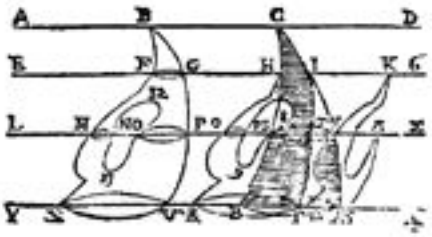
BULLETIN

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

President: **Robert Bradley**, Adelphi University, Garden City, NY 11530, USA, bradley@adelphi.edu
Vice-President: **Alexander Jones**, University of Toronto, Toronto, ON M5S 2E8, CA, alexander.jones@utoronto.ca
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The Society's Web Page (www.chspm.org) is maintained by **Robert Bradley**, Adelphi University, Garden City, NY 11530, USA

The proceedings of the Annual Meeting are edited by **Antonella Cuppilari**, School of Science, Penn State Erie, The Behrend College, Erie, PA 16563, USA, axc5@iusb.edu

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

From the President

This year's annual meeting was held at Clare College in Cambridge, England, from July 9 to 11. More than 30 of our members attended, along with a similar number of participants from the British Society for History of Mathematics (BSHM), our gracious hosts for this, our third joint meeting. John Earle, the BSHM Secretary, reports that a total of 80 people participated in the meeting. The meeting was coordinated by John and by our own Adrian Rice, who had to cram an amazing diversity of activities into only 48 hours, including more than two dozen talks by members of the CSHPM.

We held the Annual General Meeting at mid-day on Friday the 9th, just before the official start of the conference. With the election of a new Council, three members with long and distinguished records of service to the Society have stepped down from the executive. I'd like to thank Hardy Grant and Israel Kleiner for their service on the Council during the 2002-04 term, and for all the work they've done for the Society over the years. With the conclusion of his term as Past President, Glen Van Brummelen ceased to play any formal role in the executive for the first time since 1993. Thank you, Glen! In point of fact, Glen continues to moderate the discussion group for the CSHPM Council, so his long institutional memory and wise counsel (upon which I've already come to depend) is still available to the new executive.

I'd like to take the opportunity also to thank Roger Godard, who has finished up his term as Treasurer, but continues to serve as a member-at-large of the Council. Roger's replacement as Treasurer is David Bellhouse of the University of Western Ontario. Alexander Jones of the University of Toronto is our new Vice-President, and Francine Abeles of Kean University is a member-at-large. A hearty welcome to the new executive members!

Figure 1: Most of the participants of the joint CSHPM/BSHM Meeting at Clare College (July 6-9, 2004). June Barrow-Green and John Earl, President and Treasurer of BSHM, are in front on the tiles. Rob Bradley and Adrian Rice, President and Counselor of CSHPM, are to the right of them.

During the Cambridge meeting, the CSHPM and BSHM hashed out the details of our next joint meeting, to be held in Canada in 2007. The BSHM executive expressed a strong desire on behalf of their members for a venue in Eastern Canada, and we agreed to hold the meeting in Montreal. This will be the second joint meeting of the societies to be held in Canada, following on the 1999 meeting in Toronto. The Special Session for 2007 will be The Mathematics of Leonhard Euler.

Len Berggren made it a priority during his Presidency to foster closer ties and greater cooperation between the CSHPM and the Canadian Mathematical Society (CMS). The efforts will bear fruit in 2005, when we hold our annual meeting jointly with the CMS in Waterloo, Ontario. The keynote speaker for our special session will be Len Berggren, and his talk will be listed as one of the plenary addresses of the conference. We will continue to have both a special session and a contributed paper session as we have done in past years. These will be listed in the programme as "History of Mathematics from Medieval Islam to Renaissance Europe" and "History and Philosophy of Mathematics" respectively. I urge you all to consider contributing a paper to one or the other of these sessions.

The CSHPM has had a long and collegial association with the Learneds (the Canadian Federation for the Humanities and Social Sciences), at whose annul Congress we have held most of our meetings. Between the Cambridge meeting this year and the joint meeting with CMS in 2005, we will be missing the Congress of the Humanities and Social Sciences in consecutive years for the first time in the history of our society. Please rest assured that we will meet with the Learneds in 2006, at York University. For those whose appointment calendars extend that far into the future, please note that the dates are May 27 to June 4, 2006.

Looking even further ahead, the CSHPM was informed this summer that the Canadian mathematical community is making a bid to hold the 2010 International Congress of Mathematicians (ICM) in Montreal. A committee chaired by Jim Arthur of the University of Toronto and comprising the directors of the CMS and Canada's various mathematical research institutes is coordinating the effort. The CSHPM was a signatory to the cover letter that accompanied the bid, submitted October, and we also submitted a strong letter of support as a part of the package. It will be some time before the host city for the 2010 ICM will be known, but if Montreal is chosen, we expect the CSHPM to be actively involved in the planning of the Congress and its various satellite conferences, which would include the annul meeting of the CSHPM.

Finally, I would like to thank Roger Godard for suggesting a mailing list for the use of CSHPM members. The list was launched in September, and now has 59 members. The volume has been very light. The list is hosted by Yahoo. Members who had current email addresses on file with the secretary in September received electronic invitations to join the list. If you did not receive an invitation but would like to join in the discussion, please send me an email at bradley@adelphi.edu.

