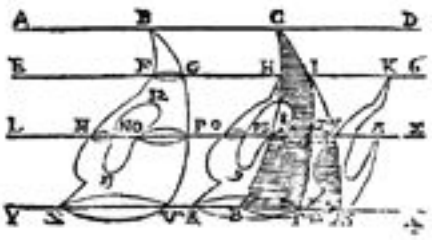
BULLETIN

CSHPM SCHPM



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Canadian Society for History and Philosophy of Mathematics

Société canadienne d'histoire et de philosophie des mathématiques

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ABOUT THE SOCIETY

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

President: **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`
Secretary: **Patricia Allaire**, 14818 60th Ave., Flushing, NY 11355, USA, `PatAllaire@gmail.com`
Interim Treasurer: **Craig Fraser**, University of Toronto, Toronto, ON, M5S 1K7, CAN, `craig.fraser@utoronto.ca`
Past-President: **Craig Fraser**, University of Toronto, Toronto, ON, M5S 1K7, CAN, `craig.fraser@utoronto.ca`

Members of Council

Marion (Wendy) Alexander, Houston Community Colleges, TX 77002 , USA, `marion.alexander@hccs.edu`
Jemma Lorenat, Pitzer College, Claremont, CA 91711, USA, `Jemma_Lorenat@pitzer.edu`
Jean-Pierre Marquis, Université de Montréal, Montréal, QC, H3T 1J4, CAN, `jean-pierre.marquis@umontreal.ca`
Amy Shell-Gellash, Eastern Michigan University, Ypsilanti, MI 48197, USA, `ashellge@emich.edu`

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`. The Proceedings of the Annual Meeting are edited by **Maria Zack** and **David Waszek**. The Society's Archives are managed by **Eisso Atzema**, University of Maine, Orono, ME 04469, USA, `eisso.atzema@maine.edu`. **Hardy Grant**, `hardygrant@yahoo.com`, and **Amy Ackerberg-Hastings**, `aackerbe@verizon.net`, edit the *CSHPM Notes* column for *Notes* of the Canadian Mathematical Society. **Maritza Branker**, Niagara University, Lewiston, NY 14109, USA, `mbranker@niagara.edu`, serves as CMS Liaison.

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

President's Message

It is a pleasure to write this message as the world emerges from the pandemic years. During those challenging times, the Canadian Society for History and Philosophy of Mathematics has succeeded in overcoming many challenges. We are, in many respects, in even better shape than before. The history and philosophy of mathematics community has proved resilient. Our membership numbers are encouraging. I wish to thank all of you for your continued involvement. During the disruption of the past few years our members have continued to generate exciting scholarship. For many, the relative isolation caused by pandemic upheaval led to opportunities to diversify our work and explore interesting new lines of research. For others, it has been an occasion to advance or complete projects. We have witnessed some of this stimulating work via our online colloquium series and at sessions given during last year's virtual annual meeting as part of Congress. Although such events were quite successful, it will be a great pleasure to meet in person once again at this year's annual conference to be held at York University in Toronto on 28-30 May. The decision to hold our conference entirely in person was not easy. There is no denying that online participation in academic events has advantages. Hybridity has established itself as a permanent fixture of scholarly life. However, our members were so enthusiastic about the prospect of meeting in person again that we thought it worthy to encourage the whole community to gather in the traditional manner. We look forward to seeing you all in May!

Nicolas Fillion

Announcements

Congratulations to Isobel Falconer, Editor of the *British Journal for the History of Mathematics* and Reader in the School of Mathematics and Statistics at the University of St Andrews, who was awarded the MBE by Princess Anne on January 18.

An article by Dirk Schlimm and Juan Fernández González, "From a Doodle to a Theorem: A Case Study in Mathematical Discovery," appeared in vol-

ume 13, issue 1, of the *Journal of Humanistic Mathematics*.

The CSHPM Virtual Colloquium welcomed speakers Jean-Charles Pelland, "Which Numeral is that? On notational privilege," on November 18, and Tom Archibald, "Hermite and Analysis," on March 10.

Peace to the memory of Geoffrey Howson (1931–2022), whose many contributions to mathematics education included publications on the history of teaching mathematics.

HOM SIGMAA News: The Virtual Speaker Series featured Marjorie Senechal (Smith) speaking on "Josephine Mehlberg (1905–1969), Mathematician," on February 21. The next virtual speaker is Colm Mulcahy, Professor Emeritus at Spelman College. Details to be announced. If you have suggestions for speakers for our Virtual Speaker Series, please contact Jemma Lorenat, the HOM SIGMAA Program Coordinator. Our Electronic Resources Coordinator, Antonia Cardwell, is soliciting History of Mathematics Course Outlines and library resources for the HOM SIGMAA page.

Mark your calendars for MathFest 2023 in Tampa, FL, August 2-5. Our invited speaker for the Annual HOM SIGMAA Business meeting will be Della Dumbaugh (University of Richmond and American Mathematical Monthly). The title of her talk is **"Expect the Unexpected: Pioneers who Promoted Women in Math and Science."** The following MathFest sessions highlight the history of mathematics:

- Invited Paper Session, "Mathematics is Not Done in a Vacuum: Collaborations in the History of Mathematics," organized by Sloan Evans Despeaux (Western Carolina Univ.).
- Themed Contributed Paper Session, "Ethnomathematics: Culture Meets Mathematics in the Classroom," sponsored by HOM SIGMAA and organized by Ximena Catepillán (Millersville Univ.), Cynthia J. Huffman (Pittsburg State Univ.), and Amy Shell-Gellasch (Univ. of Michigan).
- Panel Session, "The Convergence of History and Pedagogy in Mathematics," sponsored by MAA Convergence and organized by Amy Ackerberg-Hastings and Janet Heine Barnett (co-editors, MAA Convergence).
- Workshop, "Inspiring Great Classroom Discussions by Teaching with Primary Historical Sources," sponsored by HOM SIGMAA and organized by Abe Edwards (Michigan State Univ.), Daniel E. Otero (Xavier Univ.), Dominic Klyve (Central Washington Univ.), and Janet Heine Barnett (Colorado State Univ. Pueblo). This session will feature materials from TRIUMPHS.
- Town Hall, "What is a History of Mathematics Course For?," organized by Gregory McColm (Univ. of South Florida), Fernando Burgos (Univ. of South Florida, Fernando Gouvêa (Colby College), Mile Krajcevsky (Univ. of South Florida), and Ruthmae Sears (Univ. of South Florida).
- Special Mathematical Session, "Read the Masters! Cauchy's Limits," sponsored by HOM SIGMAA, the ORESME Reading Group, the Arithmos Reading Group, the Euler Society, and TRIUMPHS, and organized by Daniel E. Otero (Xavier Univ.)

