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AFRICAN MATHEMATICAL UNION

COMMISSION ON THE HISTORY OF MATHEMATICS IN AFRICA

AMUCHMA-NEWSLETTER-22

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1.   OBJECTIVES

The A.M.U. Commission on the History of Mathematics in Africa (AMUCHMA), formed in 1986, has the following objectives:

a. to improve communication among those interested in the history of mathematics in Africa;
b. to promote active cooperation between historians, mathematicians, archaeologists, ethnographers, sociologists, etc., doing research in, or related to, the history of mathematics in Africa;
c. to promote research in the history of mathematics in Africa, and the publication of its results, in order to contribute to the demystification of the still-dominant Eurocentric bias in the historiography of mathematics;
d. to cooperate with any and all organizations pursuing similar objectives.

The main activities of AMUCHMA are as follows:

a. publication of a newsletter;
b. setting up of a documentation centre;
c. organization of lectures on the history of mathematics at national, regional, continental and international congresses and conferences.

2. MEETINGS, EXHIBITIONS, EVENTS

2.1   International Colloquium in Rabat (Morocco)

The Research Group on the History and Philosophy of the Sciences of the Faculty of Arts and Human Sciences of the Mohammed V in Rabat (Morocco) organised from 28 to 30 October, 1998, an international symposium on "Imagination in the global process of scientific knowledge". Academics from different countries (Algeria, Germany, Morocco, Portugal, USA) took part. The following themes were presented:
* Aballagh, Mohamed (Morocco): Aristotle versus the scientists from the Muslim west from the 12th to the 14th century;
* Abattouy, Mohamed (Morocco): Medieval Arab mechanics between real and imaginary;
* Alozade, Mohamed (Morocco): Imagination and science in the philosophy of al-Farabi;
* Bartuschat, Wolfgang (Germany): Imagination, understanding and aesthetic idea;
* Ben Maissa, Abdessalam: (Morocco): How imagination works: an empirical point of view;
* Cargon, Robert (USA): Model, analogy and the physical imagination: The case of the vortex atom;
* Carlos, Jacques (Portugal): Sokal's misreadings of philosophy;
* Chadli, Mostefa (Morocco): Space and its representations in the human sciences;

* Chaitin, Gilbert (USA): Reading Sokal's text: the right way to do science;
* Djebbar, Ahmed (Algeria): The place of imagination in the mathematical activities of the medieval Arabic tradition;
* El Bouazzati, Bennacer (Morocco): Imagination and reasoning;
* El Mesbahi, Mohamed (Morocco): The role of imagination in the view of the philosophers of the Islam;
* Haddad, Lahcen (Morocco): Sokal's imaginary philosophers;
* Herzenni, Ahmed (Morocco): Reality between unity and fragmentation;
* Levine, Amy (USA): A suspensing of fixity: A continuing debate between reason and madness in Derrida and Foucault;
* Molella, Arthur (USA): The electrodynamic world view an the frontiers of the scientific imagination;
* Moulay-Rachid, Mostefa (Morocco): The role of imagination in the progress of ancient geographic thought.

2.2 International Colloquium at the Dibner Institute, Boston (USA)

An international colloquium on "New perspectives on science in medieval Islam" was held (November 6-8, 1998) at the Dibner Institute (Boston, USA). The following papers were presented related to the history of science in the north of Africa:
* Djebbar, Ahmed (Algeria): Mathematical activities in the Muslim West (8th-16th Centuries): Present status and prospects;
* Folkerts, Menso (Germany): Arithmetic: From India through Baghdad to the West;
* Kunitzsch, Paul (Germany): The transmission of Hindu-Arabic numerals reconsidered;
* Langermann, Tzvi (Israel): Another Andalusian revolt?: Ibn Rushd's critique of Al-Kindi's Pharmacological Computus;
* Samso, Julio (Spain): The survival of Andalusian astronomy and the introduction of Eastern Zijes in the Maghreb until the 19th Century.

2.3a Visit of Ahmed Djebbar to Tunis

Invited by the Tunisian Ministry of Higher Education, Ahmed Djebbar visited Tunis from 19 to 25 November, 1998. He was invited in the context of creating (for the first time in the Maghreb) of a course of the History of Science and Epistemology. This one semester course (one hour a week), will be introduced at the beginning of the 98-99 academic year. It is compulsory for first year students of the 'Maîtrises' in Mathematics, Physics, Chemistry, and Computer Science and of the 'Maîtrises' in Life and Earth Sciences. In the first semester will have a course in the history of mathematics, of physics, of biology, of chemistry and of geology respectively. In the second semester, the history of these subjects will be continued by a more epistemological explanation.

