



# ANNUAL REPORT 2009-2010

MATHEMATICAL ASSOCIATION



supporting mathematics in education

## President's Report

It was both a humbling and scary moment when I was asked to be president of The Mathematical Association. I think several people saw my eye wandering down the long list that hangs in the MA Headquarters of the very eminent people who have served as president: many of them giants who had influenced my thinking considerably and a number with whom I had had the pleasure of serving on Council.

However, to me this exemplifies one of the joys of being a member of the MA and why it has had such a huge impact on me personally, as well as on many others. The Association embraces all those with an interest in mathematics and provides a strong professional community to support and nurture that interest. I am enormously grateful to the Association for allowing me the privilege of serving as president this year.

I joined the MA in 1975, during the year I studied my PGCE, having been told by my tutor, Mike Cornelius (a former Chair of the MA Council), that we couldn't be mathematics teachers without belonging to the MA. Of course, I just complied at the time but I soon began to benefit from being part of such an organisation, through branch membership, publications, conferences and, later, membership of various committees. This was not just about the day to day running of the MA, but offered the chance for even more personal learning, for example, through contributing to writing books, working on policy statements and representing the MA on occasion.

I had actually encountered the MA much earlier in my life, but without realising. From the time I started at secondary school and first met *Mathematical Pie*, I used to look forward to the arrival of each edition in school – given to us by a teacher whose infectious enthusiasm for the subject ensured we awaited its arrival eagerly, and she felt it was a good use of lesson time to work through some of the activities therein.

One of the people in the MA who had a particular influence on both my thinking and my involvement with the MA was Doug French. It was with great sadness that we all learnt of Doug's untimely death in September last year. As well as a distinguished career in mathematics education, Doug served the MA in so many ways, notably as Chair of Teaching Committee for a number of years and, from 2006-2007 as president. Though he never sought the lime-light, Doug was widely respected by mathematics educators and policymakers alike and his clear-sighted vision and tenacity helped shape a number of key developments in mathematics. However, he seemed most fulfilled when teaching, and his love of mathematics and the teaching of mathematics was infectious.



The MA held an afternoon of mathematics at the end of the BCME Conference on April 9<sup>th</sup> to celebrate Doug's life and love of mathematics. I was pleased to be able to help organise this and in preparation spoke to many people who knew Doug, all of whom had an anecdote about something he did that had a huge impact on their teaching or thinking. Former students described him with great affection and talked of how they still acted on his advice, even though they were many years into their careers. One teacher said he ranked Doug's "views, judgement and advice second to none".

I am very grateful to David Acheson, Tim Kelsey, Liz Russell and Malcolm Swan for so readily agreeing to lead sessions on April 9<sup>th</sup>, and to colleagues from the Association for their support in running the afternoon. We were delighted that Doug's family were also able to join us too. Over 80 people attended and the afternoon started with a lunch during which there was an opportunity to discuss a selection of the activities from Doug's "Creative Use of Odd Moments". David then gave a short presentation in which he reflected on his favourite

mathematics from Doug's books. There followed a carousel of workshops in which Tim, Liz and Malcolm offered us all the chance to work on some mathematics of particular interest to them. It seemed fitting that we should all be enjoying mathematics together in memory of Doug and we have decided to include such workshops in future MA conferences.

BCME7 itself was a fantastic event for mathematics education, and I was pleased that it occurred in my presidential year. Over 550 people attended, many of them teachers from all phases of education. There was a wealth of choice for workshops and lectures and many opportunities to meet and talk to others, share ideas, plan future activities, and simply enjoy working on mathematics together.

Since I have gained so much from being a member of the MA and so many who belong to a subject association echo my views on the benefits, I do wonder why so few join an association. Perhaps it is even more important in current times both for us as individuals and for the whole mathematics community. As I write this we are just at the start of a new government and, as ever, mathematics is seen as a key area. Perhaps one of the issues we face is that everyone feels they have expertise in mathematics because they have experienced the teaching of it, or because they use it, or just because they recognise the importance. Whatever the reason, it often results in key decisions being taken by people lacking subject-specialism or based on evidence from those who lack such specialism. There has never been a greater need for the mathematics community to speak in a united way.

Equally, and possibly more importantly, the personal and professional benefits from being part of a mathematical community are particularly valuable for those who teach the subject. I would argue that this is a vital part of any teacher's career-long professional development.

So I would urge you that if, like me, you have benefited from being a member of a subject association, then please encourage anyone with an interest in mathematics, and most particularly anyone involved in the teaching of mathematics at any level, to join one too. We will not survive if we keep the advantages of membership to ourselves and, perhaps worse, so many people will not experience these advantages for themselves. The maths is simple: if each of us persuades at least two others to join.....

*Jane Imrie – President 2009-2010*

### **Chair's Report from Council**

This is my last report as the Chair of Council as my term of office expired at the 2010 April Annual Conference.

So the report I will give differs from previous reports. First I do want, as usual, to let you know what happened at the Council meetings in 2009 but I also want to look back over the 5 years and describe the significant changes.

*So that takes us straight to the June Council meeting.*

It was my first pleasure to welcome a number of new people to Council: David Acheson as the new President designate, Jane Imrie as the incoming President, Rachael Read as a Member without Office and Chris Pritchard as Chair of Teaching Committee.