A new Al-Khwarizmi Undergraduate Student Paper Contest in History of Mathematics in the Islamic Civilization, 8th–16th Century, is accepting submissions until November 17. Contact Abdel Naser Al-Hasan, *naser.alhasan@newberry.edu*, or Noah Aydin, *aydinn@kenyon.edu*, for more information. Submissions for HOM SIGMAA's long-running Undergraduate Student Paper Contest on all topics are due to Amy Shell-Gellasch, *ashellge@emich.edu*, by April 30.

For more HOM SIGMAA news, please read our Newsletter at https://homsigmaa.net

HSS News: The Forum for the History of the Mathematical Sciences of the History of Science Society has begun a virtual reading group. The purpose is to build a stronger community among the group's constituents and reach people without institutionalized support. The first selection, discussed on January 30, was "On a Collection of Geometrical Riddles and Their Role in the Shaping of Four to Six 'Algebras'," from Jens Høyrup's *Selected Essays on Pre- and Early Modern Mathematical Practice* (2019). The second selection, discussed on March 28, was "Archimedes of Syracuse and Sir Isaac Newton: On the Quadrature of a Parabola," published by Wyatte C. Hooper in the *Journal of Humanistic Mathematics* (2021). For information on future meetings, contact Elizabeth Hunter, *eahunter@uchicago.edu*.

FedCan News: The Federation will invest $800,000 in the publication and translation of scholarly books over the next three years in order to expand access for authors to publish Open Access books and chap-

ters and to increase the reach of scholarship in different languages and formats in Canada. A portion of the investment will create a dedicated Indigenous language translation grant.

Conferences, Talks, & Workshops

The Philadelphia Area Seminar on the History of Mathematics has been meeting at Villanova University for more than 25 years. After many sessions on Zoom during the COVID-19 pandemic, during the Spring 2023 semester PASHoM began a hybrid format allowing both in-person and virtual attendance. Presentations in 2022–2023 included: Karen Parshall, "American Mathematicians and World War II," on September 15; Tom Archibald, "Justifying abstraction? Examples from Integration Theory to 1940," on October 20; Ximena Catepillán, "Maya Calendar Computations, "on November 17; Amy Ackerberg-Hastings, "HoM Toolbox: Historiography and Methodology for Mathematicians, "on December 8; Maryam Vulis, "Ukrainian Mathematicians in the Soviet Ukraine," on January 19; Ezra Brown, "A tour of the birth and early development of finite geometries, combinatorial designs, and normed algebras," on February 16; Annalisa Crannell, "Drawing conclusions from drawing a square," on March 16; and David Richeson, "A Romance of Many (and Fractional) Dimensions," on April 20.

The Frederick V. Pohle Colloquium Series in the History of Mathematics at Adelphi University hosted the following speakers in 2022–2023: Sian Zelbo, "A Reexamination of the Nineteenth Century French Influence on American Mathematics Education through Textbook Author Charles Davies," on October 5; Alexander Karp, "Exploring personal archives: Mark Vygodsky and the History of Mathematics Education," on November 2; Walter Meyer, "The History of College Algebra 1910–1930: A Surge of New Ideas," on December 7; Larry D'Antonio, "Mary Winston, an American in Göttingen," on April 5; and Bill Dunham on May 3.

The Philosophy of Education Society held its annual conference in Chicago on March 2–6.

The Philosophy of Science Association will be meeting November 10–13 in Pittsburgh.

Publications

Princeton University Press has published *Henri Poincaré: A Scientific Biography* by Jeremy Gray.

Springer has published *British Versions of Book II of Euclid's Elements: Geometry, Arithmetic, Algebra (1550–1750)* by Leo Corry, and Birkhäuser has published *Niels Bohr: On the Constitution of Atoms and Molecules* by Helge Kragh.

The University of Chicago Press has published *Casanova's Lottery: The History of a Revolutionary Game of Chance* by Stephen M. Stigler.

Michael Robinson's "Astronomy with Chaucer: Using an astrolabe to determine planetary orbits" appeared in volume 90 of the *American Journal of Physics*.

Matteo Valleriani's article, "From the Quadrivium to Modern Science," is available open access from *HoST – Journal of History of Science and Technology*: `doi.org/10.2478/host-2022-0007`.

Marij van Strien published "The Vienna Circle against Quantum Speculations" in volume 12 of *HOPOS: The Journal of the International Society for the History of Philosophy*.

The Scientific Instrument Commission has updated its website, added a link to the SIC Twitter feed, and begun to upload historic documents at `scientific-instrument-commission.org`.

The Consortium for History of Science, Technology, and Medicine has upgraded its Collections Search Hub to allow for faster data processing and to add materials such as archival finding aids. It is now possible to search more than 6.1 million catalog records from 26 institutions, as well as more than 41,000 finding aids from 16 institutions. Explore the resource at `www.chstm.org/consortium-special-collections-search-hub`.

The National Academies of Science, Engineering, and Medicine have launched an interactive resource on "Advancing Antiracism, Diversity, Equity, and Inclusion in STEMM Organizations." To explore the resource, go to `nap.nationalacademies.org/resource/26803/interactive/`.

