

## BELGIAN MATHEMATICAL SOCIETY

Comité National de Mathématique CNM

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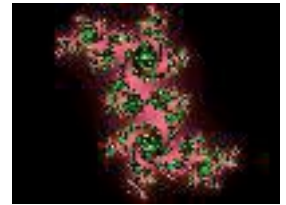
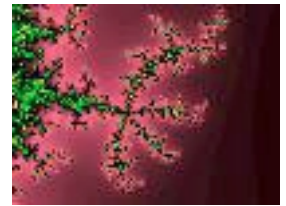
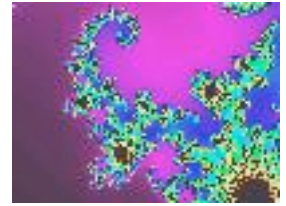
NCW Nationaal Comité voor Wiskunde

### **BMS-NCM NEWS: the Newsletter of the Belgian Mathematical Society and the National Committee for Mathematics**

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**BMS-NCM NEWS**

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No 41, January 15, 2003



## 1 BMS membership dues for 2003

For details on membership fees and reciprocity agreements, see the leaflet included at the end of this Newsletter.

- ordinary BMS membership EUR 18
- +EMS membership + EUR 20

Account number 000-0641030-54, Belgian Mathematical Society

## 2 News from the NCM

### Koninklijke Vlaamse Academie van België voor Wetenschappen en Kunsten

#### VLAC

Vlaams Academisch Centrum voor Wetenschappen en Kunsten  
Flemish Academic Centre for Science and the Arts.

Under a recent agreement between the Flemish government and the Academy, a Flemish Knowledge and Culture Forum has been set up. This agreement mandates the Academy to establish the Flemish Academic Centre for Science and the Arts (Vlaams Academisch Centrum voor Wetenschappen en Kunsten, VLAC).

VLAC will be a forum for international scientific contacts at the level of excellence. Its aim is to give foreign researchers and artists the possibility of spending a fixed period in Flanders, where they can carry out research and establish contact with their colleagues in Flemish universities, research institutions and higher institutions for art and music. Such visitors will work closely with at least one Flemish colleague and will be expected to give a course of lectures in one or more of the above mentioned institutions. The visitors will be expected to work in the Academy, where they have the necessary infrastructure.

Fellowships will be given to foreign research workers for a minimum of three months and a maximum of six months. This period can be spread within a single calendar year. Foreign research workers receive a honorarium of 3.000 euro per month depending on financial agreement with their own institutions. In addition, their travelling and living expenses will be paid by agreement with the Academy.

In order to give Flemish research workers the possibility of collaborating effectively with their foreign colleagues, up to 3.750 euro per month will be made available to the institution where the Flemish research worker is a staff member. This will allow that institution to provide a replacement for the person concerned during the period of the visit.

On the completion of their stay, research workers must send the Academy a detailed report of their activities and the result of their work. These reports will be published by the Academy.

### Selection criteria

The principal condition is excellence in the candidate's research domain. Preference will be given to proposals for several foreign research workers on a single topic.

Proposals may be submitted by a member of the Academy or by research workers who are permanent staff members of a Flemish University or of the Fund for Scientific Research (FWO). Research workers in one of the Flemish scientific institutions (IMEC, ITG, VIB, VITO) may also submit proposals provided that one of the above-mentioned persons is involved.

Proposals must reach the secretariat of the Academy before the 1st of April or 1st of November the year preceding the calendar year for which the proposal is made. Application forms are available on the Flemish website (<http://www.kvab.be/forum>) or from the secretariat of the Academy.

### Selection procedure

The Advisory Council of the Flemish Knowledge and Culture Forum will make the selection of candidates. This Council will make an appeal to external referees by written report. The list of approved candidates will be submitted to the Board of Management of the Academy for final approval. The Board's decision will be communicated to the applicant as soon as possible.

### Mathematics: approved fellowships

Prof. C. Nastasescu ( Univ. Boekarest ) .

Promotor: Prof. F. Van Oystaeyen (UIA).

Theme: Graded Rings with Applications to Geometry and Physics.

Prof. K. S. Rao (India).

Promotor: Prof. G. Vanden Berghe (UG).

Theme: Creativity in Science.

