



ANNUAL REPORT 2005-2006

MATHEMATICAL ASSOCIATION



supporting mathematics in education

President's Report

No one could have been more surprised than I to receive a charming letter from Sir Christopher Zeeman asking me to be President of the MA. I remembered so well Sir Christopher doing the BBC children's Christmas Lectures and Royal Institution Master classes so it was lovely to hear from him, but to be President of the MA...

After double-checking that it really was intended for me and having had persuasive conversations not only with Sir Christopher but also with Barry Lewis and Bill Richardson I was delighted to accept and have continued to feel honoured and privileged to be given this opportunity to represent and, I hope, be of service to the MA.

Since I understand it is the custom in this report to provide a potted biography I will run over the rather unlikely progression that got me to this point.

Not having been to university and having embarked quite young, by today's standards, on marriage and a family I was in the process of wondering what I would do to avoid the housework as the children grew up when the Open University appeared like manna from heaven! I had always enjoyed maths at school so, very apprehensively and somewhat doubtful of my ability, I embarked

on the Maths Foundation Course in January 1971. This was the first year of the OU's existence so it was hard to know what was in store, but I should not have worried; I was instantly captivated and intellectually challenged in a way which was the perfect foil to three small children and running a playgroup three mornings a week. Many of the innovative things pioneered by the OU are now commonplace but at that time a part-time, flexible and yet rigorous degree which did not have entrance requirements was a rarity and opened up many exciting possibilities. Having eventually got my degree I went on to do a PGCE at Garnett College, which specialised in FE, and a career in teaching Maths. After a couple of temporary one term posts in local secondary schools, I was lucky enough to be appointed to St Paul's Girls' School where amongst many other things colleagues introduced me to the MA. I ultimately became Head of Maths at SPGS and then moved on to be Head of Guildford High School. Headship inevitably took me away from direct day-to-day teaching but I always resolutely retained a small teaching commitment. My PA was once heard to remark that it was always well worth the time and effort of organising my schedule so that I could get into the classroom because I always came back rejuvenated!

Meanwhile as a head I gradually became involved with the wider educational scene. I was a member of the Education Committee of GSA (the Girls' Schools Association) and subsequently chaired that Committee. This inevitably led to a number of meetings with QCA, the DfES and other bodies, reports, submissions and delegations on a wide range of educational issues. In due course I became joint-chair of the GSA/HMC Education and Academic Policy committee and also, Chairman of JACG just as Curriculum 2000 was coming on stream. JACG (Joint Associations Curriculum Group) represented all the providers - maintained, independent and FE - of post-16 education. Clearly much of the agenda had a general remit over all subjects but I regularly used moments at the end of meetings to raise very specific points concerning the way Mathematics was being or would be affected by the changes. The agendas included many other issues that we are all aware of like teacher recruitment and again I tried to ensure that while taking a general overview the particular difficulties of mathematics got mentioned. I suspect it was this continued insistence on the importance of mathematics and its difference from other subjects that led to the invitation that I received from Professor Adrian Smith to join the Steering Group for his report into Mathematics 14-19. This was a particularly good moment as, having retired from headship in 2002, I was considering what to do and rediscovering my mathematical interests was very much in my mind.



Sue Singer - President

As President of the MA I have endeavoured to use my contacts on the educational scene to further the aims and aspirations of the Association. In this I have been enormously supported by the hard work of many others in a myriad of different ways, from helping to draft letters and responses to government communications to coming to meetings and talking through issues in advance of those meetings. Amongst many others Barry Lewis, Bill Richardson, Doug French, Charlie Stripp, and Adrian Oldknow were all enormously helpful and supportive. Adam McBride did much in his year as President to try to arrange a meeting with Charles Clarke, the then Secretary of State, but the speed of change at the DfES made this difficult to achieve however we did eventually have a meeting with Derek Twigg, MP, who at the time was Parliamentary Under Secretary of State for Schools.

One particularly interesting development has been contact with the House of Lords where in January 2005 there was a debate on the Smith Report. This debate came at very short notice but thanks to the hard work of several people, particularly Marcia Murray at Headquarters, we were able to get together a short paper expressing our most immediate concerns and strongly held views which was circulated to a list of potentially interested peers several of whom could be seen in the debate referring to our briefing paper. I am sure it would pay the Association in the future to keep an eye on proceedings in both Houses of Parliament and circulate appropriate briefing papers to potentially interested people in advance of debates. Apart from the contacts we have now made in the Lords many of us must know of or have contact with MPs who might be lobbied in support of mathematics. I personally know of at least one recently elected member of the House of Commons to whom I taught A level Maths and have every intention of lobbying her at an appropriate moment! I am sure this must apply to other members of the MA.

A number of the recent letters, responses and submissions we have made to the DfES and QCA have been sent jointly from the MA, ATM and NANAMIC. These have been welcomed by the recipients and I am sure that joint responses, when they can be agreed, enable us to speak more strongly and increase the chances of our being listened to and achieving positive outcomes. We have recently established regular joint meetings with Mick Waters, Head of Curriculum at QCA, which he has welcomed as a valuable point of contact with the mathematics community.

We had a very good conference at Loughborough and I would like to thank all the members of the team for all the hard work that ensured its success, particularly Alan Camina the Chair of Conferences. Loughborough proved to be a very good venue with a central point for a buffet lunch which enabled colleagues to meet and chat and also see the stands of the various exhibitors. As always we had an exciting, varied and stimulating range of speakers, but the high point from my point of view, was the Presidential Dinner when I had the privilege not only of sitting between the two eminent mathematicians who were my immediate predecessors as President of the MA, Adam McBride and Christopher Zeeman, but also of presenting Sir Christopher with the plaque to mark his elevation to Honorary Membership of the Association.

During the year I have enjoyed representing the MA on numerous occasions and at a variety of meetings, including speaking at Branches and meeting with other

organisations. And there are still more to come as I will be visiting the Isle of Man in October. I would like to close by reiterating my gratitude for the honour done to me by the MA. I still have to pinch myself when I think of my name on that board of MA presidents which contains so many illustrious mathematicians.

In the new and busy life which I have encountered since retirement, I have been especially delighted to be drawn back to the mathematics community and to my own love of the subject in all its many forms and ramifications. It has been a great privilege to be President and I wish the MA well for the future.

Sue Singer – President

Chair's Report from Council

It is my pleasure to be giving this report as Chair of Council - and also a little daunting. When Harold Wilson handed over power to James Callaghan he is said to have left three envelopes in a drawer, with instructions that they be opened in emergency. Opening the first envelope, during the first disaster, Callaghan read, "Blame your predecessor." After the second, he read "Blame an official". After the third: "Prepare three envelopes ...".

Let me start my review right at the beginning; that is at last year's BCME conference. Most of those who attended experienced an outstanding event that left a lasting impression - the breadth of its programme, and the opportunities for meeting others. And there were those who liked it simply because it gave them exactly what they would have got from attending their own association conference. In short, something for everybody.

But why look back to last year's conference? The reason is simple - BCME made a surplus and also provided a model for future joint conferences. The administration was split between the MA and ATM and it worked seamlessly and efficiently. That we made a surplus and drew in over 500 delegates is proof - were it needed - that co-operation works. BCME provided an informal opportunity to exchange views on current government developments and plans. And we made a remarkable discovery. Almost all the things that we found disturbing, others found equally disturbing. We determined to exploit this opportunity.

It has been the practice that the President of the MA should write to government reacting - positively and negatively - when new policies are unveiled or plans made to implement new strategies or practices. The talk of the BCME conference was the 14-19 White Paper that had recently been published. This policy document had major implications for mathematics; some of which we welcomed, some of which we were - how shall I put this? - less than enthusiastic about. The Curriculum 2000 disaster casts a long shadow over any mathematical policy that the present government unveils. But the surprise was that everybody showed exactly the same concerns. That led to a joint letter to the Secretary of State bearing the signatures and imprimaturs of the MA, ATM and NANAMIC - precisely the organisations representing the 14-19 cohort. Interestingly enough there was no response to that letter, not even an acknowledgement. Only after some vigorous prompting did we receive a reply - and then a mere acknowledgement from an official. But more on this later.