After many challenges with problems with the typesetting of the book in India the 2021 volume of the Annals of the CSHPM/SCHPM is now being printed. The 2022 Annals volume is ready for the typesetters and is moving forward into production soon.

Francine F. Abeles gave a talk on some of the work of the great nineteenth- and early twentieth-century logician/philosopher, Christine Ladd-Franklin, at a Logic conference held at The Sorbonne in Paris on April

24–25, 2023. Ladd-Franklin is best known for her construct, the *antilogism*, a three-element expression that reduces all valid syllogisms to a single form. From 1914 until her death in 1930 she taught at Columbia University in New York City.

Calls for Submission

Dominic Klyve, Danny Otero and Janet Heine Barnett are guest-editing a special issue of The Mathematics Enthusiast on the theme of teaching mathematics with primary historical sources with a focus on the work that has come out of the TRIUMPHS grant since 2015. (TRIUMPHS = TRansforming Instruction in Undergraduate Mathematics via Primary Historical Sources). They invite queries from authors who may be interested in submitting to this special issue, and ask that potential authors contact janet.barnett@csupueblo.edu by **July 1 2023**.

In Memoriam: William Lawvere

Category theory was perhaps the most influential development in the mathematics world of the second half of the twentieth century. Introduced by Samuel Eilenberg and Saunders MacLane in the context of algebraic topology, category theory has spread over much of mathematics. The influence of the approach can be attributed largely to F. William Lawvere who died on 23 January this year.

Born on 9 February 1937, Lawvere's mathematical training began as an undergraduate at Indiana University. While there he was inspired by Clifford Truesdell. Lawvere proceeded to Columbia for graduate work where he was original enough to come up with the idea of set theory without elements. In his autobiography, MacLane speaks about having been introduced to that notion but not buying into it. As a result of this conflict, Lawvere lost his fellowship at Columbia. He persevered nevertheless and ETCS (the Elementary Theory of the Category of Sets) was born. He taught at Chicago and CUNY before settling into Buffalo where he helped create a rich atmosphere for the study of logic. Among his most notable works was *Conceptual Mathematics*, co-authored with Stephen Schanuel and published by Cambridge University Press in 1997. The authors argue that trying to introduce students to advanced mathematics via set theory is not easy while a leisurely introduction to the subject of categories is more beneficial. A second edition of the book was released twelve years later.

Lawvere was inspired by Alexandre Grothendieck. ETCS can be regarded as the constant case of topos theory. He recognized the crucial role of substitution and pointed to the interpretation of existential and universal quantifiers as adjoints. He defended the replacement of set theory by category theory arguing that *Menge* had more to it than simply being a collection. He was especially fond of Hegelian philosophy and became emeritus member in the Philosophy Department at Buffalo. Never shy of expressing controversial political opinions, Lawvere was thrown out of a teaching position at Dalhousie by virtue of expressing opposition to the War Measures Act. When engaged in debate on philosophical matters he assigned a very high value to anything determined to be the truth. En route to a workshop at the University of Colorado, I once sat next to Lawvere on a shuttle. With little input from me he kept conversation going on topics from Cantor to categories. He reminded me of Richard Askey (from the University of Wisconsin) by way of displaying evangelical zeal for his positions. It is not surprising that there are more entries for Lawvere in the recent *Categories for the Working Philosopher* than for almost anyone else. Even if category theoretic research did not always follow the path he initiated, we owe to his energy and ingenuity, the popularization of categories to a very wide audience.

Thomas Drucker

2023 May Lecturer

This year's Kenneth O. May Lecture will be delivered in person at York University by Tod Shockey of the University of Toledo. He taught secondary school mathematics before earning a doctorate from the University of Virginia. At the University of Toledo, he trains preservice teachers in curriculum and instruction. Most of his research falls within the area of study known as Ethnomathematics—ways, styles, arts, and techniques of doing and knowing mathematics that are developed within identifiable cultural groups. Shockey's consideration of how cultures communicate mathematics through codes and jargon has ranged from indigenous Americans to cardiovascular surgeons. He is a co-founder and editor of the *Journal of Mathematics and Culture*, which examines the intersections between mathematics and culture in both western and non-western societies, and

among both math professionals and non-professionals. See his 2019 TED talk at: youtube.com/watch?v=34YDSKD91J8.