Contactfora van de Koninklijke Vlaamse Academie van België voor Wetenschappen en Kunsten  
INFORMATIE

Voor meer informatie: e-mail: [forum@kvab.be](mailto:forum@kvab.be)

Website: <http://www.kvab.be/forum>

### 1. INLEIDING

In het kader van het Vlaams Kennis- en Cultuurforum cordineert de Koninklijke Vlaamse Academie van België voor Wetenschappen en Kunsten jaarlijks maximaal 25 wetenschappelijke bijeenkomsten of contactfora, in de domeinen van de natuurwetenschappen (inclusief de biomedische wetenschappen), menswetenschappen en kunsten. De contactfora hebben tot doel Vlaamse wetenschappers of kunstenaars te verenigen rond specifieke themas. Ook anderstalige landgenoten en buitenlandse gasten kunnen uitgenodigd worden.

Per contactforum is een toelage van maximum 2 500 EUR beschikbaar (ongeacht het aantal dagen dat het contactforum duurt). De reis- en verblijfskosten van buitenlandse gastsprekers zijn ten laste van de toelage die het contactforum ontvangt. De inrichters van de contactfora dienen de handelingen van het contactforum te publiceren.

Het contactforum en de voorbereidende vergaderingen moeten in de Academie plaatsvinden.

### 2. SELECTIECRITERIA

Elke aanvraag uit om het even welk vakgebied in de hoger vermelde domeinen komt in aanmerking. Aanvragen kunnen ingediend worden door een academielid of door onderzoekers vast verbonden aan een Vlaamse universiteit, aan een instituut voor hoger kunstonderwijs of aan het Fonds voor Wetenschappelijk Onderzoek Vlaanderen (FWO).

Ook onderzoekers verbonden aan de Vlaamse wetenschappelijke instellingen (IMEC, ITG, VIB, VITO) kunnen voorstellen doen op voorwaarde dat een bovenvermeld aanvrager hierbij betrokken is. Voorkeur zal gegeven worden aan voorstellen ingediend door meerdere aanvragers.

Het aanvraagformulier is beschikbaar als Word-invulformulier (167 kB) maar kan ook manueel ingevuld worden (raadpleeg [forum@kvab.be](mailto:forum@kvab.be)).

### 3. UITERSTE DATUM VAN INDIENING VAN KANDIDATUREN

In principe kunnen kandidaturen doorlopend worden ingediend. Toch worden er om organisatorische redenen drie uiterste data voor het indienen van kandidaturen gehanteerd, namelijk 15 januari, 15 april en 15 oktober. Men dient er rekening mee te houden dat het contactforum ten vroegste zes maanden na deze data kan worden ingericht. De Bestuurscommissie kan eventueel van deze regel afwijken indien de aanvrager hiervoor een gemotiveerde reden opgeeft.

Bij de uiterste datum van indiening van 15 april wordt de beslissing ten laatste op 15 juli (van hetzelfde kalenderjaar) meegedeeld aan de aanvrager. Het contactforum kan dan worden ingericht vanaf 15 oktober (van hetzelfde kalenderjaar).

Bij de uiterste datum van indiening van 15 oktober wordt de beslissing ten laatste op 15 januari (van het volgende kalenderjaar) meegedeeld aan de aanvrager. Het contactforum kan dan worden ingericht vanaf 15 april (van het volgende kalenderjaar).

### 4. SELECTIEPROCEDURE

De selectie van de contactfora die in aanmerking komen voor financiering wordt gemaakt door de Adviesraad van het Vlaams Kennis- en Cultuurforum. De lijst van de geselecteerde contactfora wordt overgemaakt aan de Bestuurscommissie van de Academie die de definitieve beslissing neemt.

### 5. OVERSICHT CONTACTFORA WISKUNDE

Hoofdaanvrager	Titel	Datum
Thas J. (UG)	Vergemeende veelhoeken.	20 oktober 2000
Caenepeel S. (VUB)	Hopf algebras in niet-commutatieve meetkunde en natuurkunde.	28-29-30-31 mei 2002 en 1 juni 2002

### 3 News from the BMS

The following issues were discussed during the last meeting of the Executive Committee of the BMS (November 23).