Let us move to the business of Council itself and the other major themes running through the year. As you know, Council meets four times a year - in June, September,

December and March - that is in those months congruent to zero mod 3. Let me acknowledge the contribution that individual Council members make. They give up virtually 4 weekends a year. They are expected to absorb a large amount of written detail before a Council meeting and then to come prepared to add their expertise and experience to that of others. The arguments are vigorous and sometimes passionate - but always enlightening. Out of heated discussion we hope that light will emerge. One very welcome recent innovation has been an idea put forward by Doug French. Because of the number of issues that are arising in mathematics - and that is both a good sign and a bad sign - Council sometimes finds itself without the means to consider in full detail all the issues involved. Hence the formation of a Curriculum Policy Group. This group has the task of taking broad decisions made by Council concerning the curriculum and converting them into compelling and authoritative arguments that then become detailed MA policy. They can then be exploited in letters, on the web, at conferences and in the media on our behalf. It becomes a robust and effective base on which to communicate and proselytise effectively. It is already clear that this forum is an important refinement and extension of Council.

Another development is the evolution of our procedures for selecting Presidents. Council examined this issue at some length and put in place a new system to select future Presidents. This consists of a number of discrete stages. At the June Council meeting, Council members propose suitable candidates and please *do* use this as an opportunity to propose your own candidates through any member of Council. Last year this resulted in some thirteen candidates. A number of Council members were themselves proposed - sometimes to their surprise and discomfort. The list was reduced to eight candidates. Between the June Council meeting and the September meeting, the proposer of a candidate prepared a CV setting out the contribution that the candidate had made to mathematics in its widest context. These were then circulated to Council in advance of the September meeting. At the September meeting, each member of Council was then invited to select three candidates and to rank them in order. The weighted score of all candidates was then tallied and the top three candidates were shortlisted in order. The President contacted the first candidate and Rob Eastaway was delighted to accept our offer to become President in 2007/2008. A number of small details emerged during this process. The first concerned the nomination of Council members. We have decided for the future, that such nominations can only be made with the prior agreement of the Council member concerned. Secondly, Tony Barnard is looking in detail at the mathematics of this process, and we will again review the ballot process in the light of his work. Clearly we seek a discrete map that is one-one and, under composition, is always convergent.

One other major theme of the year concerns the legal framework of the MA itself. The new Secretary - Bill Richardson - has scrutinised the rules and regulations and found many rough edges and poorly constructed wording. This is hardly surprising. These documents have evolved, that is, they have been refurbished, repaired and rejigged on numerous occasions and by many hands so that over time they have progressively lost their coherence and simplicity. We have also looked critically at the legal

entity that best suits our continuing purpose. The Secretary in his report will set out exactly the tasks and issues involved.

For the remaining events of the year, let me detail them as they happened. At the June meeting we discussed the work of the CPD committee in some detail. This was led by its Chair, Adrian Oldknow. John Leigh, our Professional Officer, had completed his first two years in post and had prepared a report on his activities during this period. His time is split - pretty evenly - between income generation and other tasks that are important, but without income. The income generation is itself split - this time between organising and delivering CPD programmes and managing contract projects for bodies such as the DfES etc. The latter provides spiky income; the former more dependable and continuous income. Council wished to see a bigger proportion of its income coming from MA CPD programmes rather than as a supplier to external bodies, over whom it has little control. The extension of John's remit included this shift of emphasis, and I am confident that we will see this emerge during the year ahead.

We were pleased to agree to support the World Federation of National Mathematics Contests planned for July 2006 in Cambridge. We are providing some administrative support as well as funding delegates from our own Primary Maths Challenge team to attend.

We also received a report from Trinity College Cambridge about the MA Wittgenstein papers on loan to the College. Researchers from both the UK and Europe are actively using the papers and the decision to loan them to the College - rather than keeping them as part of our mathematics library - was vindicated.

We considered a detailed report from HQ about membership administration. This was prompted by the last year end audit, when a number of unprocessed payments came to light. A critical review of procedures and responsibilities ensued and monitoring of this critical area was stepped up. A number of necessary changes have been introduced and the situation has improved accordingly; however, it is an area of continuing focus and action.

Teaching Committee, led by its Chair, Charlie Stripp, introduced a discussion concerning the way a new model for GCSE - alongside the existing 2 year pilot model of OCR - was being introduced at desperately short notice. Furthermore, they reported, QCA were committed to making decisions about the adoption of one of the models on the basis of one examination hastily and recklessly put in place. We despatched a letter, from the President, to the Secretary of State and the Chief Executive of the QCA setting out our concerns. We received a lengthy reply from the Chief Executive, Ken Boston, assuring us that no final recommendations would be made before the evidence commissioned by the QCA on the results of this years examinations had been shared with the mathematics community - again more on this later.

The Institute of Mathematics and its Applications approached us earlier in the year about their Chartered Mathematician programme. They are keen to explore ways that it could be made available to members of the MA. The Council discussed this at length. The imminent launch of the National Centre for Excellence in Mathematics and their published commitment to a Chartered Mathematics Teacher qualification meant that

we felt the time was not yet ripe to make definitive decisions.

The Chair of NANAMIC, David Martin, joined the Council for lunch having given a presentation of the key activities that NANAMIC were currently engaged in and proposed a number of areas where cooperation could result in mutual benefit. We agreed to seek ways of working more closely in the future.

John Hersee had bequeathed his unique mathematical library to the MA. The complete collection comprises books, manuscripts and exercise books and has considerable value. For example, it has copies of the earliest versions of Euclid's Elements published in English. As a tribute, the archive room at HQ was re-named in his honour. Our librarian, Mike Price, and archivist, Mary Walmsley, are now engaged in cataloguing this important addition.

As promised, we pick up the GCSE saga again. At a QCA briefing in October and an ACME workshop on the same day, a concise summary of the external evaluation of the OCR pilot model and the new trial model was given. It was abundantly clear that there was insufficient evidence on which to base final decisions; nonetheless, QCA refused to allow us to examine the full evaluation - contrary to the assurance given earlier by Ken Boston. They would go immediately to a final recommendation to the Secretary of State. We despatched another letter to the Secretary of State, again under the joint umbrella of the MA, ATM and NANAMIC. We also aired the whole sorry story in the press. This time we did receive a reply both from the Secretary of State and from the Chief Executive of QCA. They were substantive replies as well, though neatly avoiding the issues we had raised. It is clear the joint approach is beginning to register - exactly as it should. Meanwhile, the Primary sub-committee of Teaching Committee was working on a response to the review of the National Primary Strategy.

And now we turn to recruitment and retention, not of teachers, important as that is, but to members of the MA itself. I have already mentioned a concern over membership administration; Tony Gardiner - at the time, Chair of Publicity and Membership - drew Council's attention to the other side of this coin. His concern was the number of members - how many there are, how they are recruited and the longer term trends. Council readily agreed to a review, conducted by the President, Sue Singer, and Tony. At the next Council meeting, they presented an interim report which showed that over the past 5 years or so, marketing programmes had first increased membership - possibly as a result of recruiting institutional members at the expense of personal members - but that recruitment had subsequently declined. The data that underpinned these conclusions would need further investigation and that is still under way.

For some time now Publications Committee have been investigating the ways that they can better exploit the excellent books that they produce. They recognise that the MA has strength in its editorial skills, but lacks the marketing flair and commercial expertise to do these full justice. A solution would be to form a partnership with a commercial publisher. Discussions, led by the Chair Paul Metcalf, have been underway for some time and are nearing completion. I hope that I shall have the pleasure next year of reviewing such a partnership during my report.