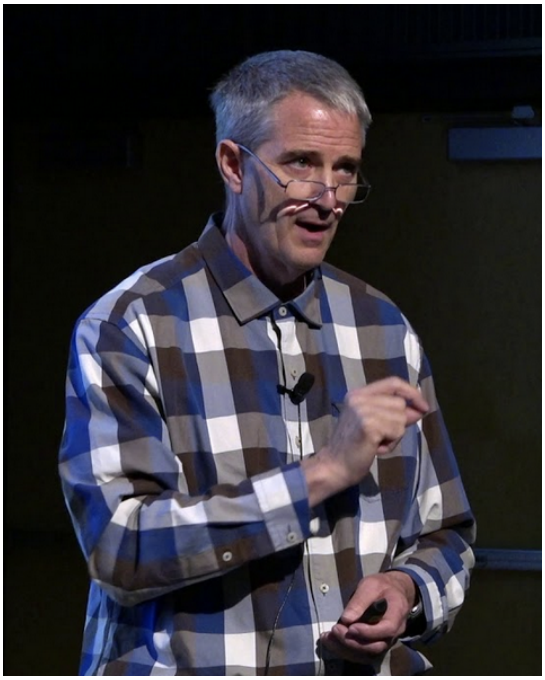


Figure 1: Tod Shockey

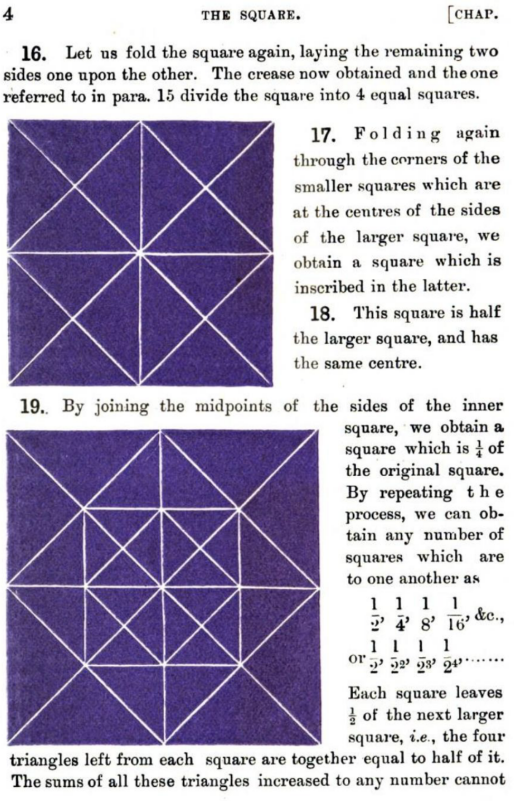
Shockey's address is titled "Fettweis, D'Ambrosio, Ethnomathematics: 90 Years Later, Almost." The abstract is as follows: In the 1930s, Ewald Fettweis (1881–1967) coined the term Ethnomathematics. This was unknown to Ubiratan D'Ambrosio (1932–2021) when he was exploring Ethnomathematics in the 1980s, which led to his 1985 paper defining what he felt Ethnomathematics meant. Through the years, many others have defined the word, many with an eye toward a different inclusive view of mathematics. For example, Alan J. Bishop's research led to a framework of six universal mathematical activities that many have employed in their work with populations that are often underrepresented in mathematics. When we consider what might be the "mathematics" of underrepresented groups, we can also use what Kenneth L. Pike (1912–2000) referred to as the *emic* and *etic* view, which can be supported with Two-Eyed Seeing as put forth by Mi'kmaw Elder Albert Marshall. In this talk I will discuss this history and share insights from working through a lens of Ethnomathematics.

The theme for the 2023 special session is Underrepresented Mathematics, which was chosen to complement the Congress 2023 theme of Reckonings and Re-Imaginings. In addition to shining light on Ethnomathematics, the session recognizes the ongoing efforts of historians and philosophers to uncover contributions to the philosophy of mathematics, pure mathematics, applied mathematics, or the teaching of mathematics by women, racialized people, and LGBTQ people. CSHPM has received funding from the Federation to support this session, which will be open to all Congress attendees.

Amy Ackerberg-Hastings

CSHPMers Contribute to *Convergence*

Since 2004, *MAA Convergence* has been both an online journal on the history of mathematics and its use in teaching, and an ever-expanding collection of online resources to help its readers teach mathematics using its history. Here, we highlight some of our newest articles and features, several of which were contributed by CSHPM authors.



4 THE SQUARE. [CHAP.

16. Let us fold the square again, laying the remaining two sides one upon the other. The crease now obtained and the one referred to in para. 15 divide the square into 4 equal squares.

17. Folding again through the corners of the smaller squares which are at the centres of the sides of the larger square, we obtain a square which is inscribed in the latter.

18. This square is half the larger square, and has the same centre.

19. By joining the midpoints of the sides of the inner square, we obtain a square which is $\frac{1}{4}$ of the original square. By repeating the process, we can obtain any number of squares which are to one another as $\frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}$, &c., or $\frac{1}{2}, \frac{1}{2^2}, \frac{1}{2^3}, \frac{1}{2^4}, \ldots\ldots$

Each square leaves $\frac{1}{2}$ of the next larger square, *i.e.*, the four triangles left from each square are together equal to half of it. The sums of all these triangles increased to any number cannot

Figure 2: Geometric paper folding by Sundara Rao

In particular, Mike Molinsky has been reprinting his

popular *Bulletin* column, "Quotations in Context;" illustrations have been added to the original texts. Installments that have appeared to date include Nicolaus Copernicus, Albert Einstein, Plato, Bertrand Russell, James Joseph Sylvester, and Alfred North Whitehead. Also, Adrian Rice provided an extended entry for the journal's Mathematical Treasures collection by finding connections to Augustus De Morgan, Sylvester, and early teaching of mathematics at University College London in "A Mysterious Copy of Lacroix's *Traité Élémentaire de Calcul Différentiel et de Calcul Intégral*."

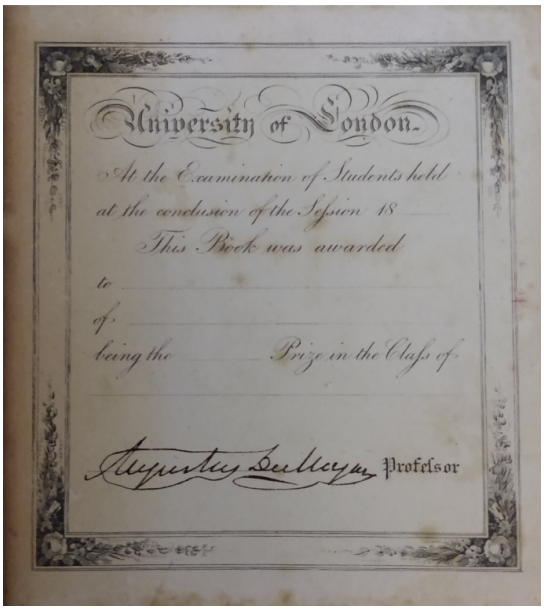


Figure 3: A mysterious bookplate

Amy Ackerberg-Hastings inaugurated a new series on theories and practices for researching the history of mathematics, "HoM Toolbox, or, Historiography and Methodology for Mathematicians." *Convergence* seeks submissions of short articles that explain and apply theoretical approaches to historical interpretation of mathematical topics, such as but not limited to Quantitative History, New Biography, and Book History. The journal also welcomes submissions of the following types of articles:

- classroom activities, projects, or modules for using history to teach mathematics;
- classroom testimonials after applications of such activities, projects, or modules;
- expository articles on the history of topics in the grades 8–16 mathematics curriculum, along with suggestions for using these histories to teach mathematics; and
- translations of primary sources.