Rob Bradley

AGM of CFHSS

The Annual General Meeting of the Canadian Federation of Humanities and the Social Sciences took place in Ottawa on November 27-28. Members of CSHPM might be interested in the following:

- **Electronic Publishing.** There was a presentation on Érudit, which, for the last few years, has published journals, documents, theses and books electronically. Some go electronic only; while others are both electronic and in print. It is run by the Université de Montréal. Several papers (peer reviewed) have moved into this. It is open access for all. Address: www.erudit.org. One society (Canadian Historical Association) is thinking of putting all its volumes (one per year) into this. It has 83 years of volumes (since 1920) and would cost $17,000. The usual is to start electronic publishing and have a print copy for a few yearsand then go electronic only. Most hits on Érudit have come from France. 2nd and 3rd behind this have been the US and Canada.

Érudit is like J-STOR, but doesn't have its extensiveness yet.

- **Services provided.** CFHSS is considering offering "online membership renewals and e-commerce" for scholarly associations using credit cards. This is provided by Leverus Inc. (Ticketmaster) and would cost $235 for the first year and $50 in subsequent years. Contact isullivan@fedcan.ca. Contact Irene Sullivan also for information about non-profit organizations, charitable organizations, and bulk mail.

Ed Cohen

ICHM Special Session

On July 10, 2004, an ICHM Special Session in Honour of the Retirement of Ivor Grattan-Guinness was organized at the joint meeting of the British Society for the History of Mathematics and the Canadian Society for History and Philosophy of Mathematics, Clare College, Cambridge University.

All 4 speakers (Photo: Shunshi Koyama)

June Barrow-Green, President of the BSHM, opened the special session with an address documenting and paying tribute to Ivor Grattan-Guinness's long and distinguished career in the history of mathematics. Adrian Rice, programme chair for the meeting, paid tribute to Ivor's many contributions to the field and called attention to the ICHM sponsorship of the special session.

The topic of the special session, the history of nineteenth-century analysis, concerns a field to which Ivor has made fundamental contributions. His books on Fourier and French mathematical science, his several edited collections on the history of analysis and mathematical science , and his numerous articles attest to his achievements in this area of mathematical history. Speakers at the special session also drew attention to his mastery of archival sources, the sensitivity shown in his writings to foundational questions, and the stimulation and encouragement he has given to younger scholars over the years through his participation at conferences and his travels abroad.

Speakers included:

- **Ivor Grattan-Guinness,** "Why did Cantor see his set theory as an extension of mathematical analysis'?" As is well know, Cantor's set theory met a certain amount of opposition, and a lot of indifference, from mathematical colleagues during its development from 1870 to 1895. While especially the theory of actually infinite numbers would have exited shock and awe, and the pretension of general sets some quizzicality, the reasons are not so easy to detect. For from the start Cantor took as the basic concept of his theory the notion of the limit point of a set of points, which was a (marvelously powerful) extension of the theory of limits, staple food for the analysis of his time. In an interesting and thought-provoking discourse, the presenter mused around this topic.
- **Michiyo Nakane,** "Weierstrass's foundational shift in analysis: His introduction of the epsilon-delta method of defining continuity and differentiability." The author examined the influences and motivation for Weierstrass's definition of functional continuity first presented in a lecture delivered in Berlin in 1861. This definition was formulated using epsilon-delta inequalities and contained no reference to such intuitive notions as infinitesimally small quantities. The paper showed that it was the intention of distinguishing differentiability from continuity, and not the use of epsilon-delta techniques as such, that was the crucial factor in the new definition.

The following general conclusion was derived from the study. Historians have commonly discussed the development of 19th-century calculus in reference to the concept of rigor. The view seems to be that it was mathematicians' general concern with logical and rather abstract questions that led them to develop modern theories. However, in practice it was the process of solving particular problems which spurred the creation of rigorous theories. Hence it is quite important for historians to identify and describe the work that was done on such problems. For Weierstrass's seminal lecture of 1861, it was the recognition of the need to distinguish differentiability from continuity that motivated his creation of the modern definition.

- **Thomas Archibald,** "French Research Programs in Differential Equations in the Late Nineteenth Century." With the renewed development of the French mathematical community in the period after 1870, the theory of differential equations, long of interest to French mathematicians, was carried forward in a number of directions. The well-known innovations of Poincaré in the qualitative theory of ODEs are only the best-known representative of a varied and nuanced set of research programmes. The paper presented an overview of these developments and those involved in them, and unravelled some the threads interconnecting them, their mutual influences, and their effect on early twentieth-century work. An assessment was made of the accuracy of the picture provided by Painlevé, Goursat, Flocquet, and Vessiot in the differential-equations articles of the Encyclopédie des sciences mathématiques.
- **Craig Fraser,** "Mikhail Ostrogradsky's 1850 paper on the calculus of variations." Mikhail Ostrogradsky (1801-1862) published a paper in 1850 in the memoirs of the St. Petersburg Academy of Science which presented in a general mathematical setting some results from contemporary dynamical theory. From a modern viewpoint, his work may be seen as the mathematical development of certain idea of William Hamilton and Carl Jacobi. The paper showed that Ostrogradksy's particular technical innovation was to derive the canonical equations for the case in which the variational integrand contains higher-order derivatives of the dependent variables. This derivation represented a non-trivial extension of the existing theory.