During his visit, Ahmed Djebbar (Algeria) took part, with the lecturers of the history of science at the University of Tunis II (all volunteers), in meetings of evaluation of the new course in the history of science and in the preparation of a postgraduate program for these lecturers.

During his visit, Ahmed Djebbar gave three talks on the following themes:
* Mathematics in the Maghreb and in Andalusia and its transmission to Europe;
* Mathematics and cultural or game activities in the Maghreb;
* From al-Khwarizmi to Galois : a history of classical algebra.

2.3b National Seminar on the Teaching of the History of Science (Tunisia)

Following the visit of Ahmed Djebbar to Tunis, the Ministry of Higher Education organised a National Seminar on the Teaching of the History of Science with a duration of one week. Two conferences and one workshop on the history of mathematics were presented:
* Helène Gispert : Is it possible to speak of European mathematics in the 19th century ?;
* Ahmed Djebbar : Overview of scientific activities in the medieval Maghreb (11th-16th centuries).
* (Workshop) H. Abrougui, F. Bellalouna, A. Djebbar : Presentation and study of Arab algebraic texts.

2.4 Seminar in Paris on Mathematics in Africa south of the Sahara

At the initiative of Elikia M'Bokolo (CEAf) and invited by the Centre of African Studies (CEAf) at the "Ècole des Hautes Études en Sciences Sociales" (EHESS) of the French National Scientific Research Council (CNRS), Paulus Gerdes (Mozambique) conducted from January 20 to February 18, 1999, a research seminar entitled "Culture and mathematics in Africa south of the Sahara: History of mathematics and ethnomathematical research". In the seminar took part historians, anthropologists, sociologists, mathematicians and philosophers, from several African (Algeria, Angola, Congo-Brazzaville, Congo-Kinshasa, Mali, Senegal) and European countries (France, Germany, Italy).

2.6 Papers presented at recent meetings

During the 4th World Archaeological Congress (January 10-14, 1999, Cape Town, South Africa) a CASAS-CODESRIA **Symposium on the Africanisation of Knowledge** took place. It was coordinated by Kwesi Prah, the Director of the Centre for Advanced Studies of African Societies (CASAS) in Cape Town.

The following themes related to mathematics were presented:

* Gerdes, Paulus (Mozambique) : On the production of mathematical knowledge in Central and Southern Africa;
* Gnanvo, Cyprien (Benin) : African languages and the mastering of mathematical and scientific knowledge;
* Seepe, Sipho (South Africa) : Re-configuring African mathematics and scientific knowledge systems to meet the challenges of the 21st century.

At the **International Colloquium on "Commerce and Mathematics"** (Beaumont de Lomagne, France, May 13-16, 1999) the following papers were presented by researchers from the Maghreb:
* Ahmed Djebbar (Algeria) : The commercial transactions in Arab mathematical texts;
* Ezzaim Laabid (Morocco) : The proportional distribution in Maghrebian mathematical tradition;
* Mohammed Souissi (Tunisia) : Application of proportions in problems of commercial arithmetic.

About two hundred teachers and inspectors of mathematics from all regions of Morocco took part in the second **International Colloquium on Didactics of Mathematics** (Safi, Morocco, May 27-29, 1999). An important place was given to the history of mathematics, as three conferences and one workshop were dedicated to it. The conferences were the following:
* Ahmed Djebbar (Algeria) : Mathematics produced in the Maghreb and its place in the teaching of mathematics;
* Ezzaim Laabid (Morocco) : Use of the history of mathematics in the teaching of mathematics;
* Abdallah El Idrissi (Morocco) : Towards a historical perspective of mathematics education

3. NOTES AND QUERIES

This section is reserved for questions that readers would like to have answered; these are the 'queries'. The answers will be the 'notes'. If you have questions or answers about sources, dates, names, titles, facts, or other such matters related to the history of mathematics in Africa, frame them in clear and concise language and send them to the editors. If you are answering a question, make clear reference to that question. All readers may send both questions and answers. Each will be published with the name of the sender.