Other recent publications include "Aiding the Teaching of Geometry and Affording Mathematical Recreation: Paper Folding in the Spirit of Sundara Rao of Madras," by Peggy Aldrich Kidwell, and "Need the Area of a Triangle? The Pope Can Help!" by Betty Mayfield. Both articles suggest classroom activities for secondary and undergraduate students and preservice teachers. Mayfield is also coordinating a new series of reprints from NCTM's *Mathematics Teacher*, in which columns on the use of history to teach mathematics that ran from 1953 to 1969 under the umbrella title "Historically Speaking" are placed into context by a current historian of mathematics. The first reprint to appear, "The Quadrature of the Parabola: An Ancient Theorem in Modern Form," by Carl Boyer, features commentary by Bill Dunham.

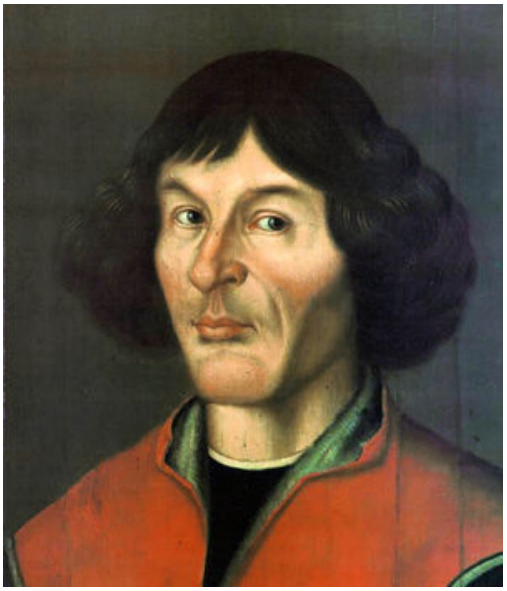


Figure 4: Copernicus from *Convergence*'s Portrait Gallery

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

- "Fourier's Infinite Series Proof of the Irrationality of e: A Mini-Primary Source Project for Calculus 2 Students" ;
- "Fermat's Method for Finding Maxima and Minima: A Mini-Primary Source Project for Calculus

1 Students."

Find all of these articles and much more at `bit.ly/MathTreasures`. Contact the editors at *convergence@maa.org*.

Janet Heine Barnett & Amy Ackerberg-Hastings

2022 Financial Report

Treasurer David Orenstein fell ill in January of 2023 and the duties of this position are currently being carried out by Craig Fraser. The Council of CSHPM extends its heartiest thanks to David for his service and wishes him all the best in his recovery.

The year 2002 was a normal one in terms of collection of annual membership fees, the coordination of preferential CSHPM member subscriptions to the journals *Historia Mathematica* and *Philosophia Mathematica*, and the optional provision of memberships at reduced cost to the Canadian Society for the History and Philosophy of Science and the British Society for the History of Mathematics. Funds are expended for costs of mailing the *Bulletin* to members who request paper copies, for minor office expenses (postage, envelopes etc.) and for the cost of web services.

The Canadian Federation of the Humanities and Social Science awarded an honorarium grant of $750 for the CSHPM Kenneth O. May speaker (Marylou Haffner of Paris's Centre national de la recherche scientifique) at the 2022 annual meeting. Because the meeting was online as part of the larger Congress (organized by the Canadian Federation for the Humanities and Social Sciences) the associated costs were lower than those of a traditional in-person meeting.

CSHPM has two bank accounts at TD Canada Trust, one in Canadian dollars and the other in US dollars. The balances of the accounts at the end of 2022 were $25,687.83 (CDN) and $10,540.65 (USD). CSHPM also has a PayPal account, originally set up by Michael Molinsky, which provides the option to members to pay their annual memberships online. Funds that accumulate in the PayPal account are periodically transferred to the CSHPM Canadian bank account. In order to cover international payments in US dollars, funds are periodically transferred from the Canadian to the American account.

In addition, CSHPM has investment certificates. Two guaranteed investment certificates with TD Canada Trust at per annum interest rates of 1.80% and 1.35% matured in 2022 and were re-invested as three-year GIC's in the amounts of $5000 each at Meridian Credit Union at per annum interest rates of 4.25% and 5.0%. The reinvestment was organized by David Orenstein and approved by Council. Over the three-year period of the certificates, it will result in an almost $1000 increase in the return on CSHPM's investments. This change responds to concerns expressed by CSHPM members at annual meetings about the low rates that have traditionally been attached to the society's investments.

Craig Fraser

Quotations in Context

> "Statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write."

From September 1902 to September 1903, the English writer Herbert George Wells published a series of eleven essays under the title "Mankind in the Making" in the British magazine *The Fortnightly Review*. The essays were intended to build upon the ideas Wells had expressed in *Anticipations of the Reaction of Mechanical and Scientific Progress upon Human Life and Thought*, published two years earlier. The "Mankind in the Making" essays dealt with questions of social and political development, including issues of improving the educational system.