1. The BMS will participate in the project Euclid. Among other things this means that the “Bulletin of the BMS - Simon Stevin” will be made available to the member libraries through electronic means. Project Euclid is a program of the Cornell University Library, office at 107 Olin Library, Cornell University, Ithaca, New York 14853. This is a non-profit organization which intends to distribute journals in Electronic form. Journals distributed under this project include: Rocky Mountain Journal of Mathematics, Duke Mathematical Journal, Houston Journal of Mathematics and others. (See the previous newsletter and <http://projecteuclid.org>)
2. Colleague Eva Colebunders is added as a member of the editorial board of the “Bulletin of the BMS – Simon Stevin”. She will be responsible for “General Topology”. The other names can be found in the Bulletin of the BMS - Simon Stevin.
3. The BMS supports the idea to participate in “European Research Consortium in Informatics and Mathematics” (ERCIM).

In October 2001, V. Blondel organized a meeting about the participation of Belgium in the European Research Consortium in Informatics and Mathematics’ (ERCIM) (see <http://www.ercim/org>).

ERCIM organizes workshops, has several workgroups on diverse topics in applied mathematics and informatics, a newsletter, fellowships, collaborates with the American NSF, etc.

Membership has to be organized at national level, and Belgium is still a blind spot on the map.

B. De Moor (K.U.Leuven) and V. Blondel propose to organize the membership via the FWO and the FNRS. They want to form BERCIM (Belgian member of ERCIM) and pay the membership fee from FWO and FNRS resources. The universities are then involved via BERCIM.

To back up their proposal, they ask to sign a letter of support.

4. The Committee approves the possibility of organizing in 2003, a meeting together with the NCM. A possible subject could be “Genomics”.
5. There will be link between the website of the BMS and that of the Publishing House Taylor and Francis, website <http://www.tandf.co.uk>. The advantage for BMS-members is a 10 % discount on purchases made with Taylor and Francis.
6. The BMS will donate back volumes of the Bulletin of the BMS to the Mathematics Library of the University of Prague, which was seriously flooded during the summer.
7. It is decided that Camille Debiève (UCL, managing editor of the Bulletin), and Philippe Cara (VUB, webmaster) shall be members of the executive committee.

### 4 Meetings, seminars, conferences

#### 4.1 January 2003

**Ekaterina Karatsuba**  
**(Computer Center of the Russian Academy of Sciences, Moscow)**  
**Fast algorithms and the calculation of transcendental functions**

Room B 02.08, Celestijnenlaan 200B, 3001 Heverlee

Time: 16.00 (there is coffee at 15.30 in room B 02.05)

More information: <http://www.wis.kuleuven.ac.be/colloq.htm>

#### 4.2 February 2003

**Study day: Constructive Study of Orthogonal Functions**

February 5, 2003, Leuven, Belgium

Informations: <http://www.cs.kuleuven.ac.be/~ade/WWW/WOG/ctof/>

### Journée en l'honneur de Paul Van Praag

Le lundi 10 février aura lieu à l'Université de MONS-HAINAUT une journée en l'honneur de Paul Van Praag (thèmes: histoire et enseignement des mathématiques).

#### PROGRAMME

- 9h45 Accueil des participants, café.
- 10h Introduction.
- 10h15-11h15 F. Buekenhout (ULB),

Le dodécaèdre, le groupe  $\text{Alt}(5)$  et les groupes  $\text{PSL}(2, K)$  sur un corps commutatif  $K$ .

- 11h30-12h30 N. Rouche (CREM, UCL)

Un théorème de géométrie vu à basse et haute altitude.

- 12h45-15h15 Dîner (sur réservation préalable uniquement, voir ci-dessous).
- 15h30-16h30 A. Djebbar (Lille)

Débats et polémiques dans la tradition mathématique arabe (IXe-XVe s.).

- 16h45-17h45 A. Brigaglia (Palerme)

Les modèles de la géométrie non euclidienne: un itinéraire didactique possible.

- 18h Clôture et Café.

Organisateurs: P. Mammone (mammone@euler.univ-artois.fr), C. Michaux (christian.michaux@umh.ac.be) et J.-P. Tignol (tignol@agel.ucl.ac.be).

POUR PARTICIPER AU DINER, VEUILLEZ VOUS PREINSCRIRE AUPRES DE CHRISTIAN MICHAUX, en retournant les informations ci-dessous à: christian.michaux@umh.ac.be au plus tard le 22 janvier. Une participation aux frais de 15 Euros vous sera demandée.