We received from Dr. Eluemuno R. Blyden (USA) the following query :
> "I want to ask if you can tell me anything about the ways in which African cultures have formulated the problem of genetics and inheritance. What versions of the genetic code or Mendelian inheritance are known? It seems to me that the cultures based on cattle in which careful attention was paid to lineage and therefore to traits and their inheritance would be fertile places for such theories to develop".

4. SOURCES

Further sources on numeration in Africa south of the Sahara (1)
(Paulus Gerdes)

Several sources related to numeration (and/or numerology) in Africa south of the Sahara have been already presented in earlier issues of the AMUCHMA-Newsletter (in particular in #9). In addition to these, are the following sources - in alphabetical order -, I came across during my stay (January-February 1999) at the Centre of African Studies (EHESS-CNRS, Paris, France) and the Royal Museum for Central Africa (Tervuren, Belgium).

Casimir Agbo, **La numération au Dahomey**, *Études Dahomeennes* (Nouvelle Série), Porto Novo, 1969, Nos. 14-15, 59-110; 1970, No. 16, 5-112
> Presents the numerals in several languages spoken in the Republic of Benin: Fon or Fongbé, Mina or Ghen, Ghin or Ghinbe, Nagot or Yoruba.

Nathalie Bonini, *Numération et évaluation du temps dans trois sociétés d'Afrique orientale. L'exemple des Borana, des Chaga et des Maasai* [Numeration and time measurement in three societies of Eastern Africa. The example of the Borana, the Chaga and the Maasai], Mémoire présenté en vue de la maitrise d'ethnologie, Université de Paris-X Nanterre, Laboratoire d'Ethnologie et de Sociologie comparative, 1989, 94 pp.
> 'Maitrise' thesis in ethnology.

Blandine Bril, **Analyse des nombres associés à l'homme et à la femme en Afrique de l'Ouest** [Analysis of the numbers associated with male and female in West Africa], *Africa : Journal of the International African Institute*, London, 1979, 49(4), 367-376
> "The opposition and the complementarity of male and female have been brought out in different societies with the aid of pairs of symbols based on left-right, points of the compass, colour, etc. Number also appears to be an apt means of expressing this idea. By studying the rituals of birth and death in West Africa it has been possible to distinguish four pairs of numbers widely associated with male and female : (3,4), (4,3), (9,7) and (5,4). The geographical distribution of these pairs of numbers shows marked grouping. Explanations of the use of the different numbers are generally based on myths or on physiological differences between the sexes and are not very convincing. However, the pairs of numbers are widely used in the 'numerical system' of a society which determines the ritual calendar. These systems also make great use of the number 7 and the author contends that not only is this widely seen as the sum of 4 and 3 in areas using that pair but that some evidence can be found that the area using the pair (5,4) tends similarly to use the sum, 9, in its numerical system for the ritual calendar" (p. 376).

A. Burssens, **Les numéraux en Amashi (Kivu)** [The numerals in Amashi], *Kongo-Overzee*, XVIII, I, 1952, 66-76

Lists the numerals in Amashi, the language of the Abashi (Kivu, Congo / Zaire) and discusses grammatical aspects.

H. Burssens, **Arithmétique**, in: *Les peuplades de l'Entre Congo-Ubangi (Ngbandi, Ngbaka, Mbandja, Ngombe et Gens d'Eau)*, International African Institute, London, 1958, 171-172
Presents brief information on the numeration systems among the Ngbandi, Ngbaka [7=6+1; 9=5+4], Mbandja [7=6+1; 9=8+1] and Ngombe (Congo / Zaire)

L. Bynon-Polak, **L'expression des ordinaux dans les langues bantoues** [The expression of ordinal numbers in the Bantu languages], *Africana Linguistica II*, Annales du Musée Royal de l'Afrique Centrale, Sciences Humaines, Tervuren (Belgium), 1967, #55, 127-160
Comparative linguistic study of the construction of the words for ordinal numbers in Bantu languages. Includes maps on the geographical distribution of the four basic methods of construction analysed by the author.