The sixth essay, "Schooling," first appeared in the April 1903 issue of the magazine. While earlier essays in the series had dealt with the development of the minds of infants and very young children, this essay picked up with the question of the best way to organize formal schooling beginning at age five. Wells spent the first few pages of the essay discussing aspects of language and the teaching of reading and writing. Wells also bemoaned the lack of training in oratory in modern schools, saying "There is no deliberate and professed training at all in logical thought—except for the use of Euclid's Elements to that end" [Wells 1903, p. 757]. After a brief discussion of how modern kindergarten education differed from the educational methods of the past, Wells switched over to consideration of mathematics:

> Modern, too, is the development of efficient mathematical teaching; so modern that for too many schools it is still a thing of tomorrow. The arithmetic (without Arabic nu-

merals, be it remembered) and the geometry of the mediæval quadrivium were astonishingly clumsy and ineffectual instruments in comparison with the apparatus of modern mathematical method. And while the mathematical subjects of the quadrivium were taught as science and for their own sakes, the new mathematics is a sort of supplement to language, affording a means of thought about form and quantity and a means of expression, more exact, compact, and ready than ordinary language. The great body of physical science, a great deal of the essential fact of financial science, and endless social and political problems are only accessible and only thinkable to those who have had a sound training in mathematical analysis, and the time may not be very remote when it will be understood that for complete initiation as an efficient citizen of one of the new great complex world-wide states that are now developing, it is as necessary to be able to compute, to think in averages and maxima and minima, as it is now to be able to read and write. [Wells 1903, pp. 757-758].

The final sentence above is most likely the source from which this column's topic "quotation" is drawn, although obviously the modern version is only a paraphrase of the actual words of H. G. Wells. One key difference is that, in context, Wells seemed to be talking about a wider array of mathematical knowledge, not just specifically statistical reasoning.

The source which first misattributed the paraphrased wording as if it were an actual quotation of Wells appears to be the Presidential Address by Samuel Wilks from the 1950 meeting of the American Statistical Association. The address was published as "Undergraduate Statistical Education" in the March 1951 issue of the *Journal of the American Statistical Association*. At one point in the address, Wilks considered an arbitrary adult man in society, and discussed some of the problems this man would face each day in terms of understanding advertisements, insurance, and the standardized test scores of his own children:

> At present the only tools he has for critical evaluation and decision in all of these matters, are experience and common sense, and these often fail him. Would anyone deny that this citizen would be able to carry on a little more intelligently in his complicated twentieth century environment if he had received a few of the elementary concepts of probability, statistics and logic at about the same time that he was exposed to plane geometry and trigonometry in high school? Perhaps H. G. Wells was right when he said "statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write"! [Wilks 1951, p. 5]

Mike Molinsky

References

Wells, H. G. 1903, April. "Mankind in the Making. VI–Schooling." *The Fortnightly Review* 73(436): 755-772.

Wilks, S. S. 1951, March. "Undergraduate Statistical Education." *Journal of the American Statistical Association* 46(253): 1-18.

Report on the Special Sessions on the History of Mathematics at the JMM 2023

Organized by Jemma Lorenat, Adrian Rice, Deborah Kent and Danny Otero, the special sessions at the Joint Mathematics Meetings took place in Boston January 6 and 7, 2023. On Friday morning Joseph Dauben began with a talk about his research on Chinese mathematical texts recovered from archeological sites. He explained how these texts, written on tens or hundreds of bamboo slips, are cleaned and put into legible order by himself and his affiliated research team. Glen van Brummelen carried on with an engaging talk about the history of the tangent function from its origins in Ptolemy to Regiomontanus up to several mathematicians who identified the function in early modern Europe. Craig Fraser continued with a talk about Robertson's role in merging theoretical concerns with observations in the discovery of the red shift in early modern cosmology. Karen Parshall concluded the morning session with a summary of her research about how mathematics was communicated on the radio in America.

Although several talks were cancelled in the afternoon, Louis Beaugris gave an interesting talk about Lucien Hibbert, and Alan Levine spoke about the

Calculus of probabilities. Amy Ackerberg-Hastings discussed the MAA Convergence toolbox for the history of mathematics, highlighting how book history can be employed as a methodology within the history of mathematics, giving her own work on Simpson and Playfair's editions of Euclid as an example. Naveen Somasunderam presented a history of the concept of compactness in the work of Dirichlet, Borel and Lebesgue that prompted some lively debate in the Q&A. Ursula Martin completed the afternoon with an overview of what concerns motivated her co-design of several exhibitions about Ada Lovelace and tools prefiguring the development of artificial intelligence, drawing on material artifacts from the Bodleian Library at Oxford.

On Saturday morning we were treated to a talk by Maria Zack on the history of study of the cycloid curve in the works of Pascal, Descartes, Torricelli, and Roberval. Larry D'Antonio followed with a talk about the deteriorating relationship between Flamsteed and Newton. Carey Witkov presented a talk about the history of what is known variously as the triple product rule, cyclic chain rule, or cyclic rule in multivariable calculus. Witkov asked whether this mathematical relationship can be useful for material design problems. Eisso Atzema and Fernando Gouvea concluded the morning with talks on Amsler's planimeter and the discriminant derivatives and their relationship to p-adic numbers, respectively.

In last session on Saturday Adrian Rice began with an overview of everyday numeracy in nineteenth century England and America through looking at ready reckoners, money, early arithmetic textbooks and non-standardized weights and measures used at the time. Brigitte Stenhouse presented about Mary's Somerville's late work on quaternions, Alejandro Garciadiego on Bertrand Russell's work on foundations of mathematics, and Brit Shields on the development of curricula for expediting the education of engineers in WW2 America. James Tattersall presented a very lighthearted talk on the history of the recreational four fours and four nines problem, which was received with much delight by the audience.

Before Tom Drucker could close the meeting with a humorous reflection on the mathematical inspiration behind Norton Juster's *The Phantom Tollbooth*, Abigail Taylor-Ross delivered an inspired talk applying Sandra Harding's feminist philosophy of science to frame the set of differential equations modelling the female menstrual cycle as illustrative tools. The connection between feminist philosophy and history of mathematics is seldom made. The audience seemed rapt until the presenter called for expulsion of the NSA from recruiting at the JMM, a message received with audible sighs from the audience. Thus ended another interesting and diverse range of content at the Special Sessions on the History of Mathematics.

Sylvia Nickerson

2023 CSHPM/SCHPM Meeting Program

The Annual Meeting of the Canadian Society for History and Philosophy of Mathematics will be held at York University in Toronto, 28-30 May 2023, in conjunction with the HSSFC Congress. Except for the one-hour May Lecture, presentations are 20 minutes, with 5 minutes for discussion and 5 minutes of set-up before the next talk. Andrew Perry has organized the general session, and Amy Ackerberg-Hastings has organized the special session on underrepresented mathematics.

