International Study Group on the Relations Between the HISTORY and PEDAGOGY of MATHEMATICS
An Affiliate of the International Commission on Mathematical Instruction

No. 97 **March 2018**

This and earlier issues of the Newsletter can be downloaded from our website
http://www.clab.edc.uoc.gr/hpm/
These and other news of the HPM group are also available on the website
http://grouphpm.wordpress.com/
(the online and on time version of this newsletter).

A MESSAGE FROM THE CHAIR OF HPM

Welcome to Newsletter 97!

I certainly hope that you find the many varied contributions in this issue interesting and useful.

First and foremost, we are quickly approaching ESU-8 and I am so appreciative of the work that the International Scientific Program Committee (SPC) has contributed to plan for and ensure that the meeting is a fruitful one. I'm looking forward to seeing colleagues and friends in Oslo on July 20th, but I am most excited about meeting new friends and colleagues. As is often the case at all of the HPM-affiliated conferences and meetings, we are honored to welcome first-time attendees. In some cases, these first-time attendees are new to the HPM or ESU meeting, but they have been conducting research or working with history and epistemology of mathematics as part of their professional work for a while. However, some first-time attendees are not only attending an HPM or ESU for the first time, they are also new to the field (e.g., history in mathematics education, history of mathematics education). As a teacher educator and graduate mentor, I am particularly interested in these newcomers. My hope is that these newcomers will not only feel welcomed, but that they will see the HPM Group (and its many related activities) as an academically sustaining force in their professional lives.

If you plan on attending ESU-8, I hope that you will help me in welcoming newcomers to our community. And, I hope that your interactions, conversations, and experiences with first-time attendees, ***or as a first-time attendee***, will be meaningful. With increasing excitement about ESU-8, and because I am thinking about first-time

attendees, I have asked one of the graduate students with whom I work to write a pre-ESU-8 reflection (which follows on pages 6 and 7 of this Newsletter). I am so honored to work with Cihan, and I am grateful that he and his graduate school colleague from Florida State University (Matthew Mauntel) are attending ESU-8 in July. It is the first time I will accompany graduate students from my institution to an ESU (four years ago, Emmet Harrington, an FSU undergraduate, attended ESU-7 in Copenhagen to present on our work about the Dirac Papers), and it is my sincere hope that this will be their first of many in the years to come.

In Newsletter 96 I tried to solicit (via a survey) examples, potential uses, and contacts from around the world to inform efforts to build a community of interested teachers, scholars, and researchers to develop HPM-wide work or initiatives in the history of mathematics in teacher education contexts. Unfortunately, I only heard from four people (two via the survey and two emails). **[*Note:* The survey is still available if you'd like to contribute. Please see Newsletter 96 for the link to the online survey.]**

Now, on behalf of the organizers of the plenary panel that will take place at ESU-8, I ask for your assistance again on a related effort. On pages 5 and 6 of this Newsletter, **Caterina Vincenti (Panel Coordinator) requests responses to nine questions**. Your responses will help the panelists to organize the discussion to take place on Sunday, 22 July. In this way, you can participate *even if you are unable to attend ESU-8*. If you have a few minutes, I hope that you will respond to as many of the questions as possible, and send your responses to Caterina Vincenti (cater.vicentini@gmail.com).
Additionally, if you have colleagues who can also spare a few moments to respond, please forward the questions to them.

I hope that spring in your corner of the world brings a fresh new season.

Kathy
(kclark@fsu.edu)

8th EUROPEAN SUMMER UNIVERSITY ON HISTORY AND EPISTEMOLOGY IN MATHEMATICS EDUCATION

20-24 July 2018
Oslo, Norway

ESU - 8[1]

OsloMet – Oslo Metropolitan University[2]

https://esu8.edc.uoc.gr

Main themes:

Theme 1: Theoretical and/or conceptual frameworks for integrating history and epistemology of mathematics in mathematics education;
Theme 2: History and epistemology in students and teachers mathematics education: Curricula, courses, textbooks, and didactical material of all kinds - their design, implementation and evaluation;
Theme 3: Original historical sources in teaching and learning of and about mathematics;
Theme 4: Mathematics and its relation to science, technology, and the arts: Historical issues and socio-cultural aspects in relation to interdisciplinary teaching and learning;
Theme 5: Topics in the history of mathematics education;
Theme 6: History of mathematics in the Nordic countries.