Jean-Pierre Caprile, Adoum Khamis & Ndjerassem Ngabot : **Pour une terminologie de l'enseignement du calcul dans les langues africaines : la structure d'expression des nombres et des techniques opératoires dans deux langues "sara" du sud du Tchad, le "ngambay" et le "mango"** [Towards a terminology for the teaching of arithmetic in African languages], *Bulletin de l'AELIA (Association d'études linguistiques interculturelles africaines)*, 1983, 6, 273-287
Discusses the expressions used for numbers and operations in two "sara" languages from Chad : "ngambay" and "mango".

Jean-Pierre Caprile : **Numérations orales et enseignement des mathématiques en Afrique** [Oral numeration and the teaching of mathematics in Africa], *LENGAS, revue de sociolinguistique*, Montpellier (France), 1987, no. 21, 143-162
Paper presented at a session organised by the African Bureau of Educational Sciences in Kisangani (Congo / Zaire) in December 1984. It gives some information on systems of numeration in Africa (Sara-ngambay in Chad; Birom in Nigeria; Banda in Central-Africa) and outside Africa.

Chantal Collard, **Les "noms-numéros" chez les Guidar** [The "names-numbers" among the Guidar], *L'Homme, revue française d'anthropologie*, 1973, Vol. XIII(3), 45-59
Analyses the way the Guidar in North-Cameroon give names to their children. The first name indicates the order in which the mother gave birth (and also the sex in the case of the first four children); the second name is the name-number of the father of the child. E.g. the first of an individual called Tizi Dawaï expresses that he is a boy and the first child of his mother; his surname indicates that his father is the seventh child of his respective mother.

Sylvie Fainzang, **Les sexes et leur nombres - Sens et fonction du 3 et du 4 dans une societé burkinabé** [The sexes and their numbers. The meaning and function of 3 and 4 in a Burkinabe society], *L'Homme, revue française d'anthropologie*, 1985, Vol. 96, 97-109

> "The author analyzes in sociological terms the widespread West-African tendency to associate the numbers 3 and 4 with man and woman respectively, practice usually attributed to certain aspects of male and female anatomy. An analysis of Bisa society (Burkina Faso) shows how the meaning and function of this symbolism are directly related to representations of the person on the one hand, and to social space as defined by residence rules on the other. The author suggests that the discourse implied by this symbolism serves to found social relations between the sexes and to legitimate male domination". (109)

Solange de Ganay, **Graphie bambara des nombres** [Bambara graphical representation of numbers], *Journal de la société des africanistes*, 1950, 20(2) : 295-305

> Describes and displays graphical signs used by Bambara (Mali) to represent numbers.

P. Garnier, **Les noms de nombre en bambara** [The number words in Bambara], *Notes africaines*, 1954, 62, p. 50

> Short comment on the words in Bambara (Mali) for 7, 9 (related to the duration of a pregnancy), 20 (related to the word for human being), and 40 (related to the word for mat). As 7 is a secret number, the author does not know an expression for it other than the indirect 'wuoron-fla', that is, the 'second six'.

Carlos Gonzalez Echegaray, **Los sistemas de numeración y los numerales en los pueblos de la Guinea Española** [The number systems and numerals among the peoples of Spanish Guinea (Equatorial Guinea)], *Archivos del Instituto de Estudios Africanos*, IV, 12, 1950, 19-29

> Describes counting methods using fingers, knots, pebbles, etc., and number words (mostly decimal, some with auxiliary base five).

Marcel Griaule, **Numération secrète** [Secret numeration], in: *Jeux Dogon*, Institut d'Ethnologie, Paris, 1938, p. 222

> In his book on children's games of the Dogon in Mali, Griaule presents two examples of a secret numeration (one to ten) used (and invented ?) by the children of the Pamyon and Guinna neighborhoods and often not understood by children from other neighbourhoods.

Karl Laman, **Arithmetic**, in: *The Kongo*, Upsala: Studia Ethnographica Upsaliensia, Vol. IV, 1968, 8-9

> Describes briefly counting and measuring among the Sundi. Accounts are kept by means of stones, palm nuts, knots, tally sticks, etc. In games the score may be kept by putting aside certain objects, by tying knots in a string, or by chanting a jingle (examples are given).

Lucien Lévy-Bruhl, **La numération chez les Bergdama**, *Africa, Journal of the International Institute of African Languages and Cultures*, 1929, Vol. II, No. 2, 162-173

> Compares aspects of (finger) counting of the Bergdama (Berg Damara) of South Africa and Namibia with the (verbal) counting of their neighbours, the Nama.

