

**Zeitschrift:** L'Enseignement Mathématique  
**Band:** 44 (1998)  
**Heft:** 3-4: L'ENSEIGNEMENT MATHÉMATIQUE  
  
**Kapitel:** Histoire

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Carmelo MAMMANA, Vinicio VILLANI, (Editors). — **Perspectives on the teaching of geometry for the 21<sup>st</sup> century: an ICMI study.** — New ICMI study series, vol. 5. — Un vol. relié, 16,5×25, de VIII, 353 p. — ISBN 0-7923-4990-3. — Prix: Dfl. 240.00. — Kluwer Academic Publishers, Dordrecht, 1998.

There is an increasing awareness that geometry plays a key role in mathematics and learning mathematics. Although geometry has been eclipsed in the mathematics curriculum, research in geometry has blossomed as new ideas have arisen from inside mathematics and other disciplines, including computer science. In the present ICMI study, the whole spectrum of teaching and learning of geometry is analyzed. Experts from all over the world took part in this study, which was conducted on the basis of recent international research, case studies, and reports on actual school practice.

Eli MAOR. — **Trigonometric delights.** — Un vol. relié, 16,5×24, de XIV, 236 p. — ISBN 0-691-05754-0. — Prix: US\$24.95. — Princeton University Press, Princeton, 1998.

Rejecting the usual arid descriptions of sine, cosine, and their trigonometric relatives, the author brings the subject to life in a compelling blend of history, biography, and mathematics. He begins by examining the “proto-trigonometry” of the Egyptian pyramid builders, he shows how Greek astronomers developed the first true trigonometry. He traces the slow emergence of modern, analytical trigonometry, recounting its colorful origins in Renaissance Europe’s quest for more accurate artillery, more precise clocks, and more pleasing musical instruments, etc.

Thérèse MERLIER. — **Exercices corrigés sur les formes quadratiques et groupes classiques.** — Mathématiques. — Un vol. broché, 15,5×22, de 182 p. — ISBN 2-13-045796-7. — Prix: FF. 188.00 — Presses Universitaires de France, Paris, 1998.

Cet ouvrage, composé uniquement d’exercices et de problèmes, tous présentés avec un corrigé assez détaillé, illustre le livre de Cours de R. Deheuvels, *Formes quadratiques et groupes classiques*, paru dans la même collection. Cet ouvrage s’adresse à tous ceux qui veulent approfondir leurs connaissances sur les formes quadratiques dégénérées ou non, les formes pseudo-hermitiennes, les algèbres de Clifford et sur les problèmes de géométrie liés aux isométries des espaces concernés.

Pierre MEUNIER. — **Agrégation interne de mathématiques: problèmes corrigés et commentés.** — Mathématiques. — Un vol. broché, 15,5×22, de 431 p. — ISBN 2-13-049404-8. — Prix: FF. 258.00. — Presses Universitaires de France, Paris, 1998.

Ce recueil de problèmes corrigés et commentés est constitué de dix-sept énoncés, chacun d’eux étant suivi d’une correction détaillée en liaison avec le cours dont les principaux résultats ont été rappelés et classés par thèmes au début de l’ouvrage afin que l’utilisateur de ce manuel puisse progresser assez rapidement. Dans presque tous les problèmes, de nombreux exemples faisant partie intégrante des questions à résoudre ont été volontairement placés dans les énoncés afin que chacun puisse acquérir le minimum de savoir-faire pratique sans lequel toute approche théorique est inutile.

## **Histoire**

Olli LEHTO. — **Mathematics without borders: a history of the International Mathematical Union.** — Un vol. relié, 16×24, de XVI, 399 p. — ISBN 0-387-98358-9. — Prix: DM 68.00. — Springer, New York, 1998.

The history of international mathematical cooperation over the last hundred years – from the first international congress in 1897 to plans for the World Mathematical Year 2000 – as told by

Prof. Olli Lehto, is a surprisingly compelling story, for reflected in the history of the International Mathematical Union (IMU) is all the strife among world powers, as well as aspirations for cooperation among nations in an increasingly interdependent world. But what keeps you turning pages is the very human story of individuals, among them many of the great mathematicians of our century, united in the common purpose of advancing their science, told against the backdrop of world events.

Vladimir MAZ'YA, Tatyana SHAPOSHNIKOVA. — **Jacques Hadamard, a universal mathematician.** — History of mathematics, vol. 14. — Un vol. relié, 19×26, de xxv, 574 p. — ISBN 0-8218-0841-9. — Prix: £52.00. — American Mathematical Society, Providence R.I., distributed by Oxford University Press, Oxford, 1998.

This book presents the story of the long life and great accomplishments of Jacques Hadamard (1865-1963), who was once called “the living legend of mathematics”. Hadamard’s contributions to mathematics are landmarks in various fields. His life is linked with world history of the 20<sup>th</sup> century in a dramatic way. This work provides an inspiring view of the development of various branches of mathematics during the 19<sup>th</sup> and 20<sup>th</sup> centuries. Hadamard’s life is described in a readable and inviting way and the book contains over 300 photographs and illustrations.

Michael MONASTYRSKY. — **Modern mathematics in the light of the Fields medals.** — Un vol. broché, 12×19,5, de xv, 160 p. — ISBN 1-56881-083-0. — Prix: US\$19.95. — A.K. Peters, Wellesley, Mass., 1998.

This short book examines the evolution of certain areas of modern mathematics by recounting the past winners of the international Fields medal, the “Nobel prize” of mathematics. Subjects like topology, complex analysis, number theory, and mathematical logic are brought to life through the personalities of those who fundamentally contributed to their development. It makes a charming addition to any mathematician’s bookshelf.

V.S. VARADARAJAN. — **Algebra in ancient and modern times.** — Mathematical world, vol. 12. — Un vol. broché, 18×25,5, de xii, 142 p. — ISBN 0-8218-0989-X. — Prix: US\$25.00. — American Mathematical Society, Providence R.I., and Hindustan Book Agency, New Delhi, 1998, distributed world-wide except in India, Sri Lanka, Bangladesh, Pakistan and Nepal by the American Mathematical Society, Providence R.I.

This text offers a special account of Indian work in diophantine equations during the 6<sup>th</sup> through 12<sup>th</sup> centuries and Italian work on solutions of cubic and biquadratic equations from the 11<sup>th</sup> through 16<sup>th</sup> centuries. The volume traces the historical development of algebra and the theory of equations from ancient times to the beginning of modern algebra, outlining some modern themes, such as the fundamental theorem of algebra, Clifford algebras, and quaternions. It is geared toward undergraduates who have no background in calculus.

## ***Logique et fondements***

Samuel R. BUS, (Editor). — **Handbook of proof theory.** — Studies in logic and the foundations of mathematics, vol. 137. — Un vol. relié, 16×23, de 811 p. — ISBN 0-444-89840-9. — Prix: Dfl. 280.00. — Elsevier, Amsterdam, 1998.

Samuel R. Buss: An introduction to proof theory. — Samuel R. Buss: First-order proof theory of arithmetic. — Matt Fairtlough and Stanley S. Wainer: Hierarchies of provably recursive functions. — Wolfram Pohlers: Subsystems of set theory and second order number