Second Announcement: The *Second Announcement* has been posted on the ESU-8 website (https://esu8.edc.uoc.gr/2nd-announcement/) and the HPM website (http://www.clab.edc.uoc.gr/HPM/Meetings.htm) since December 2017. It includes many more details on the scientific program, the registration procedure and fees (https://esu8.edc.uoc.gr/registration/), practical details about the venue (https://esu8.edc.uoc.gr/conference-venue/), accommodation (https://esu8.edc.uoc.gr/where-to-stay-in-oslo/), visa requirements (https://www.udi.no/en/word-definitions/persons-who-do-not-need-a-visa-to-visit-norway-/#link1) etc., as well as the overall time schedule (in a tentative form, to be finalized in due course; see below).

More detailed information: Visit the regularly updated ESU-8 website http://esu8.edc.uoc.gr.,

Important dates:

- *Deadline for abstract submission of proposals* for all types of activities: **15 November 2017** (expired)
- *Authors' notification*: 15 December 2017 (expired)
- *Deadline for early registration*: 31 January 2018 (expired)
- *Deadline for late registration*: 31 May 2018
- *ESU-8 Opening*: 20 July 2018

[1] See also the last *HPM Newsletter* issues No 94, No 95, No 96.
[2] Formerly, "Oslo and Akershus University College of Applied Sciences" (the name changed in January 2018).

Submission procedure: Submission of proposals, the reviewing process, and authors' notification was realized online via https://esu8.edc.uoc.gr/submission where more detailed information on the reviewing procedure and the evaluation criteria can be found.

In total, 94 proposals were submitted (including the plenary activities) from 28 countries in all continents, with 14 proposals submitted by co-authors coming from different countries (and in some cases, different continents); 80 of them have been accepted and will form part of the ESU-8's scientific program in addition to the plenary activities.

Proceedings: They will be published in **digital** form **after** ESU-8, so that the authors are given the opportunity to enrich their text as a result of the feedback they will gain during ESU-8. Submission of full texts for the proceedings, the reviewing process, and authors' notification will be realized online via https://esu8.edc.uoc.gr/submission as in the case of the abstracts. More detailed information on the reviewing procedure and the evaluation criteria can be found in the above webpage. The submission platform will open again after ESU-8.

Registration and Conference fees:
Registration is being done online via https://esu8.edc.uoc.gr/registration/

Early registration (before January 31, 2018; expired): 2100 NOK (1600 NOK for students and school teachers)

Late registration (**before 31 May 2018**): 2600 NOK (2100 NOK for students and school teachers)
(Current equivalence of Norwegian Krone (NOK): 1NOK ≈ 0,103€ ≈ 0,123 US$)

Plenary Lectures

Theme 1: Hans Niels Jahnke (Germany), *Hermeneutics, and the Question of "How is Science Possible?"*

Theme 2: Ingo Witzke (Germany), *Epistemological beliefs about mathematics – Challenges and chances for mathematical learning: Back to the future.*

Theme 3: Frédéric Métin (France), *Implementing history in the math class, from kindergarten to teacher training: words and artifacts*

Theme 4: Snezana Lawrence (UK), *The art and architecture of mathematics education – a study in metaphors*

Theme 5: Marta Menghini (Italy), *The fusion of plane and solid geometry in the teaching of geometry: textbooks, aims, discussions*

Theme 6: Andreas Christiansen (Norway), *The first Norwegian textbooks in mathematics — A story of independence and controversy*