On the journals front there is much progress there as well. Under Peter Bailey its Chair, *Primary Maths Challenge* has consolidated its phenomenal growth and development in recent years. It has now launched its own section of the web site, offering an attractive pupil section that uses previous *Challenge* questions. We have also received a request from the Journal of Scholarly Archives (JSTOR) - a non-profit making organisation - to host all the back issues of the *Mathematical Gazette* on its subscription web site. This is a commercial opportunity and an honour - we would join such journals as, *The Philosophical Transactions* of the Royal Society - going back to 1665 - and *American Mathematical Monthly* going back to 1894, along with sibling rivals to the *Mathematical Gazette* such as *The Mathematics Magazine*. JSTOR are to bear the cost of scanning all the back issues; we can specify that we wish to delay the appearance of new *Mathematical Gazette* issues by five years; each year we earn a defined proportion of royalties from subscribers. MA Members will also have access to this archive of the *Mathematical Gazette* via JSTOR at a nominal cost. This is an exciting opportunity and the ideal vehicle to test out electronic publishing.

Finally, to end the year another letter to the Secretary of State under the MA, ATM and NANAMIC banner. This time to do with stretch and challenge. Again, a new initiative, badly thought through and hastily announced. We shall see what emerges.

So what was the year overall? In essence, some really encouraging new initiatives alongside a number of worries. I have no doubt that the challenges thrown up both by the opportunities and the threats will act as powerful motivators for Council, and I am confident of our joint ability to grasp and act on them to the ultimate benefit of the MA.

Finally, the arrangements for conference worked smoothly and simply; that is because the organisers worked so hard over the past year. The Chair of Conferences, Alan Camina and the staff at headquarters worked tirelessly to make sure this was the case. They, of course, move straight on to next year's Conference in Keele - you can too by getting your booking in early. I hope to see you all then.

Barry Lewis (Chair of Council)

Branches Committee

This year has been another good year for Branch activities with a number of branches putting on exciting programmes of activities for their members. However, they can only do so with the support of the Association members who live in the areas covered by each branch, and so I would encourage all members to join their local branch and join in with the activities of the branch.

During the year two branches, the Exeter Branch and North East England Branch, were forced to close due to the lack of support. However, there have been some moves to set up new branches in Berkshire and the West Midlands. The Branches Committee met twice during the year. The main Branches Day meeting was at the end of October at the Leicester Headquarters of the Association, where Branch Representatives met to swap ideas about different branch activities. The committee also met briefly at the end of the BCME Conference at Warwick University.

Paul Harris (Chair of Branches)

Conferences Committee

This has been my first year in this prestigious position, one notable for some success and some failure. The failure was the disappointing attendance at Loughborough Conference and the consequent financial loss. The success was that the conference was enjoyed by most of those who filled in the forms and the general atmosphere throughout. One important lesson has been learnt, to give speakers a phone number for immediate access.

We are now into planning both the next conference to be held at Keele 11-14 April. The main speakers have been agreed and their details are on the MA website. It is important that we get a good attendance.

The plans for the 2008 conference are well underway. The plan is for it to be in Liverpool Hope University, 27-30 March. It has been incredibly difficult to get the dates as everyone is doing their own thing now. This will be a joint conference with ATM, NANAMIC et al.

There have also been suggestions for Robinson College, Cambridge for 2009!

Alan Camina (Chair of Conferences)

Editorial Happenings

Editors and their teams have been working hard over the year in preparing the journals for the association. Many people are involved with each journal, and I would pay tribute to the time and energy which these people put into their work.

The editors are:

<i>Equals</i> :	Ray Gibbons
<i>MA News</i>	Barbara Cullingworth
<i>Mathematical Pie</i>	Wil Ransome
<i>Mathematics in School</i>	John Berry, Chris Pritchard
<i>Primary Mathematics</i>	Lynne McClure
<i>Symmetry Plus</i>	Martin Perkins
<i>Mathematical Gazette</i>	Gerry Leversha
MA Website	Fiona Allan, Martin Bailey, Barry Lewis, Leon Tong

Presentations have been made to Lesley Jones and Geoff Fowler for their many years of work as editors of *Mathematics in School* and *Mathematical Pie*, respectively.

We need to increase sales of the journals, which are of high quality and deserve to be more widely read. Each journal now has an annual promotion plan. We have agreed the focus for each journal so we know who we are targeting in order to increase sales! New publicity materials are being prepared for all the journals during 2006. A major development for *The Mathematical Gazette* is to have an agreement with JSTOR which allows subscribers to access past issues on the web. Thanks are due to Bill Richardson for his work in making these arrangements. Our Advertising Controller, John Day, has been working hard to increase the advertisements in each journal to the agreed maximum number of pages.

We aim to reinvigorate the *Society of Young Mathematicians (SYMS)* which deserves more members. Pupils and students pay an annual subscription to join SYMS; they receive both *SymmetryPlus* and *Mathematical Pie*. In coming years, with increased membership, the variety of activities for members of SYMS can increase.

Work is going on to freshen up the MA website and tasks allocated to make sure it is up to date.

We must also remember the people in the MA office who also work hard on the journals. Thank you to all of them.

Peter Bailey (Editor-in-Chief)

Library Committee

The Committee met on two occasions and comprises Mike Price (Librarian and Chair), Mary Walmsley (Archivist), Marcia Murray (Secretary), Evelyn Cornell (University of Leicester Library), Mike Dampier and Howard Fay.

John Hersee Collection Management

Mike Price presented a full progress report to the Council on 3 November.

The *older books* are all still accommodated on the new shelving in the Archive Room, which was renamed the John Hersee Room at a formal ceremony on 4 June 2005; this occasion was featured in the October *MA News*. A detailed valuation of these books for insurance purposes was completed in June. Additional insurance has been taken out to cover all these books while they remain at HQ. It will be 2007 before some of these books can be transferred to the new accommodation for Special Collections being built at the Library of the University of Leicester; cataloguing for internet access will then be undertaken. Duplicates will remain in the John Hersee Room as an attractive feature for the benefit of members and visitors.

The *newer books and periodicals* have all been checked for duplication, and completion of University building work is awaited before all the transfers to the University Library can be made.

The *manuscript exercise books* remain securely accommodated in nine crates in the John Hersee Room. As a result of the valuation additional insurance has been taken out. From 2007, these books will be transferred to the new accommodation being built for the University's Manuscript Collection, and appropriately stored, catalogued and publicised.

Other Donations

Small but interesting donations, including a good number of books on mathematical recreations, history and popularisation, have been received from John Parker, Elizabeth Owen, Bill Pemberton, Keith Thomas and Brian Trustrum. Duplicates from these and the John Hersee collection have been offered to MA members and delegates at the Annual Conference in Loughborough, and to local teachers, lecturers, students and teacher trainees. Donations to the MA Library fund in exchange for some of these offers amount to around £270. A recent larger donation from Bob Carmichael will in due course help to bring up-to-date and complete the school mathematics textbook collection.

Cataloguing

The retro-conversion scanning in the USA of nearly 5000 index cards has been completed at a cost of around £4K. The catalogue for the whole MA Library on the internet is now approaching 9000 computer records which is a major step forward for both the management and publicising of the collection.

MA Special Collection

In anticipation of the relocation of the MA's Special Collection to allow new building works, the entire collection of older books and periodicals has been checked against the complete list, which was published in 2005. No gaps were found and every item is now suitably identified as belonging to the MA. A small number of

miscellaneous and non-catalogued items have been transferred to the Archives at MAHQ.

MA Periodicals

Work has started on auditing the periodical collection of over 450 titles, and checking it against existing catalogue records. This is a large and long-term project, and progress here has been affected by the new building programme and other more pressing priorities.

The Committee is particularly grateful to Mary Walmsley for the scale of her contribution to the work on both the Library and the Archives of the Association.

Mike Price (Librarian, Chair of Library Committee)

Professional Development Committee

The principle objective of the committee is "to promote and support the professional development of teachers". This year our activities have been many and varied. The committee keeps a watchful eye on the post Smith and Tomlinson era with a view to being well placed to further the Association's aim to improve the teaching of mathematics and its applications. The writers believe that this will mean that the committee, with other colleagues, continues to strive to influence policy development. We are therefore pleased to note that the past year has seen us working with a range of bodies, including The National Centre for Excellence in Teaching Mathematics, The Training and Development Agency, The Secondary National Strategy, The Department for Education and Skills, The British Educational Communications and Technology Agency, a CPD working group of The Joint Mathematics Council, The Specialist Schools Trust and various Subject Associations' Working Groups. There follows a summary of activity over the period.