The first item on the agenda was the Treasurer's report. Paul Harris had encouraging news, with the accounts

showing a net surplus of £28K for the first 4 months of the year. However, this has to be set against the corresponding figures for the previous year. On a like-for-like basis this translated into an overall deficit of £11K. This was remarkably prescient and accurate, as we'll see. It is a consequence of the methods and data that Paul has now developed that we can have access to such figures at every Council meeting. Because of his efforts Council now has at its disposal accurate and comprehensive figures on which to make decisions. This was followed by a discussion about membership fees. The Treasurer alerted Council to proposed postage increases of around 8%. These increased costs impact on each membership package in different ways: for example MIS is published 5 times a year, while Primary Mathematics only 3 times a year. So the former, proportionally, ought to rise more than the latter. There was disquiet about another round of membership cost increases, particularly in view of the overall bleak economic situation. There was also a suggestion that membership fees should be decreased rather than increased. Another suggestion was that some publications *MA news*, *Mathematical Pie* and *Symmetry Plus* – should be delivered electronically rather than via the letter box.

Ways of paying membership fees were also discussed with direct debit payments broken down into monthly or quarterly payments. We decided to raise personal membership (across the board) by 2½% and that for institutional members by 5%. The Treasurer was also happy to report that the capital invested in the complete refurbishment of the flat at HQ had now been recouped. Future rental income therefore goes straight in to our surplus. This vindicated a Council decision of 2007, taken when our financial situation was extremely gloomy. It was a good case of holding our nerve.

Council moved on to consider the imminent launch of the new website. Rob Eastaway reported that all the research with committees and others with an interest in the site had resulted in most pages being re-written and refreshed. Alongside this, there were a number of new features, such as a rolling News section with a searchable, permanent archive.

Teaching Committee also had a new section on the Home page called 'We Say'. This is a forum for immediate reaction to new policy from government, agencies and examination boards. Again, as new items replace older ones, the latter are stored in an archive.

The e-commerce section of the site had also been re-designed and engineered to make it more attractive and inviting. Council congratulated Rob on his efforts and achievement, and looked forward to the benefits that the new site would bring.

Next up was a discussion about Conference. Robert Barbour reported on the success of the recent conference at Robinson College. It had been both a commercial success with a very healthy surplus and a creative success. His innovation of having mini-conferences within the Conference had worked. The Primary Day had encouraged many day delegates to attend as had the History Day though the latter to a lesser extent. This led naturally to some discussion about the length of Conference itself. Council congratulated Robert on his

Conference and thanked him for all his efforts in devising, developing and running it.

Bill Richardson reported on the plans for the BCME conference.

That moved us on seamlessly to a consideration of the Annual Conference in 2011. Various venues were discussed Oxford, Glasgow, Nottingham and Loughborough. Each had its own pros and cons so it was decided that HQ would be asked to find out the possible dates and costs of each. These would be ready for the next Council in September for discussion and decision.

We considered the Annual Conference of 2012. Existing patterns meant that this was an opportunity for another joint conference with the ATM and NANAMIC. A decision was made to quickly contact these to declare our willingness to participate and to initiate the necessary joint planning.

We moved on to a discussion about periodical publishing. The first part of the discussion concerned *Equals*. This had caused Council to question its financial viability. Significant savings had already been made in its production budget. Despite this, the cost of publishing it and delivering it to members stubbornly remained disproportionate.

Paul Metcalf reported that the *Equals* team had now agreed that a move to electronic delivery. It was agreed that this change should be introduced in the Autumn of 2010 to work in sync with the membership cycle. As an intermediate step, the last printed issue for the summer 2010 would be mirrored online. In its new form, *Equals* would be freely available to all.

A discussion followed on Professional Development.

Two one-day conferences were considered. The first an event aimed at Secondary Teachers with an interest in ICT and its use in mathematics. It was organised and run by the Chair of PD Alison Clark-Wilson. The event was held at the British Library in May. A target figure of 60 delegates was not reached, but the 50 delegates who did attend reported an excellent day with an exciting and engaging programme. This meant a small surplus and the realisation that better marketing and cheaper venues are vital. As a model, it provides a template for the future.

The second one day Conference was held in Leeds in March. It was organised and run by Jan Jagger. It too was aimed at Secondary Teachers with a stimulating programme of practical ideas and strategies for mathematics. The number of delegates was fifty, not the same as the last event but this resulted in a better financial surplus.

We moved on to the forthcoming Stirling one day conference organised by Bill Richardson. This now established event regularly returns a very healthy surplus and attracts over 200 delegates. We owe much to Bill's judgement and flair that saw this event grow from an idea to the ongoing success it is today.

A final item on the agenda concerned Publicity and Membership. Sue Singer reported on the deliberations of a small committee that had been examining all the issues that impact on this crucial area. One recommendation was for a re-naming of the various membership categories which Council endorsed enthusiastically. Category A becomes Primary and A+B become Primary +. So a change from a system that sounds like Prisoner

categories to one that defines itself by type of School. Long overdue.

Amongst other recommendations were two that had been discussed earlier. These were centred on the collection of direct debits and the nature of the membership year. Sue's committee felt strongly that monthly or quarterly direct debit payments ought to be implemented as a matter of urgency.

A possible model was based on Council Tax in which a year's payment is broken down into 11 monthly debits offering an apparent 'free' month at the end of the year. Sue also advised that annual membership should be available from any point of the year - so called rolling membership. This would replace the current model in which back benefits were supplied with membership ending at the conclusion of the membership year. Council were enthusiastic about these recommendations and asked Standing Committee to investigate the administrative, financial and operational aspects and then to make concrete proposals.