Plenary Panel Discussion:
Theme 2: Caterina Vicentini (Italy) coordinator, Nathalie Chevalarias (France), Kathleen M. Clark (USA), Michel Roelens (Belgium): *History, Epistemology and Teaching Mathematics: A challenging partnership?*

Contact

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Tinne Hoff Kjeldsen, Dep. of Mathematical Sciences, University of Copenhagen, Universitetsparken 5, DK-2100 Copenhagen Ø, thk@math.ku.dk (co-chair)

Provisional overall time schedule

	Friday 20	Saturday 21	Sunday 22	Monday 23	Tuesday 24
9:00-9:30	REGISTRATION	PL	PL	PL	PL
9:30-10:00					
10:00-10:30		BREAK	BREAK	BREAK	BREAK
10:30-11:00		WS-2	P	WS-2	WS-2
11:00-11:30	OPENING				
11:30-12:00	PL				
12:00-12:30			LUNCH	LUNCH	LUNCH
12:30-13:00	LUNCH	LUNCH			
13:00-13:30					
13:30-14:00	WS-2	OP	EXCURSION	OP	OP
14:00-14:30		OP		OP & SOC	OP
14:45-15:15		WS-2		WS-2	PL
15:15-15:45					
15:45-16:15	BREAK				CLOSING
16:15-16:45	WS-1.5				
16:45-17:15		BREAK & POSTER SESSION		BREAK	
17:15-17:45		POSTER SESSION (continued)		WS-1.5	
18:00-18:30	OP	OP			
18:30-19:00	OP & SOC	OP			
20:00 -			CONFERENCE DINNER		

Caption: Plenary lectures: PL; Panel: P; 30min Oral Presentations: OP; 10min Short Oral Communications: SOC; 1.5-hour workshops: WS-1.5; 2-hour workshops: WS-2

APPENDIX:

Plenary Panel Discussion on
History, Epistemology and Teaching Mathematics: A challenging partnership?

Participants are welcome and encouraged to contribute to the discussion, both **beforehand** and **during the ESU**. Therefore in preparing the panel discussion, it will be both helpful and stimulating to have as many as possible opinions of prospective participants on the questionnaire below to be sent to the panel coordinator Caterina Vicentini (cater.vicentini@gmail.com).

Survey Questions for In-Service Teachers

1. Have you completed a course in History of Mathematics as part of a graduate degree program?
a. Was the course required or did you take it as an elective?

2. Did you complete a course in History of Mathematics during your initial teacher training program?
a. Was the course required or did you take it as an elective?

3. Do you use History of Mathematics in the classroom?

4. If yes, please select all that apply:
a. I use it only occasionally or only to share anecdotes about persons or events in the History of Mathematics.
b. I use History of Mathematics to

motivate a new topic of study or mathematical concept.

c. I incorporate the reading of historical texts (or particular excerpts of historical texts).
d. I incorporate historical problems as part of the mathematical work that students engage in.
e. Other (please describe):

If no, why (again, please select all that apply)?

a. lack of personal interest
b. lack of knowledge of History of Mathematics
c. lack of resources
d. lack of training
e. lack of time
f. lack of motivation
g. other option (specify)

5. In what ways do you think that the use of History of Mathematics could improve your teaching?

6. Do you know what "Epistemology of Mathematics" is?

7. If yes, which is your personal epistemological position towards Mathematics?

8. Do you think this position affects your didactics?

9. If yes, how?

On my way to European Summer University - 8

An anticipatory reflection

Generally speaking, a new journey is always exciting to me. Each journey, regardless of being a physical, mental, or spiritual one, invites me to something new. With a naive look, to me which is also a productive one, in our every attempt to step into the same river should have some excitement as an experience. Unfortunately, life, for most of us, is so slow, full of routines, or itself is a routine, that we rarely enjoy it as a journey in its daily basis.