  Of some foundational interest was the very general viewpoint Ostrogradsky brought to his investigation. In the introduction to the paper he formulated the objective of his investigation at a greater level of generality than either expository considerations or scientific applications would seem to have warranted. He seemed to believe that the results he obtained in the paper were only one instance of a more general and over-arching formal theory

Craig Fraiser

Open Letter

Dear Colleagues,

I received my PhD from Brandeis University in 1977, writing my thesis under the direction of historian of logic Jean van Heijenoort. My research has been in proof theory, especially the falsifiability tree method (Smullyan tableaux), history and philosophy of logic, especially history of proof theory and model theory, algebraic logic, Russell and Cantor on set theory, Russell on logic and foundations of mathematics, Charles Peirce on logic, historiography and bibliography of logic, history of logic in Russia, and in history and philosophy of mathematics, especially history of mathematics in Russia.

For several years I taught undergraduate mathematics at various colleges and universities in the US, and worked for a year as a mathematics and logic researcher associate on the Bertrand Russell Editorial Project. From 1990 to 1998, I taught logic at the Boone campus of the Des Moines Area Community College in Iowa, and founded and ran the journal "Modern Logic" devoted to the history of mathematical logic, set theory, and foundations of mathematics from the mid-nineteenth century forward.

In late 1996, however, I made the mistake of hiring as a business manager a person who has now been charged (but not yet convicted, the trial date still to be set) with "ongoing criminal activity" and three counts of first-degree theft; as a consequence of this person's activities while in my employ, I have since lost not only the journal and its parent company, Modern Logic Publishing, but I have also lost the bulk of my personal research library, most of my computer equipment, and I have been left impecunious, as have my parents through their efforts to help me through the resulting debts and legal entanglements created by the foregoing events. I currently use a computer borrowed from a kind colleague, in my efforts to continue research, but have internet access only one hour per day at the local public library, when I manage to get to the library. Neither do I have any means of getting to a university library (having lost my automobile), or funds to continue as a member of professional organizations. I was an invited speaker for the section on history of logic at the LMPS '03 (International Congress of Logic, Methodology and Philosophy of Science) in Oviedo. Spain in August 2003, and was able to get plane tickets and related travel expenses through the generosity of a colleague. But I had to cancel the trip at the last possible moment due to serious illness resulting from strains of the experiences of the past seven years, and of being unable to find someone to care for my aged (93 years old at that time), invalided, recently widowed mother, and assertions that, were I to leave for the conference, it would be construed as an attempt to flee the country.

I ask any colleagues who have available offprints of publications or any other materials that they think might be of interest to me to send them to me at: 629 Central Avenue, Apt. 302, Fort Dodge, IA 50501, USA. I also ask anyone who may know of a post, academic or otherwise, for which I might be qualified, to recommend me for that post. I would be grateful for any possible assistance in obtaining a position, as currently I have neither the financial resources or tools to secure membership in professional organizations which could alert me to vacancies, nor the resources or tools to send out applications. Above all, I would deeply appreciate any encouragement or moral support that colleagues would care to offer.

With humble thanks to all,

Irving H. Anellis

René Taton (1915-2004)[1]

René Taton has just died suddenly, on Monday, August 9 in Ajaccio. At the age of 89, he was still working on an edition of the letters of his hero, the mathematician Gaspard Monge, who was also a minister of the first republican government of Danton in September 1792.

It was the school system of the third republic that led the young Taton, from the Ardennes [in northeastern France], after the École Normale de Saint-Cloud, to become a professor in teacher's colleges for the training of future primary teachers, at the age of 23. This experience bound him to a precise style where every technical word must be explained and every allusion rendered explicit. This was to become the style of his monthly lectures on history of science at the Palais de la Découverte, just after the war, during a momentary decline in its Paris-centric tendencies. The young professor nevertheless completed the agrégation in mathematics [qualifying him to teach at a lycée] during the war. In reorganizing the CNRS, the fourth republic offered him the unexpected opportunity to write a thesis on the history of science beginning in the fall of 1946. This specialization was completely new in France, but supported by [leading French philosopher] Gaston Bachelard, it was to determine René Taton's mission.

As the first professional historian of science in France, all his life he acted to ensure that professionals were present to give direction to the many scientific, philosophical and literary amateurs with interests in the adventure of science over the centuries and across civilizations. He was acutely aware that it was only the circumstances of a post-

[1] The following appeared in French in *Le Monde*. This English version appears with the permission of the author. Errors are the responsibility of the translator, Tom Archibald.

war renewal that had permitted the emancipation of history of science. This renewal had also loosened the grip of willfully ahistorical philosophy and of scientific positivism, the history of whose progress is too well known. Taton immediately took on activities with long-term implications. These included the creation of a community in the history of science and technology. He founded a journal of international repute, the Revue d'Histoire des Sciences, published by the Presses Universitaires de France, which is still appearing more than fifty years later. He was also the editor in chief of the Histoire générale des sciences, a multi-volume work which was also translated into English, and which remains an indispensable reference for anyone who seeks to initiate themselves in the field. He also made the Centre Alexandre Koyré a reality, a centre that Koyré wanted to associate with his 1958 directorship of studies at the EHESS (École des Hautes Etudes en Sciences Sociales), and which took its present title in 1964.

