TRAITÉ

DE

DYNAMIQUE,

DANS LEQUEL LES LOIX DE L'E'QUILIBRE
& du mouvement des Corps font réduites au plus petit nombre
poffible, & démontrées d'une maniere nouvelle, & où l'on donne
un Principe général pour trouver le Mouvement de plufieurs Corps
qui agiffent les uns fur les autres d'une maniere quelconque.

Par M. D'*ALEMBERT, de l'Académie Françoife, des
Académies Royales des Sciences de France, de Pruffe &
d'Angleterre, de l'Académie Royale des Belles Lettres de
Suède, & de l'Inftitut de Bologne.*

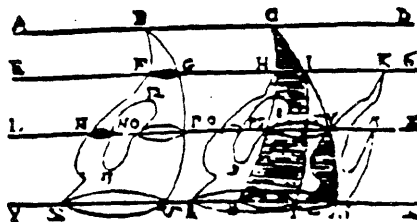Nouvelle Edition, revûe & fort augmentée par l'Auteur.
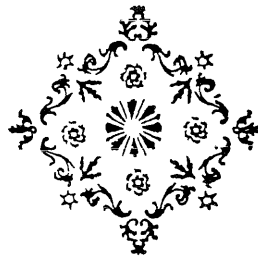
A PARIS,

Chez D A V I D, Libraire, rüe & vis-à-vis la grille des Mathurins.

M. D C C. LVIII.

AVEC APPROBATION ET PRIVILEGE DU ROI.

The <u>Bulletin</u> is an informal medium whose aim is to inform
members of the CSHPM\SCHPM, and others interested in the history
and philosophy of mathematics, of happenings, meetings, current
research work, publications etc. and to provide a place where one
can present tidbits, historical problems, quotations etc. which
do not find a place in more formal media.

** NOTE** Roger Herz-Fischler will be on sabbatical leave in
1989-1990 and so material should be sent to his home address, as
follows, and not to Carleton University. Also please note the new
suffix for the electronic mail address.

<div align="center">

Roger Herz-Fischler
340 Second Ave.
Ottawa, Ontario, K1S-2J2.
home tel. (613) 563-0350
Electronic mail address: ROGERH-F@CARLETON.CA

</div>

The preferred method is via electronic mail because it renders
retyping unnecessary and avoids mail delays of up to plus
infinity. The second best method is to send an IBM compatible
diskette (unformatted = ASCII), via the mail. The mention of
these methods should not however discourage those writing with
quill and ink, à la Babylonian or by other methods. It would be
appreciated if those submitting more than simple news items would
send it them in final typed form so that the text can be
reproduced as is.

<div align="center">

CSHPM/SCHPM

</div>

The society is international in outlook and membership. Its
purpose is to unite scholars who are interested in the history
and philosophy of mathematics.

Annual dues are $15 ($US 11).

If a subscription to <u>Historia Mathematica</u> (the official journal
of the society) is desired the additional cost is $29.50 ($US 22)
i.e. a total of $44.50 ($US 33). A subscription to Historia
Mathematica via CSHPM represents a considerable saving over the
usual cost.

Remittances should be sent to:

<div align="center">

M.A. Malik,
Department of Mathematics, Concordia University,
7141 Sherbrooke Ouest, Montréal, Québec, H4B-1R6
tel. (514)848-3232
Electronic mail address: MAMALIK@CONU1.CA

</div>

Kindly include your electronic mail address if you have one.

ANNUAL MEETING

University of Victoria

May 31, June 1 1990

Joint Session with the

Canadian Mathematics Education Study Group

History and Pedagody / Histoire et Pédagogie

Talks/Conférences: General Session - Francine Abeles, Kean
College, Union, New Jersery, USA 07083.
E-MAIL: CPSF01@TURBO.Kean.EDU (lower/upper case important).

Talks/Conférences: Talks/Conférences: General Session Special
General Session - Victor Katz, University of the District of
Columbia, 4200 Connecticut Avenue N.W., Washington, D.C., USA
20008.

JOINT SESSION ON HISTORY AND PEDAGOGY
AT
VICTORIA MEETING

Joel Hillel of Concordia is responsible for the Newsletter of the
Canadian Mathematics Education Study Group. He will be putting
out a Newsletter in November. For details on the CMESG and their
meeting at Victoria please contact him. Adress: Department of
Mathematics, Concordia University, Loyola Campus, 7141 Sherbrooke
Street West, Montréal, Québec, H48-1R6. [Note: Joel is on
sabbatical this term so a response will be delayed].

EDITORIAL NOTE: For the last issue (sent out in September) the
date and number form for number 10 = January 1990 was
inadvertently used. To avoid confusion this issue is called
number 11 = February 1990. Thus there is no issue number 9.

COVER - CURRENT WORK AND INTERESTS

The cover shows the title page of of the second edition (1758) of
D'Alembert's Traité de dynamique. The work of D'Alembert has been
one - among many - of Craig Fraser's interests. (see e.g.
"D'Alembert's Principle: The Original Formulation and Application
in Jean D'Alembert's Traité de dynamique (1743). Centaurus 28
(1985), 31-61, 145-159). Craig, who teaches at the Institute for
the History and Philosophy of Science and Technology at the
University of Toronto, has also written on Lagrange and other
aspects of 18th and 19th century French mathematics. In addition
to authoring articles Craig is also a recent father; MAZEL TOV!