Particularly speaking, my life has changed sharply since I began my doctoral education at Florida State University. Probably, the first sign for my eventual participation at ESU-8 was in an email to me in which Dr. Clark mentioned a project that I might be interested in: Transforming Instruction in Undergraduate Mathematics Education via Primary Historical Sources, which is also known as TRIUMPHS. I was in Turkey when I got this email and preparing for my travel to the United States for my PhD. I was always passionate about learning history of mathematics and using it in my teaching. What I did not know was it would not remain as "some" experience for me in just a couple of years.

Yes, it is true. I knew nothing about the HPM group, nor one single "HPM person" before I came to the US. (Let me rethink...Yes, it is true!) So, in one of our first meetings, I asked Dr. Clark if she could suggest some sources so that I could learn more about what I was about to meet

and work with in the TRIUMPHS project. She asked me to begin with three: "On the use of Primary Sources in the Teaching and Learning of Mathematics" by Uffe Thomas Jankvist, *Mathematical Expeditions: Chronicles by the Explorers* by Reinhard Laubenbacher and David Pengelley, and *History in Mathematics Education: The ICMI Study*, edited by John Fauvel and Jan van Maanen. With the guidance of these sources, along with the survey of literature[3], I would do my extensive literature review on the history and pedagogy of mathematics in my first year. What soon followed were in-person meetings with the scholars whom I have admired for their work: Janet Barnett, David Pengelley, Uffe Thomas Jankvist, Victor Katz, and Tinne Hoff Kjeldsen to list a few.

In addition to the kindness and scaffolding by the scholars from whom I asked for help, I have had the privilege of working with Dr. Clark and Dr. Janet Barnett during our work for TRIUMPHS. Among all other things that I am grateful for to them, I should acknowledge the independent space that I have in my scholarship during this process. It feels really good when an idea for research is valued, and it feels fantastic when it is supported for giving that idea a life. Once a naive idea, using differentials for the teaching of derivative has developed into a research project, which is also the topic of a workshop I will conduct at ESU-8, came to life with multidimensional support that Dr. Clark and Janet have provided. While writing this note for the HPM Newsletter, I am very excited to share that this idea is about to go beyond our imagination as I **anticipate meeting** with other scholars who are working on a similar idea.

If it sounds to you as if I am talking about a family, then you are right. In our research group, with anyone to whom I write with questions or ideas, or requested help from members of the HPM group, I'm always surprised how everyone is helpful and kind to each other. Yes, it is as we would expect it in our families. Otherwise, for a shy person as myself, it would not be possible to attempt doing a workshop at ESU-8 on using differentials for the teaching of derivative in Calculus. I am looking forward to extending this family in Oslo.

It is probably a huge debate whether we should talk "generally" on social issues or anything including human participation or influence. I would respond to that problematique as my qualitative research methods professor would do when we asked her questions about qualitative inquiry: It depends. So, generally speaking, I rarely "confess" my excitement, especially if it is a huge one, even to myself. However, generally speaking, again, almost all journeys, especially if they are for scholarly purposes, just take my breath away.

Cihan Can
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[3] Clark, K., Kjeldsen, T. H., Schorcht, S., Tzanakis, C., & Wang, X. (2016). History of mathematics in mathematics education: Recent developments. In L. Radford, F. Furinghetti, & T. Hausberger (Eds.), *2016 Satellite Meeting of the International Study Group on the Relations Between the History and Pedagogy of Mathematics* (pp. 135-179). Montpellier, France: IREM de Montpellier.

MATHEMATICS, EDUCATION AND HISTORY

Towards a harmonious partnership

Edited by K. M. Clark, T. H. Kjeldsen, S. Schorcht, C. Tzanakis

This volume – expected to appear in spring 2018 – belongs to the ICME-13 Monograph Series directed by Prof. Gabriele Kaiser, convenor of ICME-13 and published by Springer. It includes 17 peer-reviewed papers from nine countries, originally presented in a shorter form at ICME-13 during TSG 25 *The Role of History of Mathematics in Mathematics Education*, and an introductory chapter by its co-editors on the structure and main points of the book with an outline of recent developments in exploring the role of History and Epistemology in Mathematics Education. It aims to serve as a valuable contribution in this domain, by making available to the international educational community reports on recent developments in this field, with special attention to relevant research results since 2000.