*And so to the September meeting.*

Again, the first item on the agenda was the Treasurer's report. The headline figure in the accounts for the first 7 months – showed a small surplus of £1K on our overall position. On a like-for like comparison to the previous year this would mean that at the year end there would be a small loss of some £5K. These figures showed savings by HQ of some £10K; and a small deficit from Professional Development. This deficit needs some explanation. In order to shield the Association from the massive swings involved in large government projects (such as for BeCTA and TDA) there had been a decision to scrutinise such projects more carefully before taking them on. Alongside this was additional monitoring of projects as they progressed. The Treasurer and Alison were working ever more closely to implement this. In the short term this distorts the like-for-like comparisons; in the longer term it means more stable income and better returns.

**Barry Lewis (Chair of Council)**

### **Branches Committee**

MA Branches Committee has met once during the year from 30 April 2009 to 30 April 2010. In previous years a second meeting has taken place at the end of annual conference. However this year the second meeting was deferred until 1 May 2010.

The meeting was the annual Branches Day at Leicester HQ in October. The morning session was given over to a meeting of committee and included formal reports together with a review of nominations and appointments. In the afternoon there were sessions involving the submission and exchange of past and future programmes together with a discussion about publicity in *MA News* and the website.

Branch representatives have on a number of occasions been encouraged to provide updates for *MA News* and the Branches section of the website. Recent editions of the newsletter have featured many impressive accounts of local activity. Branches have been implored to provide or update an introductory paragraph and future programmes for the website.

Gloucestershire, Liverpool, London and Yorkshire are the local branches who prepare their forthcoming

programmes in advance for the next year. Gloucestershire produced a half-year one in 2009-10 due to an anticipated change of Branch Secretary. Ray Huntley has now taken on that role there. Liverpool and Yorkshire branches have provided a full series of events as they normally do. London MA Branch has experienced some issues with numbers attending their meetings but has agreed to continue. There is also a collaborative venture in London involving King's College with the MA and ATM branches there.

Birmingham, East Midlands, Marches, Meridian and Sussex all have a strategy of providing several meetings each year. Their events are advertised one at a time.

During the course of the year Dave Pountney, of Liverpool Branch and Youth Activities Officer on Branches Committee, has written a comprehensive report of activities provided by the MA directly for young people. This report will be published as soon as possible.

The next Branches Day is arranged for Saturday 16 October 2010 at Leicester HQ starting at 11am.

**Keith Cadman (Chair of Branches)**

### Conference 2010

The BCME-7 Conference in Manchester from 6<sup>th</sup> to 9<sup>th</sup> April brought together a whole number of organisations concerned with mathematics education, with over 500 people attending. This gave the opportunity to meet up with established friends and colleagues who have previously attended MA conference, and also those whom I know through other circles, along with many new people. I greatly enjoyed the variety of workshops, including one on three dimensional geometry, run by Bob Ansell of the ATM, where the emphasis was very strongly on making shapes with Polydron and Clix, conjecturing, reasoning, and building towards proof at least informally. The strand run by colleagues from the British Society for Research into the Learning of Mathematics gave another perspective on a multi-faceted conference.

Marcus du Sautoy started proceedings off, building on previous presentations on prime numbers and drawing on his television programmes on the history of mathematics. He described a workshop put on jointly for maths and drama teachers, entry to which necessitated pairs applying. I loved the idea of drama teachers pleading with their mathematics colleagues to accompany them!

In her Presidential Address, Jane Imrie posed the question, "Who does the maths in maths classrooms?", with some lovely video clips showing what can happen when it's the students. I have to confess, though, that I was somewhat distracted by her opening problem, which was to evaluate:

$$\frac{1}{\sqrt{0} + \sqrt{1}} + \frac{1}{\sqrt{1} + \sqrt{2}} + \frac{1}{\sqrt{2} + \sqrt{3}} + \dots + \frac{1}{\sqrt{99} + \sqrt{100}}$$

If you don't know the answer to this then it's worth taking a few minutes to sort it out, I was very surprised! If you want to make it slightly more difficult, take off the opening term....

Margaret Brown closed the Conference with some reflections on innovations in mathematics education in the UK and across the world. The broad conclusion that any innovation is likely to have a positive impact on

attainment simply because it is an innovation certainly bears thinking about!

At the end of the Conference it was wonderful to be able to share some reflections on the life and work of Doug French, with Julia, his widow, and children, Linda and Mark, able to join us. In introducing the formal proceedings David Acheson drew on a number of Doug's ideas, particularly the geometry and algebra of the 'up and over' garage door which Doug used a number of times in his writings. David's presentation was both funny and poignant in remembering a valued friend and colleague, with workshops then exploring some of Doug's ideas further.

As always, there are many people to thank for making such a large and varied programme come together. Jane Imrie as President was instrumental in shaping the Doug French Memorial contribution to the Conference. Bill Richardson and Marcia Murray were the MA's representatives on the BCME-7 Committee, with Bill accepting the role of the Treasurer. James Nicholson, as the Committee's Chair, worked tirelessly behind the scenes, and particular thanks should go to Marcia Murray for making sure that all practical arrangements for the Sessions Programme and Publishers' Exhibition ran smoothly, and thanking Linda Medhurst, Emma de Riso and Charnjit Seehra for their work on the MA stand.

**Geoff Tennant, Council Member without Office**

### Professional Development Committee

The Professional Development Committee met three times during 2009-10 at the London Mathematical Society HQ, London. The Committee continues to monitor closely the individual professional development project finances and to develop PD events for both members and the wider teaching workforce in line with the principle objective for the Association which is "to promote and support the professional development of teachers".

The Committee has actively supported the development of the Chartered Mathematics Teacher designation and three of its members, Jennie Golding, Liz Woodham and Alison Clark-Wilson were amongst the first recipients of this new professional status. They now represent the Mathematical Association on the recently established Chartered Mathematics Teacher Registration Authority. The CMATHTEACH was officially launched on November 1<sup>st</sup> 2009 and further details of the designation and how to apply can be found on the Mathematical Association's website.