In the seminars of this Centre, many French and international specialists were trained, and benefit today from a rich and open environment thanks to Taton's efforts. He knew better than anyone how to maintain a climate, starting from the position of the modest scholar who can never possess all the documents they dream of. However, he never forgot the importance of competition, and his seminar was made a place for the presentation of works in progress, where there was an insistence on absolute rigour in documentation. He likewise remembered the deplorable lack of international references in French work in history of science before the war. He fought against the nationalist agendas that often can be unveiled in the glorification of past science. With Pierre Costabel, his colleague at EHESS and the Centre Koyré, he took on the highest roles in the international world of the history of science.

He did not forget the happy chances of the learned life, when, in his almost-complete second thesis on Desargues and projective geometry, he identified a lost manuscript from this seventeenth-century contemporary of Descartes. The meticulous historian in him never forgot the enthusiasm that can grip a researcher, nor that mathematics is an inexhaustible source of intellectual pleasure. Thus he knew how to express the enthusiasm of Monge, the subject of his first thesis, was communicated to a pleiad of young researchers beginning in 1795, and how Monge, I quote Taton, "partly reversing the purely analytical current issuing from the discoveries of the seventeenth century, was to reintroduce the geometrical spirit into scientific life."

Jean Dhombres

Siegfried Thomeier (1937-2004)[2]

Siegfried Thomeier passed away peacefully and courageously in hospital on Friday March 12, 2004. He was born in 1937, to a German family in the Sudetenland region of Czechoslovakia, and trained as a Mathematician at the University of Frankfurt, receiving his doctoral degree (Dr. Phil. Nat.) in Algebraic Topology in 1965. Dr. Thomeier was Assistant/Associate Professor at the University of Aarhus in Denmark from 1965 to 1968 and joined Memorial University as a Full Professor in 1968. He held that position until his retirement in 1996.

His mathematical research was on Whitehead products, an important topic in the investigation of one of the deepest and most challenging problems of mathematics, i.e. the computation of the homotopy groups of the spheres. He was the main player in setting up the first Ph.D. programme in what was then the Department of Mathematics, i.e. in the area of Algebraic Topology in the early 1970s, and taught many graduate courses in that area. He was editor of several conference proceedings on some of these topics, and spoke on them at numerous conferences and universities in Europe and North America.

Dr. Thomeier had an early interest in computers, owning his own Tandy in the 1970s at a time when, for many mathematicians, computers were something of a curiosity. In the 1980s he developed an interest in Coding Theory, and in particular error correcting codes, and gave talks on these topics at several conferences and universities. He was also

[2]This obituary is reprinted with the permission of the author, Memorial University, and the Canadian Mathematical Society, in publications of which it has appeared.

involved with the history of mathematics.

His teaching was skilled and competent. His clear and precise teaching style translated into clear and precise lecture notes. Several of his former students have commented that both his professionalism and keen sense of humour stood out in the classroom. He took a strong interest in our senior undergraduate Pure Mathematics courses, and over twenty-five honours students wrote their dissertations under his supervision.

He is survived by his wife Mechthild, son Wolfgang, daughter Karin and family in Germany.

Note from the Editors: Long-time CSHPM members will remember that at meetings in the late 1980s, Thomeier presented papers concerning combinatorics, notably magic squares. There was an interest in the question of why it was natural in various cultures to make such things. (This is one of the things that seems interesting about magic squares - they are special enough that if they appear in adjacent cultural contexts that they do appear to be evidence of mathematical contact.)

David Fowler Memorial

The Mathematics Research Centre at the University of Warwick, together with the London Mathematical Society, sponsored a symposium in memory of David Fowler, who passed away on 13 April 2004. David is best known as a scholar for his book *The Mathematics of Plato's Academy* (Oxford, ^{2}1999), and he is remembered by his many friends as an engaged and engaging member of the international community of historians of mathematics.

The symposium, which was organized by Jeremy Gray, Eleanor Robson, and Miles Reid, took place at the Mathematics Research Centre in Warwick on 9 November of this year. The speakers (in order of listing on the program) and the titles of their talks were as follows:

Eleanor Robson (U. of Cambridge) - Influence, ignorance, or indifference? Rethinking the relationship between Babylonian and Greek mathematics.

Henry Mendell (Cal. State U. at L.A.) - Pointwise construction of curves in ancient mathematics.

Paddy Patterson (U. of Göttingen) - Cyclotomy yesterday and today.

Len Berggren (Simon Fraser U.) - Currents and counter-currents in the historiography of medieval Islamic mathematics.

In keeping with one of David's loves in life, the Coull Quartet presented a concert and, in keeping with his one wish, a medlar tree was planted outside the Mathematics Institute in his memory.

Len Berggren

AGM of CSHPM/SCHPM

This year, the Annual General Meeting of the Canadian Society for History and Philosophy of Mathematics took place at Clare College, University of Cambridge, UK on June 9. The meeting, with 15 members in attendance, was called to order at 11:55 am by Rob Bradley, Vice President, in the absence of the President, Len Berggren.