The 17 chapters of the book are divided into five interrelated parts corresponding to the main themes of TSG 25 as they have been announced before ICME-13 that underlie the central issues of research in this domain:

I. Theoretical and conceptual frameworks for integrating History and Epistemology of Mathematics in Mathematics Education;

II. Courses and didactical material: Design, implementation and evaluation;

III. Empirical investigations on implementing History and Epistemology in Mathematics Education;

IV. Original historical sources in teaching and learning of and about Mathematics;

V. History and Epistemology of Mathematics: Interdisciplinary teaching and socio-cultural aspects.

Seen individually, each chapter's main focus and content falls in one of the five areas above, though of course, these areas are strongly interrelated.

In addition, the introductory chapter informs on the structure of the book, describes briefly the main point(s) of each section and of each paper in particular, and gives an outline of the developments in this domain (the role of History and Epistemology in Mathematics Education) since 2000, aiming to illuminate and provide insights on the key questions in this area:

- *Which history is suitable, pertinent, and relevant to Mathematics Education?*
- *Which role can History of Mathematics play in Mathematics Education?*
- *To what extent has History of Mathematics been integrated in Mathematics Education (curricula, textbooks, educational aids/resource material, teacher education)?*
- *How can this role be evaluated and assessed and to what extent does it contribute to the teaching and learning of mathematics?*

In exploring these questions by doing research over the last 20 years or so on an international scale, and implementing its results in educational practice, the following issues have been central:

- To perform systematically, carefully designed and applied *empirical research*, in order to examine in detail and evaluate convincingly the effectiveness of the integration of the history and epistemology in Mathematics Education on improving the teaching and learning of mathematics, as well as students' and teachers' awareness of mathematics as a discipline and their disposition towards it.

- To put emphasis on *pre- and in-service teacher education* as a necessary prerequisite for the integration of the history and epistemology in Mathematics Education to be possible at all.

- To design, produce, make available and disseminate a variety of *didactical material* in the form of anthologies of original sources, annotated bibliography, description of teaching sequences or modules as a source of inspiration and/or as generic examples for classroom implementation, educational aids of various types, appropriate websites etc.

- To acquire a deeper understanding of theoretical ideas put forward in integrating history and epistemology in Mathematics Education and to carefully develop them into coherent *theoretical frameworks and methodological schemes* that will serve as a foundation for further research and applications.

Each chapter in this volume is directly related to one or more of these central issues. Additionally, it refers to and/or is based on empirical research, in order to support, illuminate, clarify or evaluate key issues, main questions, or conjectured theses raised by the authors or in the literature on the basis of historical-epistemological or didactical-cognitive arguments. Finally, seen as a whole, the book covers all levels of education; from primary school, to tertiary education, with special focus on teacher education.

Costas Tzanakis
(on behalf of the Monograph editors)
University of Crete
Rethymnon, Crete

MAA Convergence: Mathematics History for Your Classroom

MAA Convergence is 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. Published by the Mathematical Association of America, *Convergence* brings you a variety of interesting articles and teaching tools.

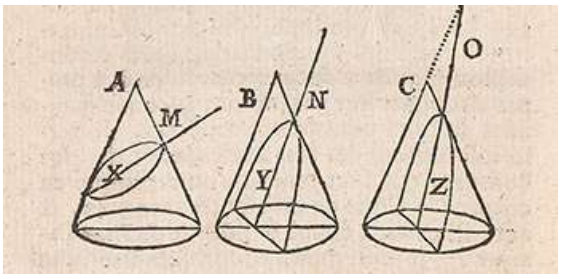
We highlight here some of our newest articles and resources for use in your high school or college classroom.

