings and Hardy Grant co-edited the column from its inception in 2014 until Hardy's death in September 2023.

Staff Vacancies: The *Bulletin* needs one or more people to announce deadlines, collect content, lightly edit submissions, and conduct preliminary formatting for LaTeX typesetting. The work is ongoing throughout the year as items can be placed in the editor's files for future use at any time, but the main periods of work are early April and early October, when all articles and images are assembled and prepared for transmission to the Layout Editor.

CSHPM Notes works best with an editorial team of two. The co-editors invite members to consider writing an installment; follow up on invitations; edit submissions so that they are clear for the column's wider, non-expert audience and formatted for web publication; review editorial recommendations with authors; and work with CMS staff to transmit completed columns. They publicize new columns to additional audiences via social media such as Facebook and MAA Connect. Contact President Nic Fillion, *nfillion@sfu.ca* , or Amy Ackerberg-Hastings, *aackerbe@verizon.net*, if you are willing to serve in one of these positions.

New Members

Congratulations to the following new members who have joined the Society since our last Bulletin. We look forward to your contributions.

Hallvard Barman
Twickenham
UK

Jessica Carter
Marslet
Denmark

Barry Davies
Newtown, CT
USA

Emerson Doyle
London, ON
Canada

Jessie Hall
Toronto, ON
Canada

Jagdish Hattiangadi
Toronto, ON
Canada

Cheryl Periton
South Bend, IN
USA

Adin Tinsley
Pacific Grove, CA
USA

From the Editor

By this point, it feels as though I have known Hardy Grant as long as I have been in the history of mathematics. Reviews of meeting programs and my diary were not able to confirm whether I met him at my first CSHPM meeting in 1995 (UQAM) or not until Memorial University in 1997, nor have I been able to figure out when and where occurred what I thought was my earliest memory of sharing a meal with him and others—if you were there for cheeseburgers and shakes in a well-lit, possibly blue, possibly 1950s-themed space, please let me know. Since our relationship over the past decade was largely conducted via email, I do have plenty of evidence to support what I know certainly, which is that working with Hardy on CSHPM Notes has been a highlight of my career. In general, one of the joys of membership in CSHPM is that everyone is both a colleague and a friend, but Hardy took the Society's collegiality to a whole other level. Learning about authors' interest-

ing topics, polishing their writing, sharing in the energy of the endless stream of young people employed by CMS, and chatting about every topic under the sun from the weather to Hardy's beloved baseball and hockey teams to politics to oft-interrupted efforts at research to family was just flat-out fun. I miss Hardy very much, and I am very grateful for his decades of service to the Society, including his time wearing this hat.

A hearty thanks to Sylvia Nickerson for the fabulous job she has done as Content Editor over the past three years. Not only did she pull together lively and informative issues in a timely fashion, but also she recruited additional authors and added new features such as interviews with people of interest to our fields. She also successfully steered the *Bulletin* through the COVID-19 pandemic. Please share your appreciation with her via email or in person.

And, thanks to all of you for participating in the *Bulletin* readership survey; 27 responses were received, along with one set of email comments. The *ad hoc* committee established during the Executive Council meeting has begun reviewing the format of CSHPM's newsletter with an eye toward streamlining the work involved in creating the *Bulletin*. As our first action step, the Announcements column will be eliminated beginning with the Spring 2024 issue, since it is one of the more time-consuming parts of preparing each issue. Members are welcome to share news of conferences, new publications, and the like on CSHPM's e-list by sending an email to *cshpm-announcement-group@maine.edu*. CSHPM also maintains a Facebook page that currently has 1200 followers, `www.facebook.com/cshpmschpm`; for maximum visibility, please let me know about announcements that should be posted there.

Additionally, the Content Editor has committed to keeping a time sheet in Spring 2024 to provide further information for revising the position's job description. The committee will be recommending to the outgoing and incoming Councils that they start planning broader conversations about volunteer workloads and key functions of the Society so that its conferences, publications, and other activities are sustainable into the future. Suggestions, comments, and questions about the committee's work may be directed to any of the members: Amy Ackerberg-Hastings, Eisso Atzema, Nic Fillion, Sylvia Nickerson, Andrew Perry, and Maria Zack.

The next submission deadline for the *Bulletin* is April 1, 2024. As always, the editors seek items of interest to historians and philosophers of mathematics, such as reports on conferences attended, activities of other societies, or discussions of publications. We also welcome memorials of historians or philosophers of mathematics who have passed away and short yet substantive articles that are informative or thought-provoking as well as relevant to the practice of history or philosophy of mathematics. Les soumissions en français sont les bienvenues. If you are interested in preparing an Off the Shelf column (re-examinations of classic or overlooked works in the philosophy or history of mathematics) or interviewing someone whose career is related to the history or philosophy of mathematics, please contact me. The preferred formats for submissions are Microsoft Word (please turn off its autoformatting features such as "curly quotes") or LaTeX data files (not compiled PDFs). Please send images as separate files (JPG or PNG formats work well), not embedded in a Word document. Submissions may be sent to *aackerbe@verizon.net*.

Amy Ackerberg-Hastings