Becta (2004/5): The contract for the financial year to April 2006 was signed in November 2005. We work in partnership with the ATM on this project, which generated income of £44,750. Part of the contract was focused on delivering materials for the Becta 'ictadvice' website including supporting 'e-newsletters' and 'ask an expert,' both of which are delivered online. The contract also funded MA and ATM colleagues to provide consultancy to a variety of partners to support the embedding ICT agenda. The major part of the contract funded the provision of 'Roadshows' in each of the nine regions of England. The events, free to delegates, ensuring that key people are not only aware of an appropriate range of software, hardware and the large range of currently available, predominantly free resources, but also aware of how these and other resources can be effectively used to enhance the learning experience. Despite the contract not being signed until November, ten Roadshows have been planned, marketed and delivered. There is the potential for more in the near future. At the time of writing a continuation of the contract for 2006/7 is being negotiated.

BETT Awards 2006: Members of the committee, on behalf of the MA, along with partners Intel and London Grid for Learning (LGfL) were pleased and proud to receive the BETT award for mathematics software for KS3/4 at the awards ceremony in London in January. The 'Mathematical Toolkit' and the 'Number Line Tool' are available, free to all on the LGfL website (<http://lgfl.skool.co.uk/index.aspx>). The toolkit includes tools to support teachers with ♦ Co-ordinates and graphing ♦ Charting ♦ 2D shape creation. The MA

and LGfL have begun a 2-year partnership to develop the online CPD resources for the Mathematical Toolkit and Number line tool through the Virtual Maths Staffroom area of the website. A Teachers TV offering ('KS3/4 Maths - New Maths Technology In the Classroom') has a section that depicts use of the 'Number Line Tool.' (www.teachers.tv/searchArchive.do?submitted=true)

Contracted work is ongoing with Smart/Steljes to support developments in the use of interactive whiteboards in the mathematics classroom. Elements include both provision of teaching notes & lesson plans and the development of mathematics specific training for IWB usage. Work is progressing to ensure that the MA Toolkit and Number Line (2006 Bett Award Winner) is bundled in with the content of the Smartboard Notebook.

BETT Show 2006/Education Show 2006: The major subject associations were given a higher profile at the events in 2006, with the 'Subject Associations Advice Centre;' a large stand provided by the DfES. The MA requested, and received, a large display area, which was staffed by committee members and staff from HQ throughout both shows. The MA presentation at BETT was very well received by the packed audience of around 100 people. The MA and ATM gave a joint presentation at the Education Show. This presentation, replacing the planned mathematics half-day conference at very late notice, was less well attended.

Conferences: 'Taking Maths Further': The three-day series of events was designed to give teachers who do not presently offer Further Mathematics the confidence and competence to introduce at least AS Further Mathematics. Many delegates, as intended, attended all three days (in May, July and October) with others opting in to either one or two days. A funding contribution from Gatsby helped with set up, advertising and development costs. The evaluation returns were very positive, thanks to the hard work and abilities of the presenters – Charlie Stripp and Susan Whitehouse.

Expert Group; DfES Standards Unit: The committee's support for developments in this initiative to transform teaching and learning in the 'Learning and Skills' came to a close when the initiative was formally launched in October, 2005. The keynote at the event was given by Bill Rammell MP, who took the opportunity to announce the awarding of the National Centre to Tribal. Addresses were also given by Celia Hoyles and Linton Waters.

Higher Level Teaching Assistants (HLTA): Mathematics: The committee is has been kept informed of a proposed pilot (September 05) to consider the value in training specialist mathematics (and science) HLTAs. The committee is represented on the mathematics advisory group. The pilot is a development of the existing HLTA scheme, introduced nationwide in April 2004. The pilot specialist maths and science HTLA programme includes elements of subject knowledge.

Practical Support Pack: The materials and support developed by the MA with partners, New Media and University of Chichester, as part of the earlier 'Enhancing Subject Teaching Using ICT' (Estuict) offer were re-launched this year on the teachernet website. The committee worked with DfES colleagues to ensure the very high quality materials and support remains true to the original spirit of this CPD offer.

Primary Mathematics Conference: The period saw the planning, development and marketing of the MA's

summer term 2006, 'Teaching for Excellence and Enjoyment; Strategies to stretch the most able and support the whole ability range.'

Promethean Interactive Whiteboard: We continue to be grateful to Promethean, who continue to loan us, at no charge to the MA, an ACTIVboard48 on long-term loan. This is a large, portable interactive whiteboard. This and the data projector bought last year, at a discount, also from Promethean, are available to/from HQ for MA business. It is perhaps worth noting that conference centres charge for the use of data projectors – fees at the Birmingham Hilton Metropole for example are £200 per day up to an 8 feet by 6 feet image and £370 for larger. (The MA's projector gives an image up to 6m by 4m approx.)

Reasoning With Complex Evidence: The committee is working, in an evaluative role, with the Geographical Association and the University of Durham on a project that sets out to use geography as a relevant and enjoyable context for developing ideas in statistics. A similar role is envisaged in a proposal being explored with Royal Statistical Society and the Association for Citizenship Teaching, which aims to use citizenship as a vehicle for exploring ideas in statistics.

Secondary Mathematics Conferences: The period saw the planning, development and marketing of the MA's summer term 2006, 'Leadership to Count On' which supported the MA publication of the same name. For the first time the committee has been planning, organising and marketing a large one-day event for teachers in Scotland. The over-subscribed event will take place on September 9th at Stirling University.

Specialist Schools and Academies Trust: The committee continues to work closely with the Trust to look at ways of supporting schools, particularly those with a mathematics element to their improvement targets. The committee is represented on the SSAT Expert Panel for Maths and Computing, the ICT Steering group and supports other events. The 'Inaugural Conferences for Maths and Computing Schools' in September and October were well attended with much interest in the Mathematical Association's stand. MA Council gave the committee the remit to explore the offer of a MA Pack. All schools represented were therefore given MA information to take with them.

Adrian Oldknow (Chair of Professional Development)

John Leigh (Senior Professional Officer)

Publications Committee

Publications Committee has met three times between April 2005 and April 2006, dealing with a considerable amount of business in order to turn the ideas for publications and resources into stock on the shelf!

The new house style adopted for the Association's publications has generated a lot of interest and been generally well received; in some cases, applying the new cover to an existing publication has resulted in a surge in sales for slow moving titles.

The draft contract between the MA and Hodder Murray is still in the process of being finalised (as I write this report) and we eagerly await the contract and still hope that our publications will be going into schools in September 2006.

The Association is yet again indebted to the many volunteers who have worked diligently on the new publications. New titles published during this reporting period are *Assessment for Learning in Mathematics*,

edited by Doug French, *ICT & Mathematics* by Adrian Oldknow, *Leadership to Count On* edited by Robin Bevan, *Puzzles from Pie* edited by Wil Ransome, and *Raising the Profile* by Lynne McClure.

In addition, I am grateful to the Teaching Committee for its excellent work in providing us with a second set of *A-level posters* – indeed, we had to reprint our first set as they were so popular. We are also pleased to have increased our range of primary resources with some new resources added to our list as well as a set of five colourful wall charts.

As always, my sincere thanks to the hard working and dedicated members of the Publications Committee including Colin Abell, Peter Bailey, Richard Kirby, Mary Ledwick, Barry Lewis, Bill Richardson and Sue Waring. I am very grateful for their hard work, enthusiasm and the wealth of ideas which they bring to our meetings.

I would also like to add a special thank you to Ian Evans, who has served on the committee for many years, and, unfortunately, has had to resign due to ill health. His valuable contributions to the committee are very much appreciated and will be greatly missed.