In "Recreational Problems in Medieval Mathematics," *Convergence* founding editor Victor Katz traces two problems that recurred across time, place, and culture, "Men buying a horse" and "Men finding a purse."

In a second article, "The Mathematical Cultures of Medieval Europe," Katz presents mathematics of Muslim, Jewish, and Catholic scholars and discusses how culture influenced it.

Above: Table for "golden numbers" to determine the date of Easter in *Trevelyon's Miscellany*, published in England in 1608. For more images, see MAA *Convergence*'s "Mathematical Treasures," where this image appears courtesy of *World Digital Library*.

Convergence's series of articles originally published in NCTM's *Mathematics Teacher* magazine continues with "Historical Reflections on Teaching Trigonometry," by David Bressoud, in which the author argues that circle trigonometry should be emphasized in high school classes and that it appeared before triangle trigonometry historically. (NCTM is the US-based National Council of Teachers of Mathematics.)



Above: Conics from *Ouvrages de mathematique* (1734) of Bernard Lamy (1640-1715). From MAA *Convergence*'s "Mathematical Treasures," where this image appears courtesy of ETH-Bibliothek Zürich via *e-rara*.

Our series of mini-Primary Source Projects (mini-PSPs) from the **TR**ansforming **I**nstruction in **U**ndergraduate **M**athematics via **P**rimary **H**istorical **S**ources (TRIUMPHS) team continues with the project, "Generating Pythagorean Triples," by Janet Barnett. Barnett provides two versions of this project, one for primary teachers and the other for students in a college number theory course.

In "Orders of Growth," the second article in his new series titled "Math Origins," author Erik Tou traces both definitions and notation for orders of growth of functions.

Our "Index to Mathematical Treasures" includes hundreds of images for use in your classroom from dozens of libraries and sources. Our chief "treasure hunter" is *Convergence* co-founding editor Frank Swetz.

See all of these articles and more at *MAA Convergence:* http://www.maa.org/press/periodicals/convergence

Join us at the *Convergence* of mathematics, history, and teaching!

Janet Beery
Editor, *MAA Convergence*
University of Redlands, California
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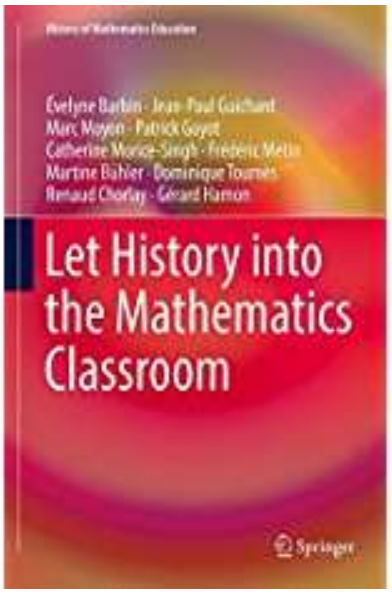
Let history into the mathematics classroom

Barbin, É., Guichard, J.-P., Moyon, M., Guyot, P., Morice-Singh, C., Métin, F., Bühler, M., Tournès, D., Chorlay, R. Hamon, G. (2018).

Berlin, Germany: Springer.

The French study groups Instituts de Recherche sur l'Enseignement des Mathémathiques (IREM) were established in the 1970s. Each group was linked to a university and there is roughly one for each Académie (the administrative division of the Ministry of Education). An important aspect of the structure of an IREM is that it consists largely of teachers seconded from their school for a period of time to work on a specific topic. This means that the enquiries and reporting by the IREM study groups do not become detached from classroom practice, as can happen in university research establishments. Another important feature of the foundation of the IREM study groups was the requirement to produce published material.

There were soon established national inter-IREM commissions for enquiry into common interests, such as primary education or secondary education or topics, such as geometry. Of particular interest here is the *inter-IREM Commission on history and epistemology of mathematics* which over the years has produced a wealth of material on the history of mathematics and its use in the classroom. The Commission also organised national conferences and later extended their Summer University meetings to a wider European participation, the next of which will be ESU-8 to take place in Oslo in July 2018.