Guy Nicolas, **Un système numérique symbolique : le quatre, le trois et le sept dans la cosmologie d'une société hausa (vallée de Maradi)** [A symbolic numerical system : four, three and seven in the cosmology of a Hausa society (Maradi valley)], Cahiers d'études africaines, Paris, 1968, VIII(3), 566-616

> The numbers four (hudu), three (uku) and seven (bakwai) play an important role in ritual, economic and social life among the Hausa in the Maradi valley (Niger). This role is described, analysed and discussed.

H. Sawyer & S. K. Todd, **The significance of the numbers 3 and 4 among the Mende of Sierra Leone**, *Sierra Leone Studies : A Journal of the Arts and Sciences*, 1970, 26, 29-36

> Discusses "the significance and incidence of the use of the figure three to symbolise female activity, and of the figure four to symbolise male participation among the Mende" (p. 30).

Leo Stappers, **Het hoofdtelwoord in de Bantoe-talen** [The cardinal number in the Bantu languages], *Africana Linguistica II*, Annales du Musée Royal de l'Afrique Centrale, Sciences Humaines, Tervuren (Belgium), 1967, #55, 175-198

> Compares the prefixes used in the Bantu languages in connection with the cardinal numbers one to five. The paper analyses also 'abstract' counting (i.e. without reference to the objects), and 'distributive' ('two by two', ...) and 'multiplicative' use of cardinals in the Bantu languages. Maps with information on the geographical distribution are included.

Placidus Tempels, **De tel-gebaren der Bashila** [The number-gestures of the Bashila], *Congo-Overzee*, 1938, IV. 2, 49-53

> Describes the number-gestures among the (Ba)Shila in Congo / Zaire. There are two series, one for counting from 1 to 10, and one for indicating individually numbers (cardinal numbers).

Toussaint-Yaovi Tchitchi: **Numérations traditionnelles et aritmétique moderne**, in: Hountondji, Paulin (Ed.), *Les savoirs endogènes: pistes pour une recherche*, CODESRIA, Dakar (Senegal), 1994, 109-138

> Discusses traditional numeration in "àjá" (Benin) and possibilities of and experimentation with a decimalisation

(to be continued)

5. HAVE YOU READ?

5.1 On the History of Mathematics in Africa

#278   Høyrup, Jens : **Hero, Ps.-Hero, and Near Eastern practical geometry. An investigation of Metrica, Geometrica, and other treatises**, *Antike Naturwissenschaft und ihre Rezeption*, Trier (Germany), Vol. 7, 1997, 67-93 [a pre-print was published by Roskilde University Centre - Section for Philosophy and Science Studies, Roskilde (Denmark) in 1996]

> The author intends to "firstly, that Hero's geometry depends to a greater extent than usually assumed on Near Eastern practical geometry or its descendant traditions in the classical world, and that the conventional image [of Hero] as the transformer of theoretical into applied mathematics is only a half-truth; secondly, that much of what is shared by Hero's *Metrica* and the pseudo-Heronian collections assembled by Heiberg as *Geometrica* are shared borrowings from the same tradition... " (p. 67).

5.2 Publications on the History of Mathematics, Ethnomathematics and Mathematics Education

#279   Gerdes, Paulus: **Geometry from Africa : Mathematical and educational explorations**, The Mathematical Association of America [Classroom Resource Materials Series], Washington DC, 1999, xii + 210 pp. [Foreword by Arthur B. Powell] (ISBN 0-88385-715-4)

> Presents geometrical ideas from Africa south of the Sahara, with suggestions how they can be explored both mathematically and in mathematics education (secondary school, teacher education, university). The book is organised in the following parts:
> Preface (Geometrical and educational explorations inspired by African cultural activities); Part 1: On geometrical ideas in Africa south of the Sahara [overview, pp.2-53]; Part 2: From African designs to discovering the Pythagorean Theorem [pp.54-87]; Part 3: Geometrical ideas in crafts and possibilities for their educational exploration [Explores ideas from house building, wall decoration, mat and basket weaving, pp.88-155]; Part 4: The 'sona' sand drawing tradition and possibilities for its educational use [pp.156-204].