My Career in the History of Mathematics

From 1970 to 1974 I studied mathematics at Carleton University in Ottawa. Although Carleton had a good undergraduate programme there was not a great deal of interest at this time in the history and philosophy of mathematics. Roger H-F had not yet been called upon by the architects to teach and there was no formal course in the subject.

In 1974 I began graduate studies at the University of British Columbia, concentrating in algebra and logic. My interest in the history of mathematics was aroused by a course I took from Ronald Riddell in 1975-76. Riddell was an ardent follower of the Neugebauer-Aaboe school of mathematical astronomy and wrote some interesting articles in this vein for the Archive for History of Exact Sciences. He died in 1980 at age 42 of leukemia.

When I learned that there was a Ph.D. programme in the history of mathematics at the University of Toronto I abandoned plans to do a doctorate in mathematical logic and moved back to Ontario. I was in Toronto for about a year studying with Ken May when Ken died suddenly at age 62 of a heart-attack. Ken wasn't much on formal teaching in the history of mathematics. He felt that the university had an excellent library and that there was plenty of opportunity to pursue an interest in the subject. He advised me to read some books and to study foreign languages. In those years there were many people at Toronto's Institute interested in discussing mathematical history, among them Charles Jones, Gregory Moore, Philip Enros, Calvin Jongsma, Thomas Drucker, Alejandro Garciadiego, Dagny Vidinsh, Edward Barbeau, Louis Charbonneau, Neil Porter and Roy Ryden. (Tom Archibald would arrive a couple of years later.)

After graduating in 1981 I spent a few years on postdoctoral fellowships and working in university administration. Then in 1984 I ended up back at the University of Toronto teaching the history of mathematics! I am currently writing a book on Lagrange that explores 18th-century conceptions of analysis and mathematical physics. Although there are fewer students in the history of mathematics at our Institute than there were in the mid 1970s, we have recently seen an upturn in interest and enrolment. Across the city at York University there is also now an active group in the subject led by Israel Kleiner.

CONFERENCES/SEMINARS

April 7-9 1990. The British Society for the History of Mathematics is sponsoring a conference/workshop at the University of Leicester. Invited speakers include John Fauvel - "Using History in Mathematics Education"; David Singmaster - "Recreational Problems Down the Ages"; Marylynne Lolley - "Learning Mathematics Through History"; Yannis Thomaidis - "Historical Diversions in Greek Geometry Lessons"; Leo Rogers -

"Resources: What is Available". For more details contact: Steve
Russ, HIMED 90, Dept. of Computer Science, University of Warwick,
Coventry CV4 7Al. The conference will be followed by those of the
Mathematics Association and the Association of Teachers of
Mathematics.

October 5,6 1990. The Department of Mathematics at the University
of Wisconsin-La Crosse is sponsoring the third bi-annual
conference on Math-History. Invited speakers are Helena Pycior,
Charles Duffy, Irving Anellis and Thomas Drucker. There will be
two "tracks" for contributed papers, one for original research
and one for expository and educational papers. The length of
presentation should not exceed 30 minutes. Abstracts of not more
than 200 words should be submitted by April 15 to J.D. Wine,
Department of Mathematics, University of Wisconsin - La Crosse,
La Crosse, Wisconsin, USA 54601.

A SEXAGESIMAL CALCULATING ENVIRONMENT

Note: Glen Van Brummelen is doing research for his Ph.D. thesis
under Len Berggren at Simon Fraser. His talk on patterns of
computational techniques in Arabic trigonometric tables at a
recent annual meeting was particularly well received and was
certainly a model of the genre.

In my research in ancient and medieval mathematics and astronomy,
I have often found the need to perform series of calculations in
sexagesimal arithmetic. As this is rather tedious on a pocket
calculator, I have written a program for IBM compatible computers
that performs all the functions of a scientific calculator, but
operates in an arbitrary base, including base 60. Further, it has
been written to perform operations with columns of numbers as
well as with numbers themselves, so that computation of numerical
tables is greatly facilitated. Other features include easily
modified parameters such as the number of digits before and after
the "decimal" point and the radius of the base circle for
trigonometrical calculations, as well as printer options. Version
0.1 is now available; to receive a copy send a stamped, self-
addressed disk mailer and diskette (any format), or $10 to cover
costs, to:

> Glen Van Brummelen
> Dept. of Mathematics and Statistics
> Simon Fraser University
> Burnaby, B. C. V5A 1S6

The user's manual is included on the diskette, as well as the
source code. This is not a finished product, although it is
serviceable; the final version will include file and worksheet
save and read features, and will not be limited to a constant
column length. I will put a note in the Bulletin when it is
ready.

NOTES/PERSONAL NOTES

Lilianne Beaulieu de l'Université de Montréal a été attribué une
postdoctorale par le Conseil de Recherches en Sciences Humaines
du Canada. Son adresse l'année prochaine sera: Office for History
of Science and Technology, 470 Stephens hall, University of
California at Berkeley, Berkeley, California, EU 94720.