Many of the IREM inspired reports of history topics relevant to mathematics teaching have appeared as conference papers (many in English) and Evelyne Barbin has been indefatigable in encouraging her many talented colleagues to contribute their experiences to books of collections of classroom experiences. Some of this material has appeared in English translation (the first such being *History in the Mathematics Classroom: the IREM papers*, edited by the late John Fauvel, as long ago as 1990). The latest to appear is *Let History into the Mathematics Classroom*, which contains translations of ten of the chapters from two earlier French books, *De grands défis mathématiques* [Major challenges in mathematics] (2010) and *Les mathématiques éclairées par l'histoire* [Mathematics illuminated by its

history] (2012). This English translation (I must own a small part) makes these French examples available to a wider English-speaking readership. Each author sets out the historical background to the topic to be taught and a description of a sample lesson. The examples range from the direct use of historical material, suitably adapted, to an overview of the historical development of ideas for future teachers.

Two examples will illustrate the way the authors approach the use of history. Catherine Morice-Singh gives a brief account of the 'rule of three' as it appears in Indian texts from the 5th century. The algorithm is not taught today but the problems it solves are still there and analogous methods are taught, such as the unitary method (*le passage à l'unité* in the French curriculum) or the use of cross product to find a fourth proportional. The account here is enlivened by drawing on direct translations of Sanskrit manuscripts (new to us) and the usual amusingly unrealistic 'real' problems. From the 9th century we have: A drunken man walks a distance of one-eighth of a *yojana* in one-third of a day. If he needs to walk a distance of one hundred *yojanas*, in the same condition, how long will it take him? (The answer is a time of more than 8 months!) Morice-Singh explains the extension to the rule of five, seven, nine, etc. and gives problems of this sort. She also gives us examples of work given to her students. The link between modern school work and these ancient texts provides a rich cultural context to enliven and enrich the mathematics lessons.

A second approach, not always possible, is to present original material to the students. Gérard Hamon gave his students an extract from Condorcet's *Elements of the calculus of probabilities* that raises the question of conditional probability. The problem Condorcet proposes is that of a jar containing four balls which may be black or white. Four selections, with replacement, yield three white balls and one black. What is the probability that the fifth selection will be white? Condorcet provides the calculations for the probability of the *a priori* cases and for each the probability of the outcome demanded, from which the sum gives the required solution. The text is clearly set out by Condorcet and accessible to students who have studied elementary probability. Hamon goes on to use the example to introduce the more general problem of conditional probability and the use of Bayes' Theorem, as well as providing some biographical information about a figure who is of importance to French revolutionary times.

As we have come to expect of IREM works, each chapter is well referenced, providing both primary and secondary sources.

Chris Weeks
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Devon
UK

Have you read these?

Axworthy, A. (2018). The debate between Peletier and Clavius on superposition. *Historia Mathematica*, *45*(1), 1-38.

Carman, C. (2018). The first Copernican was Copernicus: the difference between Pre-Copernican and Copernican heliocentrism. *Archive for History of Exact Sciences*, *72*(1), 1-20.

Cogliati, A., & Mastrolia, P. (2018). Cartan, Schouten and the search for connection. *Historia Mathematica*, *45*(1), 39-74.

Davis, A. (2018). Woman into mathematician: The opening of university mathematical education to women in the British Isles: a prosopographical note. *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, *33*(1), 29-32.

Karp, A. (2018). Mark Vygodsky: several episodes from the life of a scholar. *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, *33*(1), 33-49.

McCallum, K. (2018). Mathematics, manifest: a review of Mathematics: the Winton Gallery at the Science Museum. *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, *33*(1), 50-53.

Moktefi, A. (2018). Did Lewis Carroll own a copy of George Boole's Laws of thought? An argument from the sale catalogues. *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, *33*(1), 21-28.