Agenda for the General Meeting:

- Approval of minutes of 2003 AGM
- Secretary's report
- Treasurer's report
- Matter of reduced rates for members from developing countries and free Proceedings to those members plus retirees, students, and student associates.
- Proceedings Editor's report
- President's report
- Upcoming meetings
- Organizers and theme for 2005 meeting
- Webmaster
- Discount for journal
- Book Editors' report
- Nominating committee's report
- Thanks to the outgoing Executive Committee
- Old business

- New business

1. Motion: To approve the minutes of the May 2003 Annual General Meeting as printed in the November 2003 Bulletin. Carried unanimously.
2. The Secretary, Pat Allaire, reported that there are approximately 209 members paid for 2004. In addition there are 2 Student Associate members.
3. Motion: To approve the Treasurer's report as printed in the May 2004 Bulletin. Carried unanimously.
4. Motion: To extend the reduced rate for students and retirees to members from "developing countries" and that the charge for the Proceedings be waived for all reduced rate members and for Student Associate members. Carried unanimously.
5. The Secretary reported for the Proceedings Editor. The 2003 Proceedings was distributed in February 2004. Papers for the 2004 Proceedings must be submitted no later than Sept. 30, 2004. Directions are on the web page, www.cshpm.org. The Editor will adhere to the deadline and implores the members follow the directions carefully.
6. Glen Van Brummelen announced that the volume of keynote addresses, edited by himself and Michael Kinyon, is being published by Springer. The book should be out in early 2005 and will be available for "unveiling" at the 2005 meeting. He encourages members to purchase the volume and, in turn, to encourage their libraries to do so.
7. Rob Bradley presented the tentative schedule for the next several years:

   - 2005 with CMS at the University of Waterloo, Waterloo ON, the first weekend of June.
   - 2006 with HSSFC (the Learneds) at York University
   - 2007 with BSHM (in Canada and with "Euler and his time" as the theme of the special session)
   - 2008 with the HSSFC (at the University of British Columbia)
   - 2009 with CMS

   After discussion, the theme "From the Islamic World to the European Renaissance" was decided upon as the theme for the 2005 special session. Duncan Melville will chair (or co-chair) the contributed paper session for this meeting.

   Rob Bradley announced that he will relinquish the position of Webmaster if another member would like to assume the post, but is willing to continue in that position if no one else is interested.

   Rob announced that two journals, *Annals of Science* and *History and Philosophy of Logic*, are available to members at a reduced rate. In addition, there is a discounted rate for Isis, which can be obtained by subscribing as a cross-member to CSHPS and through that organization to HSS.
8. The Secretary reported for the Nominating Committee (Chris Baltus, Len Berggren, and Jim Tattersall). Forty-five e-mail ballots and 2 paper ballots were cast. The final tallies are:

   President: Robert Bradley (46)
   Vice-President: Alexander Jones (47)
   Secretary: Patricia Allaire (47)
   Treasurer: David Bellhouse (47)
   Councilor: Francine Abeles (46)
   Councilor: Amy Ackerberg-Hastings (47)
   Councilor: Roger Godard (47)
   Councilor: Adrian Rice (47)
9. The membership expressed their thanks to the outgoing members of the Executive Committee.
10. Old business: none
11. New business: Roger Godard suggested that an email discussion list be established. Rob noted that there are several history of math discussion lists, and that experience with the MAA HOMSIGMAA suggested that some members become quite distressed to find themselves on a discussion list to which they have not specifically subscribed.

    Pat Allaire noted that we use our list of members' email addresses for the purpose of announcing renewals, elections, etc.

    After some discussion it was decided that Rob, as web master, will set up a mailing list

[cshpm@yahoogroups.com] and will use the "invite" feature of yahoogroups to invite all members whose email addresses we have, so that members will not be enrolled in the list without their consent. It will be a moderated list, so that we can keep the traffic light and on topic. The list will be used primarily for announcements, deadlines, election notices, etc. There will be directions on the web page so that members can get on the list if they missed it the first time around.

The meeting was adjourned at 12:40 pm.

Patricia Allaire, Secretary

Executive Meeting CSHPM

The meeting of the Executive Council of CSHPM/ SCHPM took place at Clare College, University of Cambridge, UK on July 9. The following members were present: Fran Abeles, Amy Ackerberg-Hastings, Pat Allaire, David Bellhouse, Rob Bradley, Roger Godard, Israel Kleiner, Glen Van Brummelen. The meeting was called to order at 10:35, with Vice-President Rob Bradley presiding in the absence of President Len Berggren. The minutes of the May 2003 Executive Council minutes were approved.

Treasurer's Report: Roger Godard reported that we have travel funds available this year and recommended that an additional $1000 be allocated from the society's treasury for this purpose.

The treasurer initiated a discussion as to what should be done with the significant surplus in the treasury. This surplus exists, in part, because the Proceedings has been partly or fully subsidized for the last three years. In addition, the "donation to Ken May fund" line on the membership form has encouraged the members to give large and small donations to the Society. Glen Van Brummelen suggested that the charge for the Proceedings be waived for student and retiree members and for student associate members, if they wish to receive the volume. The Council agreed to recommend this matter to the membership.

It was suggested that the members from "developing countries" receive the same privileges as students and retirees (reduced membership rates and no-charge Proceedings). Members would self-designate as being from developing countries. This change will be recommended to the membership.

The Council will recommend acceptance of the treasurer's report.