#280   Gerdes, Paulus: **On some Geometrical and Architectural Ideas from African Art and Craft**, in: Kim Williams (Ed.), *Nexus II: Architecture and Mathematics*, Editora Dell'Erba, Fucecchio (Italy), 1998, 75-86 (cf. # 272)

> Presents some examples of geometrical ideas in traditional African building, as well as some further suggestions for architectural shapes inspired by African art and craft.

#281 Houndonougbo, Victor**: Processus stochastique du Fâ: une approche mathématique de la géomancie des côtes du Bénin**, in: Hountondji, Paulin (Ed.), Les savoirs endogènes: pistes pour une recherche, CODESRIA, Dakar (Senegal), 1994, 139-157

    Analyses Fâ divination practices in the coastal zones of Benin from a mathematical point of view (theory of probability).

#282 Olivier, Alwyn & Karen Newstead (Eds.), *Proceedings of the 22nd Conference of the International Group for the Psychology of Mathematics Education*, Cape Town (South Africa), 1998, 4 volumes.

    The proceedings contain the following contributions and abstracts which may interest the readers of the AMUCHMA-Newsletter :

* Draisma, Jan (Mozambique): On verbal addition and subtraction in Mozambican Bantu languages, Vol. 2, 272-279;
* Mosimege, Mogege David (South Africa): Culture, games and mathematics education : An exploration based on string figures, Vol. 3, 279-286;
* Mogari, David (South Africa) : Some geometrical constructs and pupil's construction of miniature wire toy cars, Vol. 4, 284;
* Soares, Daniel (Mozambique) : On the geometry involved in the building of traditional houses with rectangular base in Mozambique, Vol. 4, 307;
* Mucavele, João (Mozambique): The *mathakuzana* game as a didactical resource for the development of number sense and oral arithmetic.

#283 Zaslavsky, Claudia, **Africa Counts : Number and Pattern in African Cultures**, Third edition, Lawrence Hill, 1999, 368 pp. [ISBN 1-55652-350-5]

    Reprint of Claudia Zaslavsky's classical study, updated with an additional chapter on ethnomathematics in Africa (cf. #20, 199).

5.3 Other publications on the History of Mathematics by African mathematicians

#284 Djebbar, Ahmed : **La jolle histoire de l'algèbre**, in: *Science et Vie Junior Special Math*, Paris, December 1998 - February 1999, 34-47

#285 Boudine, Jean-Pierre et Djebbar, Ahmed : **Omar Khayyam, le poète des maths**, in: *Science et Vie Junior Special Math*, Paris, December 1998 - February 1999, 42-43

    Special issue of the popular journal "Science and Life - Junior" on the history of algebra.

5.4 Publications on the History of Mathematics and the African Diaspora

None were reported.

6.   ANNOUNCEMENTS

* **5th Pan African Congress of Mathematicians (PACOM'2000)**

The 5th Pan African Congress of Mathematicians (PACOM'2000) will take place at the University of the Western Cape (UWC), Cape Town, South Africa, from 24 to 31 January 2000. The general theme of the congress is "*Africa in the World Mathematical Year 2000 : Assessment and promotion of mathematical education and research at the dawn of the 3rd millennium*". A special effort will be made by the AMU for supporting some deserving young African mathematicians. Interested mathematicians are requested to send their CV with the title and abstract of their communication to the President of the AMU, Prof. A. Kerkour, and a copy to the secretary-general of AMU, Prof. D. Sangaré.

The General Assembly of the African Mathematical Union (AMU) will be held at the same place on January 23.

For more information on the programme of PACOM'2000, contact the Chairman of the Local Organising Committee :

Prof. Jan Persens, Director of International Relations, University of the Western Cape, Private Bag X17, Bellville, 7535 South Africa (Tel: +27-21-959-2884/3340; Fax: +27-21-9592655; E-mail: jpersens@uwc.ac.za)

Mogege Mosimege and Paulus Gerdes will coordinate the session on mathematics and culture / ethnomathematics / history of mathematics in Africa. If you like to presen a paper in this session, please contact with the coordinators.