Regrettably we also lost the services of Lisa O'Donnell who left headquarters to take up employment closer to her home in Nottingham. Lisa did an excellent job of keeping on top of the publications and keeping me on track as Chair of the committee. I am most grateful to her and wish her well in her new job.

In the meantime, we are excited to have a large number of other publications in the pipeline include the *Secondary Maths Club Pack*, an updated *Numeracy Handbook* and a follow up to the humorous *50% proof*. The latest publication on *Paper Patterns* is going well thanks to Bill Richardson and Nick Lord is working on a compilation from *The Mathematical Gazette* titled '25 Years of Problem Corner'. We are also delighted that Doug French has agreed to provide a summary on his popular 'Creative Use of Odd Moments' from *MiS* and, to add to our primary list, Peter Bailey is working on a second compilation of *Primary Mathematics Challenges*.

Paul Metcalf (Chair of Publications)

Publicity and Membership

We have had a presence at various exhibitions throughout the year. The largest of these exhibitions were BETT in London's Olympia and The Education Show at Birmingham's NEC. HQ has sent staff to support many smaller conferences and exhibitions including NANAMIC, and our own One-day Conferences by providing a bookstall and promotional materials. Efforts to encourage institutions and individuals to join have included promotions aimed at PGCE students. Marketing campaigns to UK primary and secondary schools were not undertaken this year. However, it is hoped that they will be resumed after a suitable 'rest' period in order to assist with increasing both individual and institutional membership.

Paul Harris (Chair of Publicity & Membership)

Teaching Committee News 2004 – 2005

The role of Teaching Committee is:

- To keep under review all matters relating to the teaching and learning of mathematics at all levels;
- To advise Council on responses and representations to outside bodies;

- To generate appropriate material for publication or dissemination in other ways.

The full committee meets three times a year, and also hosts an open meeting at MA Conference. In addition to this, there is a whole range of subcommittees taking responsibility for specific aspects of Teaching Committee work, which meet through the year, writing material for publication and monitoring relevant aspects of Government policy.

Key current issues considered by Teaching Committee

In consultation with MA Council, Teaching Committee has discussed a wide range of issues of current national importance. Results from these discussions have included submission of papers and responses to Government organisations, meetings with Government ministers and officials in the DfES, QCA and others, and the writing of newspaper articles. In some cases, response papers have been drafted in collaboration with the ATM and NAMAMIC.

Issues which have been considered over the course of the year included:

- GCSE 5+ A*-C measure necessarily to include mathematics and English guardedly welcomed;
- 'functional mathematics': concern that this concept not properly defined, leading to a diet of routine applications for lower attainers;
- Acceleration, which is written into the 14-19 white paper, with proposals includes teaching HE modules to sixth formers. Contributions to the debate from the MA included giving examples as to how higher attainers can be stretched through depth rather than going faster through the syllabus;
- 2-tier GCSE: whilst allowing all youngsters in principle to have access to grade C, there has been concern about implications of the detail of the proposal, not least that high grades can be awarded through doing well on lower grade material. There is concern also at the manner in which the 'trial model' was introduced;
- Double award GCSE: in principle the higher profile mathematics gains through this initiative will be an advantage. There are, however, concerns as to what percentage of the cohort is supposed to do the second subject and the approach taken. One contribution to this debate has been the drafting by Doug French of papers with more stretching questions within existing subject material;
- Prominence of handling data: meetings have been held with QCA to discuss this;
- Prioritisation of assessment over embedded learning.

Projects overseen by Teaching Committee

Retention of secondary mathematics teachers project: the report has now been published and disseminated, with thanks to Claire Ticky and Teresa Smart for their work on this.

'Developing Learners' Appreciation of Mathematical Thinking', which is a DfES Innovations Unit funded project undertaken jointly with the Association of Teachers of Mathematics. The project period is now over, resulting in good evaluations of the materials and approaches developed. It has been written up as an academic paper, and also published in *Mathematics in School* and *Mathematics Teaching*. This project is now the subject of an NCSL publication on Networks in Professional Development, and is referred to in the

current GTCE mailing. Jennie Golding and Barbara Ball were invited to present a session at the Education Roadshow in Birmingham, March 2006.

'Beyond the Bar Chart' is also a DfES Innovations Unit funded project, undertaken jointly with the Association of Teaching Citizenship. Materials are ready for publication, with the team awaiting final approval from the DfES.

Subcommittee work

A large amount of the work of Teaching Committee is undertaken through subcommittees. The following outlines some of the key areas in which subcommittees are currently active:

Managing a mathematics department

'Leadership to Count On: A Guide for Heads of Mathematics' has been published and is available through the MA website: many thanks to Robin Bevan and his team for the hard work done on this. Since publication, the Association has organised a number of training conferences for aspiring and practising Heads of Mathematics.

Primary committee

Under the leadership of Lynne McClure, the primary committee has met during the course of the year, with members contributing to 'Primary Mathematics' and reviewing the relevant section of the MA website. Work is going on also in finding and producing material for publication for the primary sector.

11-16 committee

'The Resource Pack for Assessment for Learning in Mathematics', edited by Doug French has now been published, and is available through the MA website. Current work includes finalising an updated version of the secondary maths club book, with a number of other projects in the pipeline aimed at serving the 11-16 sector.

Post-16 committee

A second series of five posters for the A-Level mathematics classroom has been designed by Clare Parsons, following the success of the first series. The designs were on show at BCME 6 and generated much interest, and are now available through the MA website. The titles of the five posters are *The Cosine Function*, *The Sine Function*, *Radians*, *Continuous Data* and *Discrete Data*.

A series of articles to provide background and enrichment material on, mainly pure, topics from GCE mathematics have been prepared by Graham Winter and will appear in *Mathematics in School*. An article has been prepared by Jennie Golding to inform careers advisers about the nature of A-level mathematics; it is hoped that it will appear soon in the journal of the Institute of Careers Guidance. We have also been looking again at medical schools' admissions policies with regard to Further Mathematics.

At our suggestion, the MA ran a course over three separate days in the summer of 2005 aimed at prospective teachers of Further Mathematics who wish to develop their subject knowledge. The course which was organised by John Leigh and led by Charlie Stripp and Susan Whitehouse was successful and another course is being considered for those already teaching Further Mathematics. We continue to provide email support for teachers of Further Mathematics.

Teaching Committee membership

Particular thanks are given to Charlie Stripp who stood down as Chair of Teaching Committee in April 2006,

having been a member for many years and chair since April 2003. Charlie's commitment to the facilitating of the learning of mathematics is inspirational, and we are grateful to him for his leadership. We look forward to continuing to work with him in various capacities in the years to come.

Thanks also to Ray Steele, Elaine Richards, Tony Gardiner, Anna Dunlop and Sue Singer for their work on Teaching Committee, all of who have stood down in the last year.

Those currently serving on Teaching Committee are: Jennie Golding (chair), Lynne McClure (treasurer), Peter Thomas (secretary), Jane Imrie, Mary Ledwick, Bill Richardson (ex-officio, Secretary of the MA), Geoff Tennant (ex-officio, Branches representative), the chair of the Publicity and Membership Committee, Marcia Murray (ex-officio, Senior Administrator). Meetings have also been attended by Doug French (President of the MA), Barry Lewis (Chair of MA Council), Paul Metcalf (Chair of Publications), and John Leigh (Senior Professional Officer).

Geoff Tennant (Secretary)

Primary Mathematics Challenge

'Logical thinking needed rather than panic'!

A few more PMC papers (111 300) were sold to slightly fewer schools last November. Over 77 000 certificates were provided for presentation in school assemblies. Feedback was overwhelmingly positive with some great comments from pupils and teachers.