President's Report: Rob Bradley noted the following: Next year we will meet jointly with CMS at the University of Waterloo, Waterloo ON, the first weekend of June 2005. In keeping with the Society's policy of meeting, on average, two years of three with the Learneds and one year of three with CMS, the proposed and tentative future schedule is

- 2006 with HSSFC (the Learneds) at York University
- 2007 with BSHM (in Canada and with Euler as the theme)
- 2008 with the HSSFC (at the University of British Columbia)
- 2009 with CMS

Organizers for general and special sessions as well as a theme for the special session are needed. Glen suggested Renaissance or 18th century mathematics as possible themes for the special session.

David Bellhouse suggested that we consider locations for the proposed joint meeting with BSHM in 2007, noting that it is important that we choose a location that will attract members of BSHM.

Proceedings book project: Glen Van Brummelen reports that the volume of keynote addresses, edited by himself and Michael Kinyon, is being published by Springer. The book should be out in early 2005 and will be available for "unveiling" at the 2005 meeting.

Proceedings Editor's Report: In the absence of Antonella Cupillari, the Proceedings Editor's report was given by the Secretary, Pat Allaire. The Editor reports that the 2003 Proceedings was distributed in February 2004. A second printing was done in May. Her university contributed $350 to

the cost of printing and mailing. It is uncertain if any subsidy will be available for the 2004 volume.

She is pleased to continue as Editor of the 2004 Proceedings, but asks that it be emphasized to the contributors that it is essential that they meet the Sept. 30, 2004, deadline and follow the submission instructions, which can be found on the Society's web page.

The Council discussed the matter of requiring membership in CSHPM/SCHPM for members of BSHM who wish to publish in the 2004 Proceedings, based on the following considerations.

- The cost of producing and mailing the volume depends almost entirely on the number pages.
- If the Proceedings is to be an "internal publication" with the author retaining the copyright, it is essential that only members be allowed to publish.

We will advise speakers who are members of BSHM only that they must subscribe to cross-membership in CSHPM/SCHPM if they wish to publish.

It will be announced to the membership that two journals, Annals of Science and History and Philosophy of Logic are available to members at a reduced rate. In addition, there is a discounted rate for Isis, which can be obtained by subscribing as a cross-member to CSHPS and through that organization to CSS.

The meeting was adjourned at 11:40 am.

Patricia Allaire, Secretary

Announcements

I - CSTHA

For the third time in its history, the Canadian Science and Technology Historical Association (CSTHA) will break with tradition and hold its 'Kingston Conference' in Ottawa in 2005. The conference will take place at the Canada Science and Technology Museum from September 29 through October 2. To take advantage of the opportunity offered by the host Museum, a day of meetings and museum-based activities will be added to the standard program. As always, the program committee will take into consideration general subjects relating to the history of science and technology in Canada.

Since it was founded in 1980, the CSTHA has not often had the opportunity to discuss the role of museums in preserving and sharing Canadas scientific and technological heritage. We look forward to discussing this subject with our Canadian colleagues and benefiting from the input of our American and European counterparts.

We would like to discuss the following subjects this year:

1. Canada's scientific and technological heritage
   - **Preserving material history**
     - Defining Canadian science and technology
     - Preserving contemporary science and technology
     - Preserving industrial technology
     - Museums of science and technology: collections and history
     - Preserving scientific and technological history at other museums and national sites
     - Researchers' access to collections
   - Interpreting scientific and technological history
     - Exhibits and programming: challenges and constraints
     - Static exhibit or demonstration?
     - Limits of material artifacts for interpretation
     - Research and publications
2. **World Year of Physics in 2005** Next year will be the hundredth anniversary of the publication of three major articles by Albert Einstein. To commemorate this event, we invite participants to submit proposals concerning the history of physics.

3. **Other subjects relating to the history of science and technology**

We also encourage you to organize sessions with other colleagues.

Proposals must include a title, summary (75 to 100 words) and brief curriculum vitae. Abstracts and papers may be in either French or English.

Please submit proposals to the following address by May 2, 2005:

Suzanne Beauvais
Canada Science and Technology Museum
2380 Lancaster Road
P.O. Box 9724, Station T
Ottawa ON K1G 5A3
Telephone: (613) 991-1429
Fax: (613) 990-3636

or by e-mail at:

CSTHA-AHSTC-2005@technomuses.ca

Program committee members for the 2005 conference are: Suzanne Beauvais, Richard Jarrell (York University), Eda Kranakis (University of Ottawa), Richard White (Toronto).

II - Writing contest

The HISTORY OF MATHEMATICS SPECIAL INTEREST GROUP of the MAA Is please to announce its second annual STUDENT WRITING CONTEST IN THE HISTORY OF MATHEMATICS. Deadline for submissions is March 30, 2005. Information and submission guidelines can be found on the HOM SIGMAA website via MAA Online or by contacting Amy Shell-Gellasch at

amy.shellgellasch@us.army.mil

III - Aestimatio

The Institute for Research in Classical Philosophy and Science (Princeton, NJ) is pleased to announce a new publication *Aestimatio: Critical Reviews in the History of Science*. This review will provide critical, timely assessments of books published in the history of what was called science from antiquity up to the early modern period in cultures ranging from Spain to India, and from Africa to northern Europe. The aim is to allow reviewers the opportunity to engage critically both the results of research in the history of science and how these results are obtained.