An application for the National Centre for Excellence in the Teaching of Mathematics (NCETM) CPD Charter mark had been submitted by the Professional Development Committee on behalf of The Mathematical Association. At the time of writing we are awaiting the outcome of this application.

The Committee had discussed a number of future developments which include the development of one day professional development events that complement new MA publications and other activities, for example the Primary Mathematics Challenge.

Over the past year the Committee was able to oversee three large one-day events, which were:

### **The Mathematical Association Secondary Mathematics Conference**

The fourth MA one-day event for Scottish secondary mathematics teachers was held on Saturday 19<sup>th</sup> September 2009 at Stirling University and attended by over 170 delegates. The programme was developed in response to Learning and Teaching Scotland's *Curriculum for Excellence* and the keynote speaker at the event was former president Adam McBride. Planning for this year's conference is already well developed and the event will held at the same venue on Saturday 18<sup>th</sup> September 2010. The keynote speaker will be the current president, David Acheson. The Association is indebted to Bill Richardson who is the organiser of this very successful event, which is now firmly established on many Scottish mathematics teachers' calendars.

#### **Primary event, Institute of Education, London: New curriculum, new opportunities**

Fifty primary teachers attended this event, which was a one day professional day organised jointly by the Mathematical Association with the Association of Teachers of Mathematics and supported by the Institute of Education. The event was also attended by the popular comedian and presenter, Lenny Henry, who interviewed delegates for a radio 4 programme 'What's so good about maths?', which was broadcast on January 13<sup>th</sup> 2010.

#### **Yorkshire and Humberside CPD Event: Engaging mathematics – Practical, Creative and ICT inspired**

The third MA one-day CPD day for secondary mathematics teachers in Yorkshire and Humberside was held on 1<sup>st</sup> March 2010 at the Royal York Hotel, York. The delegate numbers were disappointing, which was probably a result of a change in teacher cover arrangements. Nevertheless those that attended gave excellent evaluations of the event, particularly the hands-on workshops and the opening plenary by Hilary Povey. The Committee thanks Jan Jagger for her efforts in organising and promoting this event.

*Elizabeth Woodham (Acting Chair of Professional Development)*

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#### **Publications Committee**

The committee oversees all the Association's publications except, of course, the journals. Although the Mathematical Association is a registered charity, it has overheads that have to be paid, so its operations have, wherever possible, to show a financial surplus. Consequently our publications need to be profitable.

Many of the ideas for publications come from members (and others) who are prepared to give their time working them up into book form. When the committee receives a proposal for a book it decides whether it is one that would be appropriate for the Association to publish. Is it one that supports school or college mathematics? Is it mathematically sound? Even if a proposed book passes these tests we then must consider whether it will sell in sufficient numbers to cover the production costs and yield a financial surplus.

Using volunteers for the sub-editing and proof reading keeps our costs low. However we pay a professional designer for the covers: an attractive cover does improve the sales of a book. We also look for competitive rates for printing. Even with these economies, our print runs are so small that our selling prices have to be higher than we would really like.

In my last report I mentioned four books that we expected to do well. *It's a kind of magic*, *More creative use of odd moments*, *Whoever thought of that?* and *The mathematics of A-level statistics* are all selling very well. Many of our other publications also continue to make steady sales. And there are some interesting new works in preparation. You will receive details of these when they are available, and they will also feature on the Association's web site.

If you have ideas for a book, or a set of posters, or some other form of publication, please get in touch with Headquarters for a proposal form. We will be delighted to hear from you.

I record my thanks again to the members of the committee for their commitment during the year, and to those others who have given their time and expertise in preparing works for publication.

*Michael Fox (Chair of Publications)*

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#### **Editorial Happenings**

I am delighted to use this opportunity to thank the editorial team for their hard work and determination in ensuring quality journals for the benefit of members. Besides the exceptional team of editors, I would also like to mention those who work tirelessly behind the scenes contributing in areas such as typesetting, production, layout and advertising. It is sometimes too easy to forget how much work and effort goes into the presentation of each one of our journals.

I am pleased to report that cost-cutting measures for journals and the successes in reducing expenditure further (most notably for *SymmetryPlus*) have been effective. Plans are in place to reduce costs even further by *Equals* becoming an on-line publication from the autumn 2010 issue, and for *MA News* to soon be an on-line publication only. I am well aware that other associations are moving towards offering on-line journals and e-Memberships and, whilst understanding the benefits of such, I feel strongly that paper copy is a unique selling point for the MA.

At the November Annual Editorial Board Meeting detailed reports were received from the journal editors and production editors. The ongoing success of advertising revenue was highlighted at the meeting. The meeting also discussed the issues of contingency and succession planning, identifying areas where there were potential shortfalls which might need addressing. It was agreed that the editors would compile a list of procedures for their individual journals and that the Editorial Board should actively seek new members to become involved in the work of the journals.

One of the issues raised during this annual report period is that of honoraria and, although mindful of the MA's financial position, as it is now well over five years since Council considered honoraria, I have agreed to give editorial honoraria some thought during the next twelve months.

I am most grateful to Rob Eastaway for his drive and work with the web design company Spyder Redspy to get the MA website looking good. The Publication pages do much to showcase the MA journals and identify many of the interesting and informative articles contained within. I am hoping to persuade more editors to take advantage

of publicising samples to very good effect in the same way as those for the *Mathematical Gazette*.