NOM, PRENOM:

E-MAIL, INSTITUTION, ADRESSE:

PARTICIPERA AU DINER

NOMBRE DE PERSONNES:

Lieu de la journée: UNIVERSITE DE MONS-HAINAUT,

Campus de la Plaine, Les Grands Amphithéâtres,

Accueil: Forum (1er étage)

Conférences: auditoire Marie Curie (rez-de-chaussée),

8 avenue du Champ de Mars, 7000 Mons (accessible également par l'avenue Maistriau).

L'adresse du restaurant sera communiquée ultérieurement aux participants préinscrits.

Informations pratiques ( comment rejoindre l'auditoire,...) sur le site web: <http://www.umh.ac.be/math/>

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### **Cercle mathématique et culture, Mathanor UMH et ALTAIR (ULB)**

AHMED DJEBBAR, professeur à l'Université de Lille 1 et professeur invité (FNRS) fera un cours (accès libre à toute personne intéressée) sur Les Mathématiques arabes entre l'Orient, le Maghreb et l'Espagne.

Dates: les MARDIS après-midi suivants de 16h30 18h30

- à l'Université de Mons-Hainaut, auditoire 211, bâtiment 6, Campus de la Plaine, Avenue du Champ de Mars, 7000 Mons,
  - 4 février : Les sources des mathématiques arabes
  - 11 février : Géométrie
  - 18 février : Théorie des nombres
  - 25 février : Algèbre

- à l'Université Libre de Bruxelles, Campus de la Plaine, Forum, auditoire G, (accès Métro : station Delta),  
11 mars: Analyse combinatoire  
18 mars: Science du calcul  
25 mars: Trigonométrie  
1 avril: Méthodes d'approximations

Informations pratiques sur le site web: <http://www.umh.ac.be/math/>

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### Seminar of mathematical logic (FNRS).

For the complete programm of the second semester, please see the website:  
<http://www.umh.ac.be/math/logic/seminars.htm>

### 4.3 May 2003

#### 225th Congress of the Dutch Mathemamtical Society May 1 and May 2, 2003, Catholic University of Nijmegen (NL).

On May 1 and May 2 2003 the yearly Congress of the Dutch Mathematical Society is scheduled to take place.

The opening lecture will be delivered by R. Hartshorne, and the concluding lecture by R. Dijkgraaf. Scientific program: F. Beukers, B. Jacobs, J. Koenderink, K. Landsman; there will also be about 13 mini-symposia.

The Congress of the Dutch Mathematical Society 2003 is special in the sense that the organizing Dutch Mathematical Society celebrates its 225th anniversary.

On Thursday May 1 this will be done with a special program:

15.45 – 16.15 Lecture by Nobel prize winner M. Veltman

16.15 – 18.00 Symposium 'Wiskunde, nodig en in nood' (Mathematics, necessary and in emergency jeopardy) about the bad situation of mathematics in The Netherlands, with speakers H. Brandt Corstius, P. Nijkamp and J. Veldhuis.

Furthermore, the board of the Dutch Mathematical Society provides an award of 225 EURO for the most original and most inspiring reply to the question/problem:

“Formulate a mathematical problem with answer 225”

The deadline for submissions is April 1 2003. Problems should be sent to the e-mail address: [souvi@math.kun.nl](mailto:souvi@math.kun.nl) or Prijsvraagcommissie NMC2003, c.o. Dr. B. Souvignier, subfaculteit wiskunde KUN, Postbus 9010, 6500 GL Nijmegen.

More information about the program and the possibility to register can be found on the website:  
<http://www.math.kun.nl/nmc2003>

### 4.4 July 2003



**Equadiff 2003, International Conference on Differential Equations,  
Hasselt (Belgium), July 22-26, 2003.**

**Organizing committee:**

F. Dumortier (Chair), H.W. Broer, J.P. Gossez, J. Mawhin, A. Vanderbauwhede, S. Verduyn Lunel

**Scientific committee:**

A. Ambrosetti, A. Doelman, E. Feireisl, B. Fiedler, M. Fila, J. Hale, Y. Ilyashenko, J. Palis, B. Peletier, C. Simo, F. Takens

