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

EIGHT ANNUAL CONFERENCE/HUITIEME CONGRES ANNUEL

HALIFAX, NOVA SCOTIA

28-29 May/Mai 1981

Life Science Building, Room/Local 2922

Dalhousie University

- Thursday, May 28/Jeudi, 28 mai

  14h00-15h00:   Contributed Papers/Communications
                 Chairman/Président: Arthur Miller

      Pycior, Helena M. (Wisconsin): Early Criticism of Symbolical Approach
                                      to Algebra.

      Kennedy, Hubert (Providence College): The Thruth about Peano.

  15h30-16h30:   Greek Mathematics/Mathématiques grecques
                 Chairman/Président: Francine Abeles

      Jones, Charles V. (Toronto): Did Aristotle influence the Structure
                                    of Euclid's Elements?

      Willard, Ross (Toronto): Archimedes' Measurement of the Circle and
                                His Choice therein of Rational Approximations
                                to $\sqrt{3}$: Some Diorismoi.

- Friday, May 29/Vendredi, 29 mai

  9h00-10h00:   History of mathematics in Canada/Histoire des mathématiques au Canada
                Chairman/Président: Philip Enros

      Robinson, G. de B. (Toronto): Mathematics in Ontario prior to Confederation.

      Charbonneau, Louis (U.Q.A.M.): Some mathematical publications in Quebec
                                      prior to 1850.

  10h30-11h30:   Probability/Probabilités
                 Chairman/Président: G. de B. Robinson

      Novikoff, Albert (Courant Institute): When probability becomes
                                             measur~~itory~~.

      Abeles, Francine (Kean College, N.J.): Lewis Carroll's Curious Approach
                                              to Tournaments.

11h30-14h00: Business Meeting/Assemblée générale

A light meal will be served/Un repas léger sera servi.

14h15-16h00: History and Pedagogy of Mathematics/
Histoire et enseignement des mathématiques
Chairman/Président: E. Barbeau

Malik, M.A. (Concordia): Influence of History on the Teaching of
Calculus and Analysis.

Barbeau, E. (Toronto): He will act as an animator for a discussion on
the relation between the history and the
pedagogy of mathematics at university level.

- We thank the Consulat général de France à Montréal for books which it gave
to the Society/Nous remercions le Consulat général de France à Montréal
pour les livres qu'il nous a gracieusement donnés.

- The Mathematical Society of Canada invited you to join them for their
Beer Party (Thursday from 8:30 PM to 12:00 PM, Green Room, Students Building)
and their Cheese and Wine (Friday evening, ask for more informations)/
La Société mathématique du Canada vous invite à leur Beer Party (Jeudi, de
20h30 à 24h00 au Green Room du Students Building) et à leur "vin et fromages"
(Vendredi soir, demandez si vous voulez plus d'information).

- Many thanks to Dr Richard Wood of Dalhousie University and to Dr L.G. Jaeger
of Technical University of Nova Scotia for their help as Local representatives.
Many thanks also to Dr Francine Abeles for her help in the organisation of
the conference. (Louis Charbonneau)

F. ABELES   **Lewis Carroll's Curious Approach to Tournaments**

In 1883 "Lawn Tennis Tournaments" was published under the writer's pen name, Lewis Carroll. This short piece occupies a unique position in Dodgson's work on political affairs. It marks the transition from the earlier period, 1871-76, when he studied consensus ranking problems in a committee setting to the later period, 1881-85, when he developed a global theory of apportionment for proportional representation using coalition game stategy.

In "Lawn Tennis Tournaments", Carroll explored transitive triple elimination tournaments to rank the top three players in a competition. Not until the 1950's were such tournaments formally studied and it was shown that this is the minimal tournament type for ranking three winners. So this apparently superficial item really contains a rather remarkable mathematical achievement.

M.A. MALIK   **Influence of history on the teaching of Calculus and Analysis**

The teaching of Calculus and Analysis have been of concern to mathematicians for a very long time. Over the last three decades, Calculus and Analysis courses have been synthesized and then decomposed several times in an attempt to arrive at the most effective mode of teaching these subjects. So far, no approach has yet enjoyed a lasting support in the community of teachers and the entire discussion on designing curriculum on Analysis as well as on Calculus seems to unfold once again. In this communication, we discuss how the history of mathematics should influence the teaching and course contents of Calculus and Analysis. In fact, the developments of these two subjects had been in different periods of history and they are very much different in spirit and purpose.

H. KENNEDY   **The Truth about Peano**

The speaker's recent biography of the Italian mathematician-logician-linguist Giuseppe Peano (1858-1932) is the first full-scale study of his life and works. An evaluation of Peano's accomplishments in the three fields mentioned will be given here, together with a report on some of the difficulties in preparing the biography.

A. NOVIKOFF   **When probability becomes measuritary**

By a stroke of luck it is possible to locate the exact moment when a sufficiently sophisticated question of probability first required measure theory for its resolution, and when it was first declared that countable additivity be required in the definition of (geometric) probability. A polemic between 2 Scandinavian analysts, in 1900, preserves in print their fumblings (and animosities), as they wresth with a question arising from Celestial Mechanics, that can be formulated: find the probability of convergence of an infinite series whose terms are defined by means of the continued fraction expansion of a number picked "at random" in $(0,1)$.

Both Broden and Wimon knew the current set-theoretic notions: everywhere dense, nowhere dense, denumerable, non-denumerable, but only Wimon saw (at last) their irrelevance and that the brand new theory of Borel permitted a vast extension of "geometric probability", and in particular that the above set could have probability 1 even though its complement was everywhere dense.

Such clarity was not achieved again until years later, when it was associated with Borel, Hansdorf, Cantelli, and Steinhaus.