How to subscribe: Aestimatio will be distributed electronically free of charge at Ithe website of the Institute (IRCPS.org) under /publications/aestimatio/aestimatio.htm. To receive automatic notices of reviews by email as they are posted on the Institute website, readers are invited to subscribe to Aestimatio-L by sending an email message to majordomo@list.library.utoronto.ca containing in the body of the message the single command line 'subscribe Aestimatio-L'. Printed copy of the reviews published in *Aestimatio* will be available on demand for a nominal cost. Please contact the Editor by email at bowen@IRCPS.org for further information.

Solicitation of reviews: Though many of the reviews published in *Aestimatio* will be solicited by special invitation, readers are welcome to volunteer to write a review by sending an email message to the Editor (bowen@IRCPS.org) that lists the title and author of the book they wish to review and gives a brief indication of their qualifications to undertake this review.

Alan Bowen

IV - Philosophia Mathematica

Philosophia Mathematica, which members of the Society have the opportunity to purchase at a discount—a point to which I shall return—is undergoing a rite of passage. The Society kindly adopted the journal as its philosophical journal to join Historia Mathematica at its annual meeting in 1992. Since 1993 I have edited and published the journal. In view of its unknown publisher and nonexistent reputation, the moral support of the Society was important in gaining subscriptions if not submissions (primarily the work of the Editorial

Board). The venture has been successful from the beginning and has seen its subscription list grow to several hundred, including a fair number of members of the Society and of the BSHM. At Christmas of 2002 the organization distributing the journal—collecting money and mailing it out—decided with little notice to stop doing so. While another potential distributor was found in a couple of days and one in Canada within a couple of weeks, members of the Editorial Board suggested that it was perhaps time to seek a real publisher. The largest and most respectable publisher of philosophy in the world is Oxford University Press, and philosophy of mathematics is something they pay attention to. Why not start at the top? Negotiations have gone on since the spring of 2003, and a contract has been arrived at that will probably be signed by the end of 2004. OUP will own and publish the journal and engage me as editor for a period of a few years. The continued existence and health of the journal is as well assured as anything in publishing can be. A larger discount is being offered to Society members and the price to others is going up. The net effect of this is virtually nil in the rest of the world, but in Canada the effect is unfortunate. Canadian Society members that have subscribed have benefitted from two discounts and a third positive effect. They have been able to pay the rest-of-world price in Canadian dollars. They have had the Society's discount. And they have not had to pay the 7% goods-and-services tax. Now they will continue to enjoy the Society's discount, but they will have to pay in U. S. dollars or equivalent and will have to pay GST because of buying from a big publisher. While I had to pay GST, I did not have to pass it on. This is too bad, but it is the result of no one's ill will, only of my attempt to interest my fellow Canadians (as we used to be called by Prime Minister John Diefenbaker) in philosophy of mathematics. The free lunch has been ate. I'm sorry it's over.

Robert Thomas

V - History in Atlanta

The following events at the 2005 Annual AMS/MAA Joint Meeting in Atlanta that might be of interest to CSHPM members:

- Mathematics in the Islamic World, MAA contributed papers session: Wednesday afternoon.
- Euler, MAA Minicourse (#14): Wednesday 4:30-6:30 and Friday 3:15-5:15 (Please note that you must pre-register for this minicourse.)
- History of Undergraduate Mathematics in America, 1900-2000, MAA contributed papers session: Thursday morning.
- HOMSIGMAA Annual meeting (with invited speaker Tom Archibald): Thursday 5:45-8:00.
- Robin Wilson, Victorian Combinatorics, MAA Student Lecture: Friday, 1:00-1:50.
- History of Mathematics, MAA/AMS Special session: Friday afternoon, Saturday morning and afternoon.

Also, Fernando Gouvêa's MAA invited address *What are p-adic numbers and what are they for?* (Wednesday, 2:15-3:05) will be partially historical. Tom Archibald submitted the following abstract of his HOMSIGMAA invited address:

This paper will present an outline of the life, mathematical work, and scientific organizational activities of John Charles Fields (1863-1932). Fields is chiefly remembered as the founder of the Fields Medals, but the paper will go beyond this to concentrate on the origins of his interest in mathematical research and the formation of his ideas about what was mathematically important. Fields undertook undergraduate studies at Toronto, where his mathematical education took place partly along Mathematical Tripos lines and partly influenced by a Scottish practical tradition. He came in contact with the research ideals of the late nineteenth-century continental European universities as a graduate student at Johns Hopkins. His later studies in Berlin with such luminaries as Schwarz, Frobenius and Hensel eventually gave his own research a definite direction, and he published a number of papers on algebraic function theory. Fields is likewise remembered as a scientific organizer, a dimension of his activity that was important for the eventual institution of the medals. From the mathematical standpoint, his work organizing and preparing the Proceedings of the 1924 International

Mathematical Congress was his most significant contribution. Fields was also a strong voice for the importance of research both within the University of Toronto and in Canada more generally. The creation of the medals was thus the conclusion of a long career in the promotion and execution of scientific research at the local, national, and international levels.

VI - Philosophy in Atlanta

In addition to the information about the history of mathematics items on the program for the Joint Mathematical Meetings in Atlanta in January 2005, we should also mention the activities of POMSIGMAA, the Special Interest Group of the MAA for the Philosophy of Mathematics: There will be a session of talks on philosophy of mathematics on Friday afternoon the 7th from 1 to 5 PM which includes the president of the CSHPM and one of the editors of the Bulletin (Drucker) among the speakers. The session will be held in the Cairo Room in the Hyatt Hotel. Immediately after this session, the POMSIGMAA Business meeting and reception will be held, featuring a talk by Jonathan Borwein, Dalhousie University, on Philosophical Implications of Experimental Mathematics.