**Invited speakers and organizers of mini-symposia include:**

A. Albouy, V. Araujo, P. Bonckaert, R. Farwig, M. Golubitsky, H. Hanbmann, A.J. Homburg, R. Johnson, H. Th. Jongen, V. Kaloshin, T. Kaper, A. Katok, H. Kokubu, B. Krauskopf, P. Krejci, K. Lust, R. MacKay, J. Mallet-Paret, H. Matano, A. Mielke, R. Moeckel, R. Obaya, R. Ortega, R. Peeters, P. Polcik, D. Rand, G. Raugel, M. Roberts, R. Roussarie, B. Sandstede, K. Schmitt, G. Sell, D. Serre, J. Sotomayor, C. Stuart, P. Szmolyan, S. Terracini, J.F. Toland, F. Verhulst, M. Viana, O.J. Vrieze, M. Wiegner, Y. Yi, K. Zumbrun

**Information and registration:** <http://www.equadiff.be> or by e-mail [equadiff@luc.ac.be](mailto:equadiff@luc.ac.be)

**4.5 And also ...**

A series of seminars in applied mathematics is available at <http://www.csam.ucl.ac.be/news/seminars.html>

**5 Open positions**

**Postes vacants en mathématiques  
au Département des Sciences du Centre Universitaire de Luxembourg:**

- un poste de professeur d'université (m/f) en mathématiques spécialisé en géométrie symplectique
- un poste d'assistant-professeur (m/f) en mathématiques spécialisé en théorie des probabilités

Pour de plus amples renseignements, veuillez consulter la page web  
<http://www.cu.lu/mathematiques/Postesweb.pdf>

**Open position at the Department of Mathematics  
(Faculty of Sciences) of the University of Liège:**

(here follows lines of the official announcement in the “*Moniteur belge du 7 janvier 2003*”)

(...) un poste de chargé de cours à temps plein dans le domaine des mathématiques discrètes, incluant le développement de travaux de recherche, la prestation de cours pour un maximum de 250h (y compris les travaux pratiques) ainsi que des services à la communauté.

Tous renseignements complémentaires peuvent être obtenus auprès du secrétariat de la faculté (Mme F. Motte; tél. 04/366 36 52, email: [Francoise.Motte@ulg.ac.be](mailto:Francoise.Motte@ulg.ac.be)).

Les candidats sont priés de faire parvenir, par envoi recommandé, à M. le Recteur de l'Université de Liège, place du 20 Août 7, 4000 Liège, dans un délai de trente jours à dater de la publication de cet avis

- leur requête assortie d'un curriculum vitae complet rédigé en double exemplaire;
- un exemplaire de leurs publications.

**6 Summary of a PhD thesis**

**Cell decomposition and  $p$ -adic integration**

**Raf Cluckers, KUL**

The research contained in the thesis is a continuation of the work of advisor J. Denef, and is a combination of model theory, number theory (in the lines of A. Weil and J.-I. Igusa) and  $p$ -adic analysis.

The focus is on the field of  $p$ -adic numbers. Denef proved in 1984 a cell decomposition theorem for  $p$ -adic polynomials and applied it to obtain the rationality of several zetafunctions and Poincaré series. Using rigid  $p$ -adic analysis, the author proves a cell decomposition for  $p$ -adic analytic maps. We obtain analogues of some classical corollaries, as well as several new applications of cell decompositions: we obtain a classification of

subanalytic sets up to subanalytic isomorphism; we prove that the algebra of simple analytic  $p$ -exponential functions is closed under integration; we prove that multivariate analytic local singular series belong to this algebra; and so on. We also prove that every Euler characteristic on the  $p$ -adic numbers is trivial. Several results and techniques are also applied to Presburger groups; these are groups elementary equivalent to the integers with addition and inequality. A dimension theory for Presburger sets is developed, a cell decomposition is proven, and Presburger sets are classified up to definable bijection.

Finally, complete exponential sums modulo a power of  $p$  and their multivariate analogues are studied. In case of dimension one, a nontrivial decay is known when the parameter goes to infinity. The one-dimensional case has been studied extensively by Igusa and others. We prove the multidimensional analogue of this asymptotic result, using  $p$ -adic cell decomposition.