Pupil's comments *Challenging but not impossible * You're trying to trick people * It's the best test I've ever*

*done! * Lots of sneaky questions * Looked easy – big mistake! * I liked the goat question best * It's not your average maths test! * Dead sneaky, miss * It was hard but I stayed calm * I think I'll stick to art next time * t was the toughest thing I've ever done – it really made me think.**

Teacher's comments: *Great mix of problems * They loved the new certificates * Pupils enjoy working on the website – parents too * Questions pitched at the right level * Fantastic opportunity to extend gifted pupils * A challenge for everyone * Challenging and cheeky * Lots of discussion about the solutions * Useful notes with further problems * Another cracking ingenious set test – many thanks * A true test of mathematics * The girls loved Dyna Mite * Great fun – different to SATS stuff! * The challenge promotes a feeling of success for the more able * Next year I will enter more pupils * Really brilliant to use as part of our gifted and talented programme.*

More medals were awarded this February (262 in 2005, 338 in 2006). The PMC Problems Team will be setting a similar challenge paper for November 2006. Invicta Education is pleased to continue its sponsorship of the PMC for another year. We hope that a member of the UKMT team will join the PMC teams.

Thank you to all who work on the PMC teams, to the UKMT office for processing our Finals OMR forms, to Bill Richardson for his typesetting, and especially to all in the MA office who do the hard slog on our behalf.

Peter Bailey (Chair of PMC Management Team)



Saltersgate Junior School,



Aldbury Primary School, Tring



Lathom Junior School, London



Curriculum Policy Group

The Curriculum Policy Group exists to coordinate the Association's responses to matters relating to the Curriculum. The year has been a lively, but in many respects a worrying one, with no diminution in the barrage of proposals, decisions and hints of further changes. Many of these relate to the follow up of the Smith Report and therefore involve GCSE and A level, but alongside this there are reviews of the National Strategies for Key Stages 1, 2 and 3, attempts to liaise with subject associations across subjects and matters related to NCETM.

Much concern was expressed about how a decision about the introduction of two tier GCSE with first examinations in 2008 was arrived at. This was announced to schools in January. With many others we felt that the decision was taken when the right way forward was far from clear, although we have consistently supported the idea in principle. On double award GCSE no final decisions have yet been made, but we are optimistic that the a more problem-focused second award with no extra content, as suggested by the Association, is seeming to find favour. Possible changes will be followed up by the awarding bodies who have been awarded the Phase 2 pathways contracts. At the time of writing it seems likely that coursework in GCSE mathematics will be abandoned with effect from the 2009 examinations, a decision which we welcome, although it would have been better to have linked the timing of this to the two-tier change. The other issue with GCSE is the place of functional skills, where it is far from clear at the time of writing what might emerge and there is little hint of any constructive detailed work having been done.

The Phase 2 work will also be considering changes to AS and A level and the place of mathematics in vocational diplomas. At some point it is likely that mathematics will have to move from the present 6-module structure for A-level to 4 modules. There has been a recent consultation about the form that might be taken by an extended project as proposed by the Tomlinson Report to be completed during the A level years. We have expressed reservations about how this might be implemented in our response to QCA.

We have been concerned about the effects of financial cuts and consequent reorganisation at QCA on the current mathematics team. There have been some useful meetings between QCA and representatives of the MA, ATM and NANAMIC where we have pressed for suitable mathematical expertise within QCA and the importance of us having access to an individual with an overview of all work relating to mathematics.

We remain unhappy about many aspects of current policy and the manner and haste in which decisions are made and implemented. Underlying problems are not faced: of these the issue of recruiting and retaining sufficient suitable mathematics teachers is paramount. It is good to report that the Association has made a small contribution to keeping that debate alive by the publication of the report *Career Patterns of Secondary Mathematics Teachers*, for which we are grateful to the work of our two researchers Claire Tickly and Teresa Smart and for the funding provided by the Gatsby Foundation.

Doug French (Chair of CPG)

The Advisory Committee on Mathematics Education (ACME)

Annual report to JMC for FY 2005 to 2006

The Post14 Mathematics Inquiry outcomes

Strategic developments: ACME continued to push forward the outcomes of the Post14 Mathematics Inquiry Report by Professor Adrian Smith¹, especially by helping to take forward the implementation of long-term 14-19 mathematics pathways coming out of the 14-19 Tomlinson Review, as well as advice on the establishment of the National Centre for Excellence in the Teaching of Mathematics (NCETM) and supporting infrastructure for the provision of subject-specific CPD. In October 2005, ACME was invited to participate in a KIT ('keeping in touch') mathematics meeting with Lord Adonis, Parliamentary Under-Secretary of State for Schools, and this has now become a regular item. In February 2006, continued funding for ACME's enhanced role helping to implement the key Smith recommendations was granted by the DfES up until end March 2007.

Mathematics Curriculum, Qualifications &

Assessment:

ACME Members and Secretariat (and others from the mathematics community from January 2006 onwards) attended Qualification and Curriculum Authority (QCA) Post14 Mathematics Advisory Group meetings on 23 May, 25 July, 20 October 2005 and 12 January and 6 March 2006. ACME was represented at a DfES workshop on the use of ICT in the assessment of functional mathematics in June 2005 and a QCA meeting on functional mathematics in September 2005. ACME organised a workshop on '14-19 mathematics pathways' on 13 October 2005 and a report of the workshop was published in December 2005. The Government's 14-19 Education and Skills Implementation Plan was also published in December 2005, outlining the deadlines for completion of various stages of 14-19 mathematics pathways development, including trialling/piloting of functional mathematics and GCSE Mathematics. In January 2006, QCA confirmed that GCSE Mathematics would be examined at 2-tiers only (Foundation and Higher) from September 2006 onwards. In February 2006 ACME held a closed workshop on GCSE Mathematics 'double award' models and at an 8 March 2006 ACME Conference: *Making Mathematics Count – Two Years On*, the then Secretary of State for Education and Skills, Ruth Kelly MP, announced a Government decision to make 2 GCSEs in Mathematics available for teaching in English schools and colleges from 2010 onwards.

Teacher recruitment, training, professional development and accreditation:

ACME was represented at Department for Education and Skills (DfES) NCETM Advisory Group meetings on 10 June, 18 July, 17 November 2005 and 24 January, 14 February and 28 March 2006. ACME Members and Secretariat attended with others from the mathematics community Teacher Training Agency (TTA) working group meetings in June and July 2005 to scope out a course for teachers of 14-19 mathematics without conventional backgrounds in mathematics. ACME published in June 2005 a report on feasibility study on a coordinated, localised infrastructure for mathematics CPD in England. This fed in to the final

¹ 'Making Mathematics Count', The Report of Professor Adrian Smith's Inquiry into Post-14 Mathematics Education, February 2004 <http://www.mathsinquiry.org.uk/report/index.html>.

contract for the NCETM awarded to Tribal plc and the University of Plymouth, Centre for Innovation in Mathematics Education in October 2005. On professional standards for teachers, ACME Members attended Training and Development Agency for Schools (TDA) consultation seminars in September and November 2005 and January and February 2006 and contributed to the work of a TDA writing group from November 2005 to March 2006. ACME Members and Secretariat attended meetings with TDA and others in January to March 2006 on Chartered Status for teachers of mathematics. ACME Members were involved in the selection process for the NCETM Assistant Directors for Schools, Further Education and Higher Education in February 2006.

Proactive projects

Mathematics in Further Education: A questionnaire of mathematics in Further Education was circulated to mathematics organisations and key individuals in Summer 2005 and the responses were analysed at a September ACME/Joint Mathematical Council of the UK (JMC) working group meeting, and subsequently collated and circulated more widely. In November 2005 ACME commissioned two consultants (Jack Abramsky and Huw Kyffin) to undertake a study on mathematics practice in Further Education colleges around England, which included five regional focus group meetings. The consultants reported back to the Committee in March 2006 and following completion of wider comment on the key findings, a final ACME report is expected to be published by July 2006.

Primary mathematics: ACME had identified the need for a project on primary mathematics early in 2005 and this was confirmed at the October 2005 KIT meeting with Lord Adonis which discussed the Primary National Strategy's plans for a revision of the mathematics teaching and learning framework to be completed by September 2006. ACME consulted mathematics organisations and key individuals on a set of key questions about primary mathematics and together with ongoing input to the framework revision, a small working group was brought together in January 2006 to help draft a position paper focusing on curriculum and pedagogy (published in May 2006). It was agreed to commission a separate study into subject-related CPD for primary mathematics teachers for a final ACME report to be published by September 2006.