Vidal, C., & Tur, S. (2018). The modernity of Dedekind's anticipations contained in *What are numbers and what are they good for? Archive for History of Exact Sciences*. Retrieved from https://doi.org/10.1007/s00407-018-0202-6

van Weerden, A., & Wepster, S. (2018). A most gossiped about genius: Sir William Rowan Hamilton. *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, *33*(1), 2-20.

Announcements of Events

Forthcoming BSHM Meeting

(The British Society for the History of Mathematics)

http://www.bshm.ac.uk/#forthcoming

1. History of Cryptography and Codes

19 May 2018
London

A one-day conference on mathematics and its history at Birkbeck (University of London) organized by the British Society for the History of Mathematics (BSHM), and supported by the Department of Economics, Mathematics and Statistics at Birkbeck.

This year's event will look at the development of codes and cryptography from their origins to the present day. An exciting program is planned, with six speakers on a range of topics in this area, including Clifford Cocks, the British mathematician famous for inventing in 1973 what is now called the "RSA" encryption algorithm (five years before its independent discovery by Rivest, Shamir and Adleman). His work was classified at the time, so his contribution only came to light almost a quarter-century later.
https://www.eventbrite.co.uk/e/the-history-of-cryptography-and-codes-tickets-40102427440

2. Mathematics and Patronage

23 June 2018
Oxford

Programme

Professor Rob Iliffe, Oxford: 'Creativity and mathematical patronage in the early modern period.'

Stephen Clucas, Birkbeck, London: 'Henry Percy, ninth Earl of Northumberland (1564-1632) as a patron of mathematics.'

Sulamith Gehr, Basel: The role of patronage in mathematics illustrated through the example of the letter exchanges of Johann I Bernoulli.

Irina Gouzevitch and Dmitri Gouzevitch, Centre D'études Des Mondes Russe, Caucasien Et Centre-Européen, Paris: 'Mathematics for the Russian Empire under Catherine II and Paul l's Reign (1762-1801).'

Reinhard Siegmund-Schultze, Agder, Norway: 'Patronage in mathematics between private, public and dictatorial interests: from Rockefeller to the Nazis.'

Professor Ursula Martin, Oxford: 'Modern patronage and the rhetoric of the impact of mathematics.'

The 13th Maghrebian Colloquium on the History of Arabic Mathematics

30 March – 1 April 2018
Tunis, Tunisia

The 13th Colloquium on the History of Arabic Mathematics (COMHISMA 13) shall take place on Friday 30th March, Saturday 31st March and April 1st, 2018 in Tunis City (CIFFIP - Lac II).

Themes of the Colloquium:

A. Theoretical mathematics, Astronomy, Applied mathematics, Recreational mathematics in Arabic and Islamic traditions.

B. History of teaching Arabic mathematics and its circulation.

C. Mathematics and Society.

Languages of the meeting: Abstracts, papers and communications can be presented in the Arabic, English, or French languages.

The International scientific committee of COMHISMA 13 is chaired by Professor Ahmed Djebbar.

Institutional Partners

- Centre International de Formation des Formateurs et de l'Innovation Pédagogique (CIFFIP)
- Institut Supérieur de l'Education et de la Formation Continue (ISEFC)
- Laboratoire du Monde Arabo-Islamique Médiéval (LMAIM)

Organizing Associations

- Association des Femmes Tunisiennes Mathématiciennes
- Association Tunisienne des Sciences Mathématiques
- Association Tunisienne de Didactique des Mathématiques
- The Mediterranean Institute for the Mathematical Sciences (MIMS-Tunisia).
- Société Mathématique de Tunisie

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99	12 October 2018	November 2018
100	**12 February 2019**	**March 2019**

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A note from the Editors

The Newsletter of HPM is primarily a tool for passing along information about forthcoming events, recent activities and publications, and current work and research in the broad field of history and pedagogy of mathematics. The Newsletter also publishes brief articles which they think may be of interest. Contributions from readers are welcome on the understanding that they may be shortened and edited to suit the compass of this publication.