Sunday, May 28

9:45 PRESIDENT'S WELCOME (Nic Fillion)

HISTORY OF MATHEMATICS BEFORE 1600

10:00 David Buckle (Independent Scholar): "The Babylonians and π"

10:30 Henryk Fukś (Brock): "Mathematics of the Gregorian reform—a look at the ecclesiastical moon"

11:00 Jeffrey Oaks (Indianapolis): "Zero and nothing in medieval Arabic arithmetic "

11:30 Kailyn Pritchard (Simon Fraser): "Georg Rheticus' *Canon doctrinae triangulorum*"

12:00 LUNCH BREAK

PHILOSOPHY OF MATHEMATICS: PRACTICE AND APPLICATIONS

14:00 Zoe Ashton (Ohio State): "New Objections to the Standard View of Rigor"

14:30 Christopher Beer (Independent Scholar): "Mathematical Homonyms"

15:00 Nic Fillion (Simon Fraser): "The Demon's Masterclass"

15:30 COFFEE BREAK

15:45 Toby Reid (Toronto): "The Practice of Rela-

tivistic Cosmological Modeling as an Entifying Technology of Theory"

16:15 Kino Zhao (Simon Fraser): "Limitations of the Garbage In—Garbage Out (GIGO) framework in data-processing"

Monday, May 29

HISTORY OF MATHEMATICS UNIVERSITY COURSES/MODULES

8:45 Sylvia Nickerson (Toronto): "Representing Mathematics using Creative Visual Methods"

9:15 Fionntan Roukema (Sheffield): "A History of Undergraduate History of Mathematics in the United Kingdom"

9:45 COFFEE BREAK

SPECIAL SESSION: UNDERREPRESENTED MATHEMATICS

10:00 Amy Ackerberg-Hastings (MAA *Convergence*): "Teaching Underrepresented Students in the 19th Century: The Reactions of Black American Pupils and Teachers to Charles Davies's Textbooks"

10:30 Madeline Muntersbjorn (Toledo): "Heavy Issues: Bob Moses & the Algebra Project"

11:00 Jean-Charles Pelland (Bergen): "Which number is that? On notational privilege"

11:30 Ximena Catepillán (Millersville) and Cynthia Huffman (Pittsburg State): "Ethnomathematics: the intersection of culture, history, and mathematics"

12:00 CSHPM ANNUAL GENERAL MEETING (LUNCH PROVIDED)

14:00 THE KENNETH O. MAY LECTURE, by Tod Shockey (Toledo): "Fettweis, D'Ambrosio, Ethnomathematics: 90 Years Later, Almost"

15:00 COFFEE BREAK

HISTORY OF MATHEMATICS, 1600–1800

15:15 Robert Bradley (Adelphi): "Did Varignon's *Eclaircessesmens* Really Clarify l'Hôpital's *Analyse*?"

15:45 Lawrence D'Antonio (Ramapo): "Puppy Love: Isaac Newton and John Flamsteed"

16:15 Maria Zack (Point Loma Nazarene): "Blaise Pascal and the Roulette"

17:00 PRESIDENT'S RECEPTION

Tuesday, May 30

HISTORY OF MATHEMATICS AFTER 1800

8:45 Christopher Baltus (SUNY Oswego): "Figures in Motion: Geometric transformations in school mathematics 1874–1906"

9:15 Craig Fraser (Toronto): "Variation and Optimization in Carl Jacobi's Analysis"

9:45 Roger Godard (Royal Military College): "The marvelous Laplace equation and its applications in mathematical physics and in numerical analysis"

10:15 Andrew Perry (Springfield College): The Extraordinary of Stefan Banach"

10:45 COFFEE BREAK

Logic and Philosophical Foundations of Mathematics I

11:00 Bernd Buldt (Purdue–Fort Wayne): "Do we have a good structuralist account of what an open set is?"

11:30 Tom Drucker (Wisconsin–Whitewater): "Intuitionism and the Constructive Spirit"

12:00 LUNCH BREAK

Logic and Philosophical Foundations of Mathematics II

14:00 Greg Lavers (Concordia): "Russell, Gödel and Mathematical Platonism"

14:30 Milos Mihajlovic (Simon Fraser): "Two kinds of conditionals in Stoic logic: did 'the fourth conditional' belong to the Stoics?"

15:00 Chris Mitsch (Pittsburgh): "On Hilbert's So-Called Instrumentalism"

15:30 CONCLUDING REMARKS

Alma McKown

Bulletin Editor Sought

A volunteer for the role of content editor of the CSHPM *Bulletin* is sought. The current content editor seeks a replacement. Duties include soliciting contributions for each issue via our Society email list, notifying members of Council when they have Society reports due, collecting and compiling announcements from other organizations involved in supporting the study of history and philosophy of mathematics, soliciting obituaries of members and friends of CSHPM, compiling content and proofreading draft layouts, submitting corrections to the Layout Editor, and arranging for electronic and print distributions with the Production Editor and Webmaster. Interested members are asked to contact Sylvia Nickerson at `s.nickerson@utoronto.ca`.

The 2023 Brazilian Society of the History of Mathematics National Conference

The fifteenth Seminário Nacional de História da Matemática (SNHM) was held at the University Federal de Alagoas (UFAL) in Maceió, Brazil from 2-5 April 2023. The conference was organized by the Sociedade Brasileira de História da Matemática and the History of Mathematics research group at UFAL. It brought together around 200 researchers and teachers from across Brazil to discuss topics related to history of mathematics, history of mathematics education, ethnomathematics, and classroom applications of these subjects.