* **10th Pan African Mathematics Olympiad (PAMO)**

The 10th Pan African Mathematics Olympiad will take place at the University of Cape Town (UCT), Cape Town, South Africa from January 17 to 24, 2000, that is in the week preceding PACOM'2000. For more information, contact the Chairperson of the AMU Commission on Mathematical Olympiads :

Prof. Nouzha El Yacoubi, Department of Mathematics and Informatics, Faculty of Science, P. O. Box 1014, Rabat, Morocco [Fax : +212 7 77 30 44; E-mail : elyac-sb@fsr.ac.ma]

or the convener, Local Organising Committee :

Prof. John Webb., Department of Mathematics and Applied Mathematics, University of Cape Town, 7701 Rondebosch, South Africa [Fax : +27 21 686 0476; E-mail : jhwebb@maths.uct.ac.za]

* **Proceedings of the 3rd and 5th Maghrebian Colloquia on the History of Arabic Mathematics**

The Proceedings of the 3rd and 5th Maghrebian Colloquia on the History of Arabic Mathematics have been published. Detailed information on the contents will be given in issue 23 of the AMUCHMA-Newsletter :
* *Actes du 3e Colloque maghrebin sur l'histoire des mathématiques arabes, Alger, 1-3 Decembre 1990*, Office des Publications Universitaires, Alger, 1998, 280 pp.;
* *Actes du 5e Colloque maghrebin sur l'histoire des mathématiques arabes, Hammamet, 1-3 Decembre 1994*, A.T.S.M. / Impression IMPAK, Tunis, 1998, 357 pp.

* **XXIst International Congress of History of Science (ICHS)**

The XXIst International Congress of History of Science will take place in Mexico City from the 8th to the 14th of July, 2001. The general topic for this congress is "Science and Cultural Diversity". "A limited number of grants will be available for participants from selected regions in order to assure the more possible participation of researchers from all parts of the world". For further information, please contact:

> Prof. Juan José Saldaña, Chairman of the Organizing Committee of the XXIst ICHS, Apartado Postal 21-873, C.P. 04000 México, D.F., Mexico (e-mail : xxiichs@servidor.unam.mx),

or visit the web-site of the International Union of History and Philosophy of Science / Division of History of Science (IUHPS/DHS):

> www.cilea.it/history/DHS

* **New international journal "Board Games Studies"**

"Board Games Studies is an academic journal for historical and systematic research on board games, Its object is to provide a forum for board games research from all academic disciplines in order to further the understanding of the development and distribution of board games within an interdisciplinary academic context. Articles are accepted in English, French, and German". The journal is published by the Research School CNWS, Leiden University, Netherlands. For more information, contact the managing editor Alex de Voogt.
The first issue (1998) contains a review (pp. 112-113) by Philip Townshend of the book by Elisio Silva on mancala type games from Angola (cf. AMUCHMA 18: #217). On p. 67, appear the following references to papers by Philip Townshend on board games in Africa:
* Autour du jeu de Mankala, *Zaire-Afrique*, 105: 287-297, 1976;
* Les jeux de Makala du Zaire, du Rwanda et du Burundi, *Cahiers du CEDAF*, Brussels, 3: 1-76, 1977;
* Mankala Games, *Bulletin of the International Committee on Urgent Anthropological and Ethnological Research*, 19: 47-54, 1977;

* The South West African game of Illhus in the wider context of African Mankala, *Journal of the South West African Scientific Society*, 31: 85-98, 1977;
* Mankala in Eastern and Southern Africa: a Distributional Analysis, *Azania*, 14: 108-138, 1979;
* Bao (Mankala): The Swahili Ethic in African Idiom, *Paideuma*, 28: 175-191, 1982;
* *Games in Culture: A Contextual Analysis of the Swahili Board Game and its relevance to Variation in African Mankala*, Ph.D. thesis, University of Cambridge, 1986.

The following references to publications by Richard Pankhurst are presented on page 67:
* Gabata and related Board-games of Ethiopia and the Horn of Africa, *Ethiopia Observer*, 14(3): 154-206, 1971;
* Gabata and other Board-Games of Ethiopia and the Horn of Africa, *Azania*, 17: 27-41, 1982.

The managing editor, Alex de Voogt, published two books on mancala board games :
* *Limits of the mind : towards a characterisation of Bao mastership*, Research School CNWS, Leiden (Netherlands), 1995, 169 p.
  Ph. D. thesis in which the Bao game as played on the island Zanzibar (Tanzania) is analysed (cf. # 276);
* *Mancala board games*, British Museum Press, London, 1997, 80 p.
  The book looks briefly at the social and cultural context of the game, but focuses mainly on the boards themselves. It also contains a catalogue of the 105 boards (many from Africa) in the British Museum's collection.

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