Student Problem Corner in the *Mathematical Gazette* has been edited by Tim Cross for the past 17 years. Regretfully, Tim announced his desire to retire this year and so the 2010 March Student Problem Corner was his last. I would like to thank Tim for his excellent work. I am delighted to say that Stan Dolan has agreed to take over the role of editing the Student Problem Corner.

Once again my thanks to the following colleagues for their tireless work: -

#### **Editors**

John Berry	<i>Mathematics in School</i>
Ray Gibbons	<i>Equals</i>
Gerry Leversha	<i>Mathematical Gazette</i>
Lynne McClure	<i>Primary Mathematics</i>
Martin Perkins	<i>SymmetryPlus</i>
Chris Pritchard	<i>Mathematics in School</i>
Wil Ransom	<i>Mathematical Pie</i> (and Erik Gooding for <i>Pie Notes</i> )
Sue Waring	<i>MA News</i>

#### **Production Editors**

Helen Morris	<i>Mathematics in School</i>
Bill Richardson	<i>Mathematical Gazette</i>
Tina Webb	<i>Mathematics in School</i>

**Advertising** Janet Powell

...and, of course, my grateful thanks to the staff at HQ.

*Paul Metcalf (Editor-in-Chief)*

#### **Publicity and Membership**

Throughout the year the committee has continued its efforts to attract new members and retain existing ones in the context of a national recession and a general decline in active support for membership organisations. There was an encouraging increase in student number but overall numbers fell, particularly institutional ones, probably reflecting the difficult economic situation.

Following the blue skies discussion at the June Council meeting a small sub-committee met to think widely and creatively and to consider all aspects of Publicity and Membership. This group came up with a number of ideas which were subsequently discussed at the September Council meeting. It was agreed that serious consideration should be given to e-journals, while it was important to retain print journals the Association should start introducing e-journals. The new and much improved website was warmly welcomed and it was hoped that the facility to join on-line would encourage new members to join. Indeed there has been a steady increase in members joining on-line. It was important to build a database of member addresses and to make use of this to contact members on a regular basis. It was also important to introduce a rolling membership offer as soon as possible.

In advance of the launch of the website there was a discussion of the categories of membership while the number of different categories was retained they were renamed to make it clearer to make the focus of each category clearer.

A reduced price offer for PMC was made to those schools who were institutional members of the Association.

Primary and secondary mailshots were sent out in September 2009 and these were followed up by an email

mailshot in January 2010. There was also a mailshot to PGCE students via their lecturers.

Linda Medhurst, Charnjit Seehra and Emma de Riso at HQ were very helpful in manning stands at the annual conference and at several other events and conferences throughout the year. Charnjit handled the registration of members and keeping of statistics very efficiently and Lisa's help with the mailshots was very useful

As I hand over chairmanship of the committee to Geoff Tennant I would like to thank him, all the other members of the committee, those on Council and Marcia Murray at head office for their support and help.

*Sue Singer (Chair of Publicity and Membership)*

#### **Primary Mathematics Challenge**

The number of schools taking the PMC in November 2009 was 2577 (down a little on the previous year) with 94 190 papers being sold. Feedback was once again very positive. Here are some of the comments.

#### **Pupils:**

*Some classic problems*  
*Pupils really enjoyed this year's challenge*  
*The children enjoyed receiving their certificates*  
*I will use the questions for problem solving*  
*It boosted their confidence*  
*They liked the questions that made them laugh*  
*Some tricky questions*  
*Good head scratching!*  
*Good progression in the questions*  
*Prompted some interesting discussion*  
*The 'ramping' questions were easier this year*  
*I liked the Albrecht Dürer problem*  
*Generated a lot of excitement*  
*Interesting scenarios*  
*Good to take part in a national challenge*

#### **Teachers:**

*Fun and thought-provoking questions*  
*They loved the toilet question*  
*Admin excellent*  
*Great that everyone can get a certificate*  
*An excellent paper*  
*Clear instructions*  
*They really enjoyed it*  
*Good mix of a challenge*  
*Enjoyable as always. A super paper*  
*Tests underlying using and applying mathematics*  
*A useful teaching tool*  
*Good questions that offer a real challenges*  
*Website a great help for past papers*  
*The PMC is an excellent idea*

The number of high scoring pupils entering the Finals was 1939 and we awarded 37 gold medals, 112 silver medals and 265 bronze medals.

A number of schools registered online for the first time, trialling the new system. We will encourage more to do so in 2010 as we will be less dependent on the post (strikes and snow get in the way sometimes). Thanks once again to the UKMT for processing our OMR sheets for the Finals.

I have stepped down as chair of the PMC teams having thoroughly enjoyed running it all from the start. Thanks to all in the Management Team and the Problems Team and also to everyone in the MA office for their work.

Thanks also to the MA Council for their continued support. From now on Lesley Jones will chair the Management Team and Rudolf Loewenstein will chair the Problems Team. Both have been involved in the PMC for a while and will give the PMC the boost that it needs!

**Peter Bailey (Chair of PMC Management Team)**

### **Library Committee**

#### **MA Library Access:**

The David Wilson Library (DWL) at the University of Leicester, which houses the MA Library, has introduced stricter rules, on the ground of security, for gaining access. The requirements now add the provision of two passport-style photographs to register and full details are to be found on the MA website pages for the MA Library, under Section 5: How do I gain access in person?

#### **MA Library Catalogue:**

The DWL catalogue now includes over 10 000 records for MA books, an increase of around 2000 records over the last five years, and the list includes nearly 700 records from the MA Special Collection of books from the sixteenth to the mid-nineteenth century. The MA Library guide, *Mathematics Textbooks from Six Centuries* (2005), includes a printed list of around 400 titles in the Special Collection. The additional 300 titles come entirely from the library of the late John Hersee, and a supplementary list has been prepared for addition to the MA website as a downloadable file. Gaps in the holding of MA publications in the MA Library have also been filled and the catalogue now includes, we like to believe, a complete list of all the MA's own publications from 1871 to 2009!