## 7 Various informations

### 7.1 Museum

There is now a museum exclusively for mathematics. It is located in Giessen, Germany and its name is the “*Mathematikum*”. For more information: <http://www.mathematikum.de/index.html>

You can also visit the website <http://mathmuse.sci.ibaraki.ac.jp/indexE.html>

### 7.2 SPARC

For more information, contact:

Alison Buckholtz, SPARC, [alison@arl.org](mailto:alison@arl.org) <http://www.arl.org/sparc>, <http://www.sparceurope.org>

#### SPARC PARTNER DOCUMENTA MATHEMATICA CONTRIBUTES E-PUBLISHING SAVINGS TO NEW PRIZE FOR MATHEMATICIANS

Journal Editor Cites Desire To “Return Science to Scientists”

Washington, DC - SPARC partner Documenta Mathematica has contributed savings gleaned from electronic publication of a recent special journal edition to the creation of a new prize for the international math community. The prize, known as the Carl Friedrich Gauss Prize, includes a medal and EUR 10,000. It will be awarded by the International Mathematical Union (IMU) and administered by the German Math Society (Deutsche Mathematiker-Vereinigung, or DMV). The prize will be given every four years during the International Congress of Mathematicians, alongside the Fields Medal. The first award will be given in 2006.

“SPARC is founded on the idea of returning science to scientists and Documenta Mathematica has long put that theory into practice,” said Ulf Rehmann, managing editor of Documenta Mathematica. “Redirecting our earnings back into research, rather than giving it to commercial science publishers, is both logical and rewarding. It is our way of illustrating that electronic journals can succeed in returning science to its rightful owners, thus pushing research forward.”

Documenta Mathematica’s ability “to produce two thirds of the Proceedings before the Congress and one third immediately after is a remarkable demonstration of the potential to publish a major book at minimal cost with no commercial assistance,” said David Mumford, the IMU president who presided over the conference.

Founded by the DMV in 1995, Documenta Mathematica is a free, peer-reviewed electronic journal covering general mathematics. The DMV awarded Documenta Mathematica the contract to produce the ICM’98 Proceedings as an extra volume, with a grant of EUR 25,000 to cover production costs. As an established electronic journal with little overhead, Documenta Mathematica produced the electronic version of the proceedings for only EUR 1,250. It transferred back to the DMV the savings plus EUR 6,500 earned in sales of the edition, for a total contribution of EUR 30,250. The DMV then used this contribution and other savings achieved at ICM’98 to found the Carl Friedrich Gauss Prize, announced earlier this year.

Documenta Mathematica is archived electronically at scores of university libraries worldwide. Any institution or individual with access can print out complete volumes of the journal at no cost.

For further information about Documenta Mathematica:

<http://www.mathematik.uni-bielefeld.de/documenta/Welcome-eng.html>

and

[http://www.mathematik.uni-bielefeld.de/~rehmann/OAI\\_2002/index.html](http://www.mathematik.uni-bielefeld.de/~rehmann/OAI_2002/index.html)

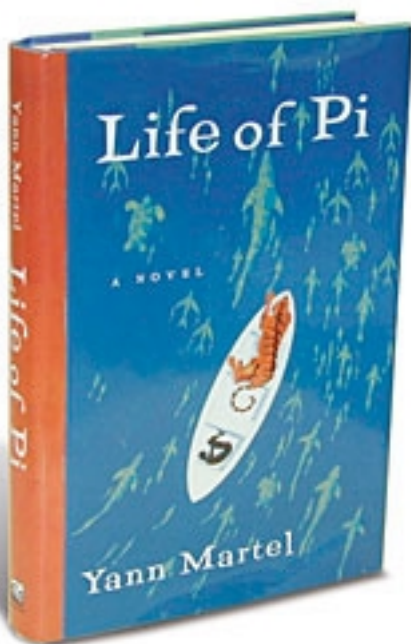
For further information about the Carl Friedrich Gauss Prize:

<http://www.mathematik.uni-bielefeld.de/DMV/Gauss/>



SPARC and SPARC Europe are coalitions of research universities and libraries supporting increased competition in scholarly publishing. Membership currently numbers approximately 240 institutions and library consortia in North America, the U.K. and Europe, Australia, New Zealand and Asia. SPARC is also affiliated with major library organizations in Canada, the U.K. and Ireland, Denmark, Australia and the USA. SPARC is located on the web at <http://www.arl.org/sparc>; SPARC Europe is located on the web at <http://www.sparceurope.org>