The conference began with a presentation featuring a local dance group that shared typical dances from the Brazilian Northeast and the state of Alagoas. This set the tone for the conference by emphasizing the diversity of cultures in Brazil and the importance of incorporating local traditions into academic work. The conference's first day concluded with another cultural activity: Cafe Patrimonial, where attendees enjoyed coffee and northeastern specialties like corn 'couscous' and plantains.

The lecture schedule began with a talk from the president of the Sociedade Brasileira de História da Matemática, Dr. Marcos Teixeira. He presented his research titled, Genesis of Fractional Calculus. Other keynote talks included discussions on the history of mathematics in Muslim Spain, spherical trigonometry at the Brazilian military academy (1810-1858), and a new database of recent Brazilian history of mathematics theses and publications, which can be found at crephimat.com.br. Organized panels included topics such as the teaching of history of mathematics in higher education, the history of mathematics in the Brazilian northeast and the creation of the mathematics community within Brazil.

One of the most engaging aspects of the conference was the series of short scientific communications where presenters (often graduate students) shared short talks on new research. There were three sessions of this type with five rooms running simultaneously. These talks included discussions of famous mathematicians like David Hilbert, Luca Pacioli, John Napier, and Abu Al-Biruni. Additionally, there were talks on advanced mathematical cognition, Masonic signs in the work of Brazilian sculptor Aleijadinho, and using the archive of phycologist Helena Antipoff's to examine her historical contributions to mathematics education.

The conference also featured five mini courses. These focused on ways to incorporate the history of mathematics into the mathematics classroom. The topics of the mini courses included historical mathematical instruments, using origami to teach Euclidean solids, and Archimedes' Stomachion as a geometric and combinatorial exercise. The mini courses were hands-on and interactive, allowing participants to experience the content as they could be taught in a classroom setting.

This was the first national seminar held in person since the passing of Professor Ubiratan D'Ambrosio, who was instrumental in the founding of the Sociedade Brasileira de História da Matemática and organizing many of these events in the past. While his physical presence was missed by many in the crowd, his legacy lived on. A session was devoted to the organization of his archive. A round table discussed D'Ambrosio's ideas on ethnomathematics and its relation to the history of mathematics. In this panel, Dr. Marcos Lubeck emphasized how the methodology of historiography can be used to pursue ethnomathematics studies. Dr. Christiane Coppe de Oliveira drew on D'Ambrosio's early writings in which he called ethnomathematics a sub-field of the history of mathematics and his last lectures in which he emphasized that ethnomathematics and the history of mathematics really were one and the same.

In conclusion, this year's Seminário Nacional de História da Matemática showcased the wide range of research conducted on the history of mathematics in Brazil. The conference demonstrated a distinct Brazilian perspective: emphasizing theory, connections to D'Ambrosio's work in ethnomathematics, and focusing on classroom applications. Many professors and students expressed their desire to establish stronger connections within the global history of mathematics community and explore opportunities for student exchanges and grants abroad. If you are interested in joining the Sociedade Brasileira de História da Matemática or establishing contact with students and teachers, you are encouraged to reach out to the secretary of the Sociedade, Profesor Ana Carolina Pereira (Universidade Estadual do Ceará) at carolina.pereira@uece.br.

New Members

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

Paul Fournier
Maylands, WA
Australia

Mega Krempa
Halifax, NS
Canada

Milos Mihajlovic
Burnaby, BC
Canada

Chris Mitch
Pittsburgh, PA
USA

Toby Reid
Toronto, ON
Canada

Ben Vaidya
Edgeware, Middlesex
UK

Kino Zhao
Burnaby, BC
Canada

From the Editor

This issue of the *Bulletin* is my sixth issue as your editor. I have enjoyed serving our society in this role. During this time, I learned much about our society and its members. As the advertisement in this issue indicates, a new volunteer is sought for the position of *Bulletin* editor. This is my last issue. Thank you for allowing me to experiment and shape your society newsletter during the period of pandemic disruption these last few years has witnessed. I will look forward to seeing what a new editor may do to steer this organ into a hopeful period of stability and growth for our scholarly discipline.

The *Bulletin* welcomes contributions from all members of the society be these news items of interest to historians and philosophers of mathematics or personal and professional announcements. We welcome suggestions for memorials, reports on conferences relevant to historians and philosophers of mathematics, book and web reviews, and informative or thought-provoking column-style articles. Ongoing column series include Models of Mathematics, Off the Shelf, and Mathematical Ephemera. New lines of investigation that members may wish the *Bulletin* take up can be created, especially from younger scholars pursuing new lines of research or re-evaluating well travelled paths in new ways. Contributions of opinion or editorial style articles offering arguments or particular perspectives on the state of the field are welcome. The contributions of philosophers are welcomed and they are encouraged them to make this space their own.

Microsoft Word (please turn off its auto-formatting features such as "curly quotes") and LaTeX data files (not compiled PDFs) are easiest for the editors to deal with. We also prefer that image files be sent separately, rather than embedded into a Word or PDF document. Submissions may be sent to *s.nickerson@utoronto.ca*. The *Bulletin* reaches your hands or screen due to the continued labors of Eisso Atzema, Layout Editor and Webmaster; Maria Zack, Production Editor; and Pat Allaire, Secretary.

Sylvia Nickerson

About the *Bulletin*

The *Bulletin* is published each May and November by a team of 3 volunteers: Content Editor Sylvia Nickerson (s.nickerson@utoronto.ca), Layout Editor Eisso Atzema (eisso.atzema@maine.edu), and Production Editor Maria Zack (MariaZack@pointloma.edu). Material without a byline or other attribution has been written by the editors. Les pages sont chaleureusement ouvertes aux textes soumis en français. Comments and suggestions are welcome and can be directed to any of the editors; submissions should be sent to Sylvia Nickerson at the above email address. Members, readers and prospective contributors may also contact Sylvia by post. Direct correspondence to Institute for the History and Philosophy of Science and Technology (IHPST), Victoria College, Room 316, 91 Charles Street West, University of Toronto, Toronto, ON M5S 1K7, CANADA.

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