#### **The Historical Collection of Mathematical Books in the John Hersee Room:**

The Archive Room at MA HQ, named the John Hersee Room, now accommodates an interesting historical collection of around 250 books which duplicate MA copies in the DWL. The books come largely from the library of John Hersee and are shelved in two glass-fronted cabinets, alongside some other titles from the libraries of the late Charles Attwood and John Thurston. A catalogue, cross-referenced to the DWL books, has been produced for reference use in the Archive Room and copies of the list can be downloaded from the MA website.

#### **The Hersee Collection of Manuscript Exercise Books:**

The DWL Special Collections department has agreed to accommodate the entire collection in nine crates of over 200 mathematical manuscript exercise books, going back to the eighteenth century, from the library of John Hersee. Special conservation materials have been purchased and these books will be processed at MA HQ and transferred in stages. A detailed catalogue of the books is being prepared from John's own WORD file and the original file is already available on the internet via the Special Collections page on the DWL website.

**Mike Price (Librarian, and Chair of Library Committee)**

### **Teaching Committee**

Teaching Committee has been the MA's engine room since its establishment in 1902. Its first task then was to report on the teaching of geometry and make recommendations on what should be taught and how it should be taught. The report prompted the publication of

a number of textbooks with a different flavour from those available previously and made geometry more accessible to children.

Over the years, the aims of the Association as a whole have remained much the same, to support good mathematics teaching in schools and colleges. As far as Teaching Committee is concerned, this support takes the following forms:

- engaging in consultation on curricular change through debates at meetings and by responding in fine detail to papers and proposals from government agencies, awarding bodies and the educational research community,
- discussing what mathematics is taught and how it is taught, and what improvements might be made to curriculum and pedagogy; shaping policy for the Association and guidance for its members,
- exploring where there is a need for ideas and materials for the classroom, and commissioning, writing and disseminating them through books, journals and the MA's website.

In recent times Teaching Committee has been served well by four subcommittees. As their names suggest, the Primary, 11–16 and Post-16 Subcommittees take responsibility for our work in supporting teachers in age-and-stage bands whilst our ICT Subcommittee looks at provision and practice for all ages. From the reports below you will discover the phenomenal scale of the engagement with official bodies our Primary Subcommittee led by Lynne McClure and our Post-16 Subcommittee led by Peter Thomas have had in recent months. There too you will learn about the development work engaged in by Rachael Read and her 11-16 Subcommittee and by the ICT Subcommittee under Karl Hayward-Bradley.

It might be said of any committee at any time but Teaching Committee is in a state of flux. And there are two reasons for this. Firstly, we are taking a thorough look at ourselves, to see if we have the personnel, the structures and the ways of functioning that will allow us to meet the challenges ahead.

And secondly, a number of key, very experienced members have recently left or are soon to step down. Twelve months ago, Jennie Golding relinquished the chair, though we continue to be grateful to her for attending a number of important consultative meetings on our behalf. Peter Thomas comes to the end of his time as Secretary in the summer. Anyone who has worked closely with Peter cannot fail to be aware of his enormous commitment to mathematics teaching and not just in the forum of Teaching Committee but also through ACME and the IMA. His attention to detail, his political awareness and his reliability will be sorely missed. Another two knowledgeable and thoughtful members, Mary Ledwick and Liz Russell, have also 'called time'. And as if that were not enough, the outgoing Chair and Secretary of Council, Barry Lewis and Bill Richardson, who have steered much of the Association's work in recent years, leave Teaching Committee automatically as they relinquish office. Teaching Committee has been served well all by these influential members and The Mathematical Association thanks them sincerely for their service.

But it does leave Teaching Committee with rather a big hole ... and that's where you come in! If you've taken the trouble to read this far, then you have more than a passing interest, but might you be persuaded to take that interest a bit further? Might you consider supporting our work through membership of Teaching Committee itself or one of its subcommittees, or perhaps offer some of your time to represent us elsewhere? If you are interested in joining then contact me or a subcommittee chair by email (email addresses are at the top of each report). Teaching Committee makes a difference to The Mathematical Association and to mathematics teaching in Britain. Why not be a part of it!

**Chris Pritchard (Chair of Teaching Committee)**

#### **ICT Subcommittee**

**Chair Karl Hayward-Bradley, tc-ICT@m-a.org.uk**

The ICT subcommittee met twice during 2009, and has refocused and restated its aims, which are to:

- Identify what is meant by effective use of ICT in mathematics.
- Engage all teachers to develop the use of ICT in the teaching and learning of mathematics, and facilitate learning networks and communities for promoting best practice in ICT.
- Guide teachers towards both new and existing resources that provide a range of 'levels' of appropriate ICT use.
- Influence national bodies in the above; respond to consultations regarding curricula and examination requirements, in order to account of ICT developments

The subcommittee is keen to hear ideas on any of the above from the wider MA membership, and beyond, and will hold an open meeting at the upcoming BCME conference in Manchester. We are particularly keen to gain some perspectives on Maths ICT from those in the Primary sector.

Current subcommittee projects include creating an ICT sub-section on the new improved MA website in order to best publicise both the existing and recently completed work, such as the updated BECTA pupil entitlement document and the KS4 resources grid.