## 8 Fiction



The life of Pi. You may have heard in the news that the novel *Life of Pi* by Yann Martel (Harcourt, May, 2002, ISBN 1 84195 245 1) won the Booker price 2002, the most important price for English literature. As a mathematician you might wonder if  $\pi$  has become literature. In a sense it has, but the book is not about mathematics, but more about animals. Pi is Piscine Molitor Patel, an Indian boy, whose father is a zoo director. With a shipload of animals they immigrate to Canada, but after a shipwreck, the boy has to survive in a lifeboat with four animals in the middle of the Pacific. Finally it is Piscine and Richard Parker, a Bengal tiger that after 227 days at sea finally reach the Mexican coast. So what about  $\pi$  then? Because of his encyclopedic knowledge of animal behavior Piscine adopts the alias Pi, which does indeed refer to  $\pi$ , but that's it as far as mathematics is concerned ... in this novel.

A. Bultheel

## 9 Reactions to Newsletter #40

Jean Baudet Nouvel abrégé d'histoire des mathématiques, éditions Vuibert, 332 pp, 30 euros.

Dans le numéro de novembre 2002 de cette Newsletter, on pouvait lire un "review" de l'ouvrage ci-dessus. Ce review se contentait de reproduire quelques phrases extraites d'un article de Jacques Poncin, paru dans le journal Le Soir du 22 octobre 2002. Il me paraît important de signaler que l'ouvrage en question contient une quantité impressionnante d'affirmations fausses et d'erreurs grossières (tant du point de vue mathématique que du point de vue historique), dont on trouvera ci-dessous un petit échantillon. Manifestement, l'auteur ne maîtrise pas toute une série de notions et de résultats dont il veut faire l'historique.

On lit par exemple (p.196) que "la valeur du déterminant est une certaine combinaison linéaire des  $a_{ij}$ " et on apprend avec stupeur (p.234) que " $Q$  est un groupe pour la multiplication, et aussi pour l'addition" (ce n'est pas une faute de frappe, car on retrouve la même erreur plus loin dans la définition d'un corps). Toutefois, la notion de groupe telle qu'elle est définie p.234 n'étant pas celle utilisée par les mathématiciens (l'auteur ne semble pas avoir compris la différence entre "Pour tout  $x$ , il existe un  $y$  tel que..." et "Il existe un  $y$  tel que pour tout  $x$ ..."), il s'avère que  $Q$  est bien un groupe multiplicatif avec la définition de l'auteur !

A propos des équations polynomiales, on lit (p.122): "...une équation de degré  $n$  possède au plus  $n$  solutions... Cette propriété des polynômes constitue le théorème fondamental de l'algèbre" (en gras dans le texte). D'après l'auteur, le théorème fondamental de l'analyse (en gras dans le texte) affirme que (p.141) "si  $S$  est la primitive de  $y$ ,  $y$  est la dérivée de  $S$ ", la notion de primitive ayant bien entendu été définie comme suit à la page précédente: "on dira que  $y$  est la dérivée de  $S$ , ou que  $S$  est la primitive de  $y$ ". Les intégrales multiples sont définies p.168: "Soit la fonction  $f(x)$ . Son intégrale (indéfinie) est également une fonction  $F(x) = \int f(x)dx$ , dont on peut calculer l'intégrale  $\int F(x)dx = \int \int f(x)dx dx$ . On obtient ainsi une intégrale double, et l'on peut poursuivre le processus pour obtenir une intégrale triple, quadruple, etc...". Dans la section sur les équations différentielles (pp 166-167), après avoir annoncé que  $y = ae^x$  est la solution générale de l'équation  $y' = y$ , l'auteur montre au lecteur comment la résoudre, mais il trouve  $y = e^x$  comme seule solution !

Un polyèdre régulier est défini (p.93) comme “un solide ayant des faces égales”; on s’étonnera dès lors qu’il n’en existe que 5 à une similitude près (même si l’auteur avait pris la peine de préciser que le solide est convexe et que les faces sont des polygones réguliers). On apprend (pp 40 et 205) que le problème de la trisection de l’angle “est insoluble par le règle et le compas”; le lecteur qui aura triséqué sans difficulté un angle de  $45^\circ$  à la règle et au compas en sera réduit à essayer de deviner ce que l’auteur a passé sous silence.