Meetings: ACME held 12 'Council' meetings between April 2005 and March 2006. Below is a listing of key organisations and individuals that came to these meetings:
May 2005: Termly meeting with the Chief Adviser for Mathematics and DfES officials;

June 2004: Professor John Barrow FRS and Julia Hawkins, Millennium Mathematics Project, Cambridge.

November 2005: Termly meeting with the Chief Adviser for Mathematics and DfES officials which included Professor David Burghes, Acting Director, NCETM.

December 2005: Tim Coulson, Director Mathematics, Primary National Strategy; Mary Curnock-Cook, Director of Qualifications and Skills, QCA

February 2006: Termly meeting with the Chief Adviser for Mathematics and DfES officials, which included Mary Curnock-Cook, Director of Qualifications and Skills, and Alice Onion, Manager, Mathematics, Science and ICT Curriculum team, both QCA.

March 2006: Quentin Thompson, Education Consultant, the Bowland Charitable Trust.

ACME attended meetings/events organised by: the Council for Mathematical Sciences; DfES; Gatsby Technical Education Projects; the Heads of Departments of Mathematical Sciences (HoDoMS); the Institute for Mathematics and its Applications; JMC; Lifelong Learning UK; the Mathematical Association; Maths4Life; the 'More Mathematics Graduates' project; QCA; the Specialist Schools and Academies Trust; The Royal Society's Education Committee.

ACME

The British Mathematical Olympiad Sub-trust

The July 2005 International Mathematical Olympiad was held in Merida, Mexico. The UK team of six emerged with one Gold, three Silver and two Bronze medals, to put us 13th out of 91 teams, an improvement on last year.

Preparations for the July 2006 IMO in Slovenia have followed the usual pattern, with training for a squad of 'possibles' from the beginning of the academic year, including training camps and problem sheets. The British Mathematical Olympiad Round 1 in December, BMO2 in February and the Trinity College Training session for 20 students during the Easter holidays have also helped towards the selection of a team for this summer.

The mentoring scheme has now been going for five years and includes some 350 pupils in the 10 to 18 age range, with over 50 mentors as well as other teachers involved. An Intermediate scheme is being started to join the Advanced, Senior and Junior schemes.

Last July's Summer School at Birmingham for 40 pupils from years 10 and 11 was much appreciated as usual.

Philip Coggins (MA representative)

United Kingdom Mathematics Trust (UKMT)

The number of students taking these challenges continues to rise. This year the numbers were as follows:

JMC (April 2006) entries: over 287,000; marked: over 242,000 students took part.

IMC (February 2006) entries: 250,430; marked: over 195,000 students took part.

SMC (November 2005) entries 75,210; marked: over 49,300 students took part.

As well as the main challenges, UKMT also offer a range of other events and activities for students and for teachers. There is now an established Team Competition each year for teams of four 12 to 14-year olds progressing from regional competitions to the big national final. In addition, the popular teacher meetings continue to take place. Students continue to benefit from the mentoring scheme.

The IMO team were in Mexico in July 2005 and obtained 1 gold medal, 3 silver and 2 bronze.

In 2006, the IMO was held in Slovenia and the team came back with 4 silver and 1 bronze medal and a Honourable Mention.

The dates for the challenges in 2006-2007:

Junior Challenge (ages 11- 13) Thurs. 26 April 2007

Intermediate Challenge (ages 13 - 16) Thurs. 1st Feb 2007

Senior Challenge (ages 16 - 18) Thurs. 9th Nov 2006

In addition to these three challenges, students who do well are invited to take part in the follow-on rounds, the Junior, Intermediate and British Maths Olympiads and the European Kangaroo.

In the past year, UKMT appointed Mary Wimbury as part-time director. The UKMT is still Professor Bernard Silverman. (For more details look on the UKMT website: www.ukmt.org.uk)

Bill Richardson

Court of Loughborough University **Report of the Court of Loughborough University held 17 February 2006**

The Annual Report to Court was presented by the new Vice-Chancellor, Professor Shirley Pearce, previously at East Anglia University. Her predecessor, Sir David Wallace, has been appointed the next Director of the Isaac Newton Institute at Cambridge, from October 2006, to succeed Sir John Kingman.

Loughborough has had excellent National Student Survey results – a new government innovation – finishing in equal first place overall.

The 2012 Olympics will benefit the university – there has already been considerable demand shown for the excellent sports facilities and accommodation on campus. Incidentally, Lord Sebastian Coe, who was instrumental in the success of the bid, is a Loughborough graduate (in Economics).

In April 2006 the University is 40 years old. Interestingly, whereas the student population has grown from 1624 in 1966 to 14,000+ in 2006 (approaching a 9-fold increase), the total staff number has increased from 1000 to 3000 (only a 3-fold increase).

The HEFCE-funded Centre for Excellence in Teaching and Learning for Mathematics and Statistics Support is now up-and-running and staff numbers and activities are growing significantly. Included is work with schools in the region to support A-level teaching and running Master classes.

David Green (MA representative on the Court)

Problem Bureau

This has been another very quiet year with very few calls on my services. Is it by any chance anything to do with problems at school level raising few challenges these days? (Now there is a provocative statement!)

Graham Howlett

Headquarters

We have completed another busy year. The diversity of the various areas of work remains unchanged. I am most pleased to report that the various procedures put in place to avoid the problems experienced with membership administration for the 2004-2005 period paid off. Along with Membership administration, the Primary Mathematics Challenge, Annual Audit, Annual Conference and various one-day conferences kept everyone very busy.

Sadly, Lisa O'Donnell left us at the end of November having decided her long commute between Leicester and Nottingham was too much. Fortunately, an additional member of staff had been employed on a part time basis, so some of Lisa's work was taken on by Emma De Riso. Khurshid Sheikh started work on the 1st December, taking over Lisa's responsibilities.

Thank you to all the staff at HQ for their hard work and commitment, with a special note of thanks to Lisa O'Donnell, her support will be missed.

At April 2006, the Headquarters Team of seven is:-

Senior Administrator - Marcia Murray
Bookkeeper - Linda Medhurst
Membership Officer - Brett Richardson
Clerical Administrator - Khurshid Sheikh
Sales Administration - Ann Goddard,
Clerical Assistant - Anne-Marie Brown
Clerical Assistant - Emma de Riso

Marcia Murray (Senior Administrator)

Rules & Regulations

Rules and Regulations can be viewed at: <http://www.m-a.org.uk/association/organisation/regulations/>
<http://www.m-a.org.uk/association/organisation/rules/>
Please contact Headquarters if you require a hard copy of the page.

The Council (April 2005 to March 2006)

President	Mrs Sue Singer
Immediate Past President	Prof. Adam McBride
President Designate	Mr Doug French
Chair of Council	Mr Barry Lewis
Secretary	Mr Bill Richardson
Treasurer	Mr Michael Fox

Chairs of Committees

Branches	Dr Paul Harris
Conferences	Prof. Alan Camina
Editorial Board	Mr Peter Bailey
Professional Development	Prof. Adrian Oldknow
Publications	Mr Paul Metcalf
Publicity and Membership	Dr Tony Gardiner
Teaching Committee	Mr Charlie Stripp

Members without Office

Mr Martin Bailey
Mr Mohammed Basharat
Dr Tony Barnard
Mr Keith Cadman
Mrs Jane Imrie
Ms Mary Ledwick
Mr Nick Lord
Mrs Helen Russell
Mrs Ruth Swinton

REPORT OF THE COUNCIL: YEAR ENDED 31 DECEMBER 2005

Constitution and objectives of the Association

The Mathematical Association was founded in Great Britain in 1871. The Association is registered as a charity under number 313281.