. . . .

PUBLICATIONS

Artmann, Benno. "Hippasos und das Dodekadeder", Mitteilung aus
     dem Mathematische Seminar Giessen, 163 (1964) [Coxeter -
     Festschrift], 103-121.

Crossley, J. The Emergence of Number, 2nd ed., World Scientific,
     1987.

D'Ambrosio, Ubiratan (President of the Organizing Committee).
     Segundo Congresso Latino-Americano de História da Ciência e
     da Technologia [30 de Junho a 4 de Julho, 1988] / Programa e
     Resumos. n.d. This conference had, among others, a session
     on mathematics, physics and astronomy and on ethnoscience.

Fraser, Craig. "The Calculus as Algebraic Analysis: Some
Observations on Mathematical Analysis in the 18th Century."
Archive for History of Exact Sciences, 39(1989), 317-335.

Herz-Fischler, Roger. "Review of H. Busard, The Mediaeval Latin
     Translation of Euclid's 'Elements': Made Directly from the
     Greek, Archives Internationales d'Histoire des Sciences,
     38(1988), fasc. 120, 150-51.

Hogendijk, Jan. "The Treatise on Geometry in al-Hindi's Problems
     of Philosophy", Zeitschrift für Geschichte der Arabisch-
     Islamischen Wissenschaften, 4 (1987/88), 19-32.

Hoyrup, Jens. "Zur Frühgeschichte algebraischer Denkweisen,
     Mathematische Semesterberichte 36(1989), 1-46.

Kutler, Samuel. "Brilliancies involving Equilateral Triangles",
     The St. John's Review, 38 no. 3 (1988/89), 17-43.

Matinovic, Ivica. "The Fundamental Deductive Chain of Boskovic's
     Natural Philosophy", in The Philosophy of Science of Rugjer
     Boskovic, V. Polzaic (ed.). Zagreb: Institute for Philosophy
     and Theology. +

Schnitzer, Abe. (translation of) I. Kantor, A. Solodovnikov,
     Hypercomplex Numbers, An Elementary Introduction to
     Algebras, Springer-Verlag, 1989.

"Un roman c'est un théorème." - André Gide, Les Cahiers d'André Walter (1891) dans Oeuvres Complètes, t. 1, p. 95.

"Parce que vous ignorez que neuf moins huit égale un, et cela, voyez-vous, c'est d'une importance capitale. Pas d'existence possible si vous ignorez cette vérité première." - Maurice Leblanc, Le Bouchon de Cristal (1965), p. 49.

"La certitude des Mathématiques est un avantage que ces Sciences doivent principalement à la simplicité de leur objet." - D'Alembert, Traité de dynamique (édition de 1758), "Discours préliminaire." Craig fraser sent

"Mathematical ideas are the true objects of mathematical history." - André Weil [submitted by Israel Kleiner].

"It is not history for its own sake in which I am interested, but the genesis, at its cardinal points of problems, facts and proofs." - Otto Toeplitz, in article published in Jahresberichte der deutschen mathematischen Vereinigung, 36(1927), 88-100. [submitted by Abe Shenitzer].

THÉORIE
DES FONCTIONS ANALYTIQUES,

CONTENANT

Les principes du Calcul différentiel, dégagés de toute considération d'infiniment petits ou d'évanouissans, de limites ou de fluxions, et réduits à l'Analyse algébrique des quantités finies.

PREMIÈRE PARTIE.

Exposition de la Théorie, avec ses principaux usages dans l'Analyse.

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1. ON appelle *fonction* d'une ou de plusieurs quantités, toute expression de calcul dans laquelle ces quantités entrent d'une manière quelconque, mêlées ou non avec d'autres quantités qu'on regarde comme ayant des

On the Pythagorean Theorem

If we listen to those who wish to recount ancient history, we may find some of them referring this theorem to Pythagoras and saying that he sacrificed a brace of oxen in honor of his discovery.   — from Proclus

Just as a bell curve is a kind
of breast with meaning, or graphed
hyperbolae can represent
the coy geometry of lust
(the soft curves of infinite approach
and loss), so too I can believe
that when Pythagoras deduced
the theorem, his sacrifice of
oxen to the gods was not
prompted by piety alone.

Was it for the sake of gods
the dumb beasts were spitted, charred and sent
ethereal, to bovine heaven?
Did he believe the theorem had descended,
courtesy of some mathematical
Prometheus, from on high?

I would like, instead, to think
that the electric "click" of certainty,
flooding his mind like light into a room
where only dark had been before,
was like the voice of a lovely woman
reclaiming him into the world.

At once abstract and visceral,
the "ah ha!" of sudden knowing
was like the "ahhh ..." of sexual release,
and knowledge struck the belly of his mind
with the neat certainty of wine.

I would like to think he understood
that truth was not otherworldly,
that a fact may reek of burning meat
and its proper offering must be
the smoke from flesh on fire, the smell
of food and sex, the aroma
(corrupt, delicious) of knowledge —
the smoldering thigh pieces of the beast.