Du point de vue historique, l’ouvrage répète, sans aucune analyse critique, une série d’idées reçues fausses qu’on trouve dans certains livres de vulgarisation de bas niveau. Ainsi, l’auteur écrit (p.50) qu’Euclide, dans ses *Eléments*, “fait oeuvre encyclopédique en accumulant tout le savoir arithmétique et géométrique des Grecs”; ceux qui connaissent un peu les mathématiques dans l’Antiquité grecque apprécieront. L’histoire des logarithmes fournit un exemple typique où la présentation des faits donnée par l’auteur est loin de la réalité historique. On lit (p.116) : “En 1614, le mathématicien écossais John Napier fait une découverte importante. Il constate que s’il veut multiplier  $3^4$  par  $3^5$ , il lui suffit en fait d’additionner 4 et 5... Il appelle l’exposant de  $3^4$  le logarithme... Il est facile de démontrer que l’on a  $\log(A \cdot B) = \log A + \log B$ ”. Le problème, c’est que les logarithmes de Napier ne jouissaient pas de cette propriété fondamentale. Il aurait été facile d’expliquer brièvement les idées de Napier, basées sur une interprétation cinématique des choses, avec une motivation trigonométrique. Au lieu de cela, l’auteur s’en tire par une note en bas de page signalant qu’il écarte toute “anecdote” de son histoire et qu’il n’essaie pas de raconter “l’exacte succession des faits”. On se demande, dans ces conditions, quel est le but d’un livre d’histoire des mathématiques.

On aura compris que je ne recommande pas l’achat de ce livre: il ne peut qu’exaspérer le mathématicien et induire en erreur le non mathématicien. Je ne m’explique pas comment les éditions Vuibert, qui sont a priori une maison sérieuse, ont accepté de diffuser un tel ouvrage, à l’heure où d’excellents livres d’histoire des mathématiques sont disponibles sur le marché.

Jean Doyen

## 10 The end . . .

A visitor to the Royal Tyrell museum in Alberta asks a museum employee:

“How old is the skeleton of that T-Rex?”

“Precisely 60 million and three years, two months and 12 days.”

“How can you know that with such precision?”

“That’s easy. When I started working here, a sign said that the skeleton was 60 million years old. And that was three years, two months and 12 days ago. . .”

A statistic professor plans to travel to a conference by airplane. When he passes the security check, a bomb is discovered in his carry-on baggage. Of course, he is hauled off immediately for interrogation.

“I don’t understand it!” the interrogating officer exclaims. “You are an accomplished professional, a caring family man, a pillar of your parish-and now you want to destroy all that by blowing up an airplane!”

“Sorry,” the professor interrupts him. “I never intended to blow up the plane.”

“So, for what reason did you try to bring a bomb on board?!”

“Let me explain. Statistics show that the probability of a bomb being on an airplane is 1/1000. That’s quite high if you think about it-so high that I wouldn’t have any peace of mind on a flight.”

“And what does this have to do with you bringing a bomb on board?”

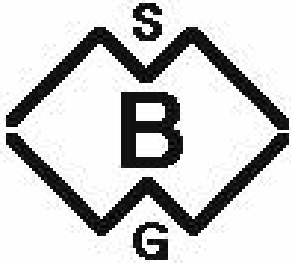
“You see, since the probability of *one* bomb being on my plane is 1/1000, the chance that there are *two* bombs is 1/1000000. So, if I already bring one, I am much safer. . .”

A physics professor conducting experiments has worked out a set of equations that seem to explain his data. Nevertheless, he is unsure if his equations are really correct and therefore asks a colleague from the math department to check them.

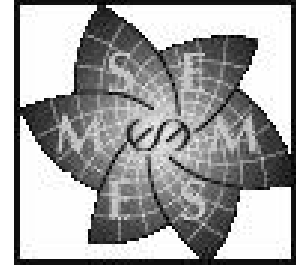
A week later, the math professor calls him: “I am sorry, but your equations are completely nonsense.”

The physics professor is, of course, disappointed. Strangely, however, his incorrect equations turn out to be surprisingly accurate in predicting the results of further experiments. So, he asks the mathematician if he was sure about the equations being completely wrong.

“Well,” the mathematician replies, “they are not actually completely nonsense. But the only case in which they are true is the trivial one in which the time variable is supposed to be a non-negative real number. . .”



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