The objects of the charity are to improve the teaching of mathematics and its applications and to provide a means of communication amongst students and teachers of mathematics for this purpose, and to take such measures as may appear expedient to advance the views of the charity on any question affecting the study and teaching of mathematics and its applications. Such measures include the provision and maintenance of the library, publication of journals and other items and the holding of meetings and conferences.

With the approval of the Council, Branches of the charity may be formed. The Council may also approve the designation of other Associations as Branches, or as Corresponding Associations.

During the year, there were 13 established branches of the charity and 2 designated branches.

Members and officers

The charity consists of personal members, including honorary members, and institutional members.

An elected Council monitors the business of the Association. There are three Officers (Chair, Secretary and Treasurer), elected annually (to each office) who are not allowed to hold office for more than five years; there is a President, President Designate and Immediate Past President, who each hold office for a period of one year; seven Council members each act as the chair to a particular committee, who may serve one term of four years + one year within that office and there are nine members without office, who may serve two terms of three years. The Association's members, at the Annual General Meeting, elect all members of Council, with the exception of the President, who is elected by Council.

Risk Management

The Council has examined the major strategic, business and operational risks that the charity faces and confirm that systems have been established to enable regular reports to be produced so that necessary steps can be taken to lessen these risks.

Reserves Policy

It is the policy of the Association to maintain sufficient general funds to cover management, administration and support costs, and to enable it to respond to any further approved projects, which arise from time to time.

Trustees

The trustees who served for part or all of the year were: Mrs S Singer, Mr P Metcalf, Dr A D Gardiner, Mr W P Richardson M.B.E., Miss S G Jameson, Mr M Bailey, Mr P Bailey, Prof A McBride, Mr R Barbour, Mr D French, Mrs J Imrie, Mr C Stripp, Prof A Oldknow, Dr P Harris, Dr A Barnard, Prof. A Camina, Mr B Lewis, Mr M Fox, Mr N Lord, Mrs R Swinton, Mr K Cadman, Prof Sir

Christopher Zeeman, Mr M Basharat, Ms M Ledwick, Ms H Russell.

Review of the financial statements for the year

The charity reports a deficit of £87,169 for the year (2004 £2,454 surplus).

The charity is mindful of its responsibility to improve the financial standing of the organisation and Council has already put in place a rigorous policy towards the management of its resources and finances, which is now beginning to reap benefits. The long-term future of the charity depends upon its ability to maintain and strengthen its membership base as well as ensuring that sufficient funding is secured to support its various undertakings.

The Council has agreed the following transfers to Designated Funds during the year:

- a) £10,000 to Buildings Maintenance Fund for the upkeep and maintenance of the headquarters.
- b) £30,000 to MA Development & Special Projects Fund.
- c) £6,000 to Life Membership Fund.
- d) £8,000 to Website Development Fund.

Principal address

The principal address of The Mathematical Association is 259 London Road, Leicester LE2 3BE United Kingdom.

By order of the Council

MR BARRY LEWIS

Chair of Council, 11 April 2006

STATEMENT OF COUNCIL'S RESPONSIBILITIES

Law applicable to charities in England and Wales requires the Council to prepare financial statements for each financial year, which give a true and fair view of the financial activities of the charity during the year and of its state of affairs at the end of the year. In preparing those financial statements, the Council is required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable accounting standards and statements of recommended practice have been followed, subject to any departures disclosed and explained in the financial statements; and
- prepare the financial statements on the going concern basis, unless it is inappropriate to presume that the Charity will continue in operation.

The Council is responsible for keeping proper accounting records which disclose with reasonable accuracy the financial position of the Charity and which enable them to ensure that the financial statements comply with the applicable law. It is also responsible for safeguarding the assets of the Charity and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Council is responsible for ensuring that the Council's report and other information included in the Annual Report is prepared in accordance with applicable law in the United Kingdom.

INCOME AND EXPENDITURE ACCOUNT: YEAR ENDED 31 DECEMBER 2005

	2005	2004
	£	£
INCOME		
Members' subscriptions	261,921	278,083
Transfer from Life Membership Fund	6,417	7,433
Donations	7,155	4,021
Editorial board	26,725	35,294
Publications	26,762	38,812
Annual conference	69,937	54,725
Branches' income	3,241	4,780
Miscellaneous income	2,630	1,968
Professional Development income	118,101	324,954
Primary Maths Challenge	71,266	46,591
	<u>594,155</u>	<u>796,661</u>
EXPENDITURE		
Editorial board	146,362	154,966
Publications	12,977	10,258
Publicity expenses	12,913	9,898
Annual conference	56,056	55,213
Teaching Committee	4,748	5,678
Council, branches and other Committee meeting expenses	10,947	9,611
Administration	186,173	168,081
Designated Fund expenditure	42,529	57,823
Depreciation	8,653	5,319
Professional development costs	164,436	287,772
Branches' expenditure	4,651	3,780
Website expenses	473	39
Primary Maths Challenge	43,788	40,671
	<u>694,706</u>	<u>809,109</u>
OTHER INCOME		
Rents receivable	2,679	2,6617
Interest receivable	10,703	12,241
	<u>13,382</u>	<u>14,902</u>
OPERATING SURPLUS	<u>(87,169)</u>	<u>2,454</u>

BALANCE SHEET: 31 DECEMBER 2005

	2005 £	2004 £
FIXED ASSETS		
Tangible assets	280,765	289,418
CURRENT ASSETS		
Stocks	31,002	15,722
Debtors	28,815	26,621
Cash at bank	325,537	399,316
	<u>385,354</u>	<u>441,659</u>
CREDITORS:		
amounts falling due within one year	(136,545)	(114,334)
NET CURRENT ASSETS	<u>248,809</u>	<u>327,325</u>
TOTAL ASSETS LESS CURRENT LIABILITIES	<u>529,574</u>	<u>616,743</u>
REPRESENTED BY		
Unrestricted Funds	453,845	511,106
Restricted Funds	75,729	105,637
	<u>529,574</u>	<u>501,289</u>

Approved by the Council on 11 April 2006

Mr Barry Lewis - Chair Of Council

Mr M. D. Fox - Treasurer

Mathematical Association : List of Bodies and our Representatives 2005/2006

(n.b. Where formal representation is not invited we have established informal links.)

Acronym	Body	Committee	Representative/Link	Comments
ACME	Advisory Committee on Mathematics Education	Established jointly by Joint Mathematical Council / Royal Society	None at present	
ASSET	The Association of Science Engineering & Technology	Council	None at present	
BATH	University of Bath	Court of the University	Mr R Macmillan	
BCME	British Congress Mathematics Education	Joint representation JMC, ATM, MA, NANAMIC, LTSN, IMA, AMET, RSS, BSRLM, NAMA, BSHM, LMS	Mr W P Richardson	
EFAMT	European Federation Association for Mathematics Teachers		Prof. A Oldknow Informal link	Currently dormant
IMA SFESA	The Institute of Mathematics and its Applications	Schools and Further Education Service Area	Mr P Thomas Informal link	
JMC	Joint Mathematical Council	Council	Mr B Lewis	
LOUGH	University of Technology, Loughborough	Court of the University	Dr D Green	
OCR	Oxford, Cambridge and RSA Examinations	Mathematics Qualifications Panel	Mr A Osbaldiston Mr R Barbour	Currently dormant
OECD- PISA	Organisation for Economic Co-operation & Development - Programme for International Student Assessment	English steering group	Mr R Ashley Mr R Barbour	Currently dormant
PA	Publisher's Association	Teacher Publisher Liaison Committee	None at present	
QCA	Qualifications and Curriculum Authority	National Curriculum Monitoring	Mr C Stripp	
SAWG	Subject Associations Working Group	ASE, MA, ATM, GA, DATA, HA, GA	Mr J Leigh Ms M Murray Prof. A Oldknow	
SETNET	Science Engineering Technology and Mathematics Network		Mr W P Richardson	
SST	Specialist Schools Trust		Mr J Leigh Mr B Lewis Prof. A Oldknow	
UKMT	United Kingdom Mathematics Trust	Council British Mathematical Olympiad Subtrust	Ms Susie Jameson Mr P J Coggins	