VII - Tom Archibald

Tom Archibald will move from Acadia university to the Department of Mathematics at Simon Fraser University beginning in the summer of 2005 as Professor and Chair. He hopes to extend and complement the fine efforts of Len Berggren to make Simon Fraser a significant site for history of mathematics.

VIII - Oberwolfach

A meeting on the history of differential equations was held at the Mathematische Forschungsinstitut in Oberwolfach, Germany, from Nov. 1 to Nov. 6, organized by Ivor Grattan-Guinness, Craig Fraser, and Tom Archibald. The meeting featured research papers by 24 speakers, and much interesting discussion from the 45 participants from around the globe. CSHPM was well represented. Detailed abstracts will be available in the institute's electronic publication, Oberwolfach Reports, edited by Adrian Rice and Henrik Kragh-Sørensen.

New Members

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

Kaitlin Blazejack
Pinecrest, FL, USA

Ady Cox
Newark, Notts, U.K.

Josh Dikeman
Springfield, VT, USA

Snezana Lawrence
Dover, Kent, U.K

Douglas Marshall
Cambridge, MA, USA

Tony Mann
University of Greenwich
London, U.K

David Williams
Hayward Heath, West Sussex, U.K

From the Editor

The summer meeting at Cambridge was a great success, as Rob Bradley notes in his presidential column in this issue. Thirty-two North Americans made it to England for the occasion, although it is not clear whether there was some immigration requirement that our numbers come to a power of two. Those of us who were unable to attend can only look longingly at the pictures from the occasion, and even the absent are grateful to those who took so much time and effort to make the arrangements and put together the programme. Certainly the CSHPM will have to be on its mettle in plan-

ning for the return visit by the BSHM. The autumn issue of the Bulletin of the BSHM includes pictures and text to help keep alive the atmosphere in Cambridge, one of which is reproduced in this issue of the Newsletter as well. We also decided to include a group photo not featured in the BSHM Bulletin. We believe we have a list of everyone appearing in this picture from Cambridge of last July's joint meeting with the BSHM. The Newsletter will be happy to offer a small prize to the individual who identifies the largest number of those in the photograph. Members of the Councils of the BSHM and the CSHPM are not eligible. In the event of a tie, collusion will be suspected.

Our editorial policy for the Newsletter is generally to encourage submissions of all kinds and to do relatively little editing. An article by Peter Griffiths submitted some time ago was a more difficult proposition, as it ran counter to a good deal of standard mathematics. One of the editors (Drucker) has prepared a brief summary of the points that Peter made in the course of his article and would be happy to send it to those who are interested. Perhaps the more helpful approach would be to contact Peter directly at griff_11@hotmail.com so that he can send out the full text with references.

We received news from the Mathematical Association of America that Rüdiger Thiele, a frequent speaker at CSHPM meetings, was awarded the Lester R. Ford Award for his article on Hilbert's Twenty-Fourth Problem' in the January 2003 issue of The American Mathematical Monthly. The award is given for expository writing, and those of us who have heard Rüdiger's talk can well understand why it was so honored.

There is a lengthy article about Judith Kunoff, daughter of former editor Sharon Kunoff, in the newsletter of Parsons Brinckerhoff, the company by which she is employed. Sharon would, I suspect, be willing to furnish more details to those who might be curious. Some quotations from Judith sound as though she might have been talking mathematics: On the boards it's abstract. Out in the field it's real. There are real constraints.' The complex constraints will be covered in the next issue.

Finally, the piece of news for which many readers have been waiting is that our archivist, Amy Shell-Gellasch, is now the proud mother of Brian Christopher, born on the 1st of December (by emergency Caesarean section). Amy's husband seems to take a reasonable amount of pride in the new arrival as well. There is no truth to the rumour that the first bed for Brian was nestled in the drawers of the file cabinet in which Amy maintains the society's archives. That's because there is no room in any of the drawers even for someone Brian's size. Congratulations to the parents and to the new arrival, whose career will doubtless be documented with the same care that our society's history has been since Amy became our archivist.

This newsletter will be accompanied by a call for papers for our joint meeting with the Canadian Mathematical Society in Waterloo in June. Not all the history sessions there will be under the aegis of the CSHPM, but we hope that the CSHPM sessions will be able to show to the mathematical community at large just what historians can do. Further details about the Waterloo meeting will be in the spring newsletter.

Thomas Drucker

About the Bulletin

The *Bulletin* is published each May and November, and is co-edited by Tom Drucker (druckert@mail.uww.edu) and Eisso Atzema (atzema@math.umaine.edu). Material without a byline or other attribution has been written by the editors. Les pages sont chaleureusement ouvertes aux textes soumis en français. Comment and suggestions are welcome, and can be directed to either of the editors; submissions should be sent to Tom Drucker and Eisso Atzema at the above e-mail address, or by snail mail to Tom Drucker, Department of Mathematical and Computer Sciences, University of Wisconsin–Whitewater, Whitewater, WI 53190.