#### **Primary Subcommittee**

**Chair Lynne McClure, tc-primary@m-a.org.uk**

The Primary Subcommittee is a joint MA/ATM group. We met three times during the year and during this time the membership increased from 12 to 19. We are pleased that we have become even more representative both of the two associations and of the primary mathematics community, but we would still like to invite more classroom teachers to join us.

So, what did we do during the year?

Much of the energy of the group has been spent in responding to a large number of government initiatives, draft reports and final documents, including the Williams and Rose interim and final reviews, and the resulting QCDA rewriting of the primary mathematics curriculum. This may not sound very captivating but actually it is an essential part of the Associations' core business – to be part of the national picture. Our contributions are always acknowledged and often acted upon. We invited Sue Pope from QCDA to share progress on the new mathematics curriculum post-Rose – a very informative

and helpful meeting in both directions.

Peter Hall from NCETM joined us at another meeting, where we discussed the synergy between the parts of the NCETM and the primary sections of the subject associations. A sub-group has worked with NAMA to write NCETM materials for Maths subject leaders and we hope for more of this sort of partnership.

Another group organised and presented a successful primary conference at the London Institute of Education in November, which starred Lenny Henry finding out 'What's so great about Maths?' for Radio 4.

Current work is focussing on writing cross-curricular publications for KS1 and KS2.

We enjoy our meetings and we all learn a lot whilst contributing to the running of both associations. If you're thinking about joining us, please do...

#### **11–16 Subcommittee**

**Chair Rachael Read, tc-secondary@m-a.org.uk**

The subcommittee has had a productive year, continuing to address issues in 11–16 mathematics education and developing materials for publication. We are also delighted to welcome two new members, Jon Ingram from Rugby School and Francesca Lyon from Ormiston Bushfield Academy. We are pleased that more diversity has been brought to the group. Regrettably, however, Liz Russell left the subcommittee. We are extremely grateful for her substantial work over the years, particularly for her wonderful sessions at the national conferences.

Following our concerns about the direction of Key Stage 4 mathematics the subcommittee jointly composed a letter voicing our views; this can be found in the latest copy of *MA News*. The letter, signed by Barry Lewis, was sent to Ofqual, Ed Balls, Ian Wright, ACME and QDCA. We will report back soon with more news.

The subcommittee has been critically reviewing AQA materials, upon their request. Several afternoons have been spent analysing the suitability of draft specifications and assessment materials for the new modular GCSE course, the twin pilot GCSE and shortly the linear GCSE course. The reports returned to the examining board have been critical at times, but there has been some positivity, particularly towards sections of the twin GCSE materials.

A *Maths Activities Pack* will shortly be sent for publication and we expect to see some of our photocopiable resources in *Mathematics in Schools* later on this year. Plans are already in place to start two new publications – a collection of central *Mathematics in Schools* pages and also a 'revamp' and extension of the very popular *Getting Started* MA publication.

#### **Post-16 Subcommittee**

**Chair Peter Thomas, tc-post16@m-a.org.uk**

There are two sides to our work in post-16 mathematics education: policy and resources.

In 2009 there was much to occupy us on the policy front. We drafted the MA response to the QCA proposals for Level 3 Mathematics, it said that the MA:

- called for no change to GCE Mathematics,
- supported having a core in GCE Further Maths,
- wanted to see the AEA retained,
- welcomed the introduction of full GCEs in Use of Mathematics and Use of Statistics.

We have also contributed to QCDA's exploration of what should be in the applied mathematics in GCE



Mathematics. Also, along with other organisations, we expressed our support for GCSE Use of Mathematics for use post-16.

We have also kept our eye on other developments, including the effect of two-tier GCSE on learners' readiness for GCE Mathematics, and contributed to discussions on the meaning of numeracy and what it is to be a specialist mathematics teacher.

This left us little time to work on developing resources but we did not forget that role. We have explored several possible initiatives, as well as being mindful of the need to keep existing resources up-to-date.

We look forward to the new initiatives in supporting post-16 mathematics education which the MA is now developing.

#### **Officers**

*Chair:* Chris Pritchard, tc-chair@m-a.org.uk

*Vice-Chair:* Cherri Moseley

*Secretary:* Peter Thomas, tc-secretary@m-a.org.uk

*Treasurer:* Sue Forrest, tc-treasurer@m-a.org.uk

#### **Other Elected Members**

Sue Forrest                Jane Imrie,

Paul Harris                Mary Ledwick

Ray Huntley               Liz Russell

**Ex-Officio Members** (and others with the right to attend meetings)

President of the Association: Jane Imrie

Secretary of the Association: Bill Richardson

Chair of Council: Barry Lewis

Representative of Branches Committee: Geoff Tennant

Editor-in-Chief: Paul Metcalf

Chair of Publicity & Membership Committee: Sue Singer

MA chief executive: Marcia Murray

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#### **United Kingdom Mathematics Trust (UKMT)**

The numbers of students entered for the Mathematics Challenges this year were as follows: Junior 288,620; Intermediate 254,720; Senior 91,982; these numbers are very similar, if slightly down, compared to last year. Also 1,488 teams entered the Team Mathematics Challenge, and just over 900 teams entered the new (but now established) Senior Team Mathematics Challenge.

In addition, the popular teacher meetings continue to take place, and students continue to benefit from the mentoring scheme. There is an increasing list of mathematical books published by UKMT.

In July 2009, the International Mathematical Olympiad was held in Bremen, Germany, and the UK team came back with one gold, three silver and two bronze medals. The 51st IMO will be held in Astana, Kazakhstan, in July 2010.

The dates for the challenges in 2010–11 are:

Junior Challenge (ages 11–13): Friday 6 May 2011

Intermediate Challenge (ages 13–16): Thursday 3 February 2011

Senior Challenge (ages 16–18): Thursday 4 November 2010

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 Mathematical Olympiads and the European Kangaroo.

Professor Bernard Silvermann's term of office as Chair of UKMT has ended and the new Chair is Professor Frances Kirwan.

UKMT is always looking for more helpers, whether to submit questions or to help at events. There is a volunteers form at

<http://www.mathcomp.leeds.ac.uk/about-us/getting-involved/>

For more details of all UKMT activities, publications, etc., visit their website, [www.ukmt.org.uk](http://www.ukmt.org.uk)

**John Silvester (MA representative)**

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#### **Headquarters**

**At April 2009, the Headquarters Team is:-**

Senior Administrator - Marcia Murray

Finance Officer - Linda Medhurst

Membership Officer - Charnjit Sehra

Administrative Assistant - Lisa O'Donnell

Clerical Assistant - Anne-Marie Brown

Clerical Assistant - Emma de Riso

**Marcia Murray (Senior Administrator)**

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#### **Association Regulations**

Regulations can be viewed at:

<http://www.m-a.org.uk/jsp/index.jsp?lnk=850>

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#### **The Council (April 2009 to March 2010)**

President	Mrs Jane Imrie
Immediate Past President	Mr Robert Barbour
President Designate	Dr David Acheson
Chair of Council	Mr Barry Lewis
Secretary	Mr Bill Richardson
Treasurer	Dr Paul Harris

#### Chairs of Committees

Branches	Mr Keith Cadman
Conferences	Miss Susie Jameson
Editor-in-Chief	Mr Paul Metcalf
Professional Development	Mrs Alison Clark-Wilson
Publications	Mr Michael Fox
Publicity and Membership	Mrs Sue Singer
Teaching Committee	Dr Chris Prichard

#### Members-without-Office

Mr Mudher Adhami	Mrs Mary Ledwick
Dr David Crawford	Mrs Lynne McClure
Mr Rob Eastaway	Dr Catherine Ogden
Dr Anthony Gardiner	Dr Geoffrey Tennant
Ms Rachael Read	

# THE MATHEMATICAL ASSOCIATION

(A company limited by guarantee)

## STATEMENT OF FINANCIAL ACTIVITIES

(Incorporating an income and expenditure account)

YEAR ENDED 31 DECEMBER 2009

	Notes	Unrestricted	Restricted	Designated	Total	
		Funds	Funds	Funds	2009	2008
		£	£	£	£	£
<b>INCOMING RESOURCES</b>						
<b>Incoming resources from generated funds</b>						
Rent receivable		5,218	-	-	5,218	4,487
<b>Voluntary income</b>						
Donations		1,018	-	-	1,018	1,189
Funds from The Mathematical Association on incorporation		-	-	-	-	321,438
<b>Activities for generating funds</b>						
<b>Investment income</b>						
Bank interest		875	-	-	875	6,679
<b>Incoming resources from charitable activities</b>						
Members subscriptions		269,922	-	-	269,922	232,148
Editorial board		36,878	-	-	36,878	49,967
Publications		43,112	-	-	43,112	49,975
Conferences		69,600	-	-	69,600	7,162
Primary mathematics challenges		77,505	-	-	77,505	74,218
Professional development income		43,371	-	-	43,371	176,932
Branch income		4,591	-	-	4,591	3,543
Library income		161	-	-	161	20
<b>Other operating resources</b>						
Miscellaneous income		-	-	-	-	136
<b>TOTAL INCOMING RESOURCES</b>		<b>552,251</b>	<b>-</b>	<b>-</b>	<b>552,251</b>	<b>927,894</b>
<b>RESOURCES EXPENDED</b>						
<b>Costs of generating funds</b>						
Publicity expenses		22,348	-	-	22,348	38,625
<b>Charitable activities</b>	2	<b>542,153</b>	<b>-</b>	<b>-</b>	<b>542,153</b>	<b>558,025</b>
<b>Governance costs</b>						
Audit and accountancy		8,575	-	-	8,575	8,700
<b>TOTAL RESOURCES EXPENDED</b>		<b>573,076</b>	<b>-</b>	<b>-</b>	<b>573,076</b>	<b>605,350</b>
<b>NET (OUTGOING)/INCOMING RESOURCES BEFORE TRANSFERS</b>						
		(20,825)	-	-	(20,825)	322,544
Transfer between funds		59,971	(16,884)	(43,087)	-	-
Revaluation / loss on disposal of fixed assets		(17)	-	-	(17)	91,500
<b>NET MOVEMENTS IN FUNDS</b>		<b>39,129</b>	<b>(16,884)</b>	<b>(43,087)</b>	<b>(20,842)</b>	<b>414,044</b>
<b>RECONCILIATION OF FUNDS</b>						
Total funds brought forward		354,073	16,884	43,087	414,044	-
Total funds carried forward	10	393,202	-	-	393,202	414,044

# THE MATHEMATICAL ASSOCIATION

(A company limited by guarantee)

REGISTERED NUMBER: 05729264

## BALANCE SHEET 31 DECEMBER 2009

	Notes	2009 £	2008 £
<b>FIXED ASSETS</b>			
Tangible	6	343,394	353,306
<b>CURRENT ASSETS</b>			
Stocks		37,191	36,587
Debtors	7	12,746	13,233
Cash at bank and in hand		148,265	148,124
		<u>198,202</u>	<u>197,944</u>
<b>CREDITORS: amounts falling due within one year</b>	8	<u>(148,394)</u>	<u>(137,206)</u>
<b>NET CURRENT ASSETS</b>		<u>49,808</u>	<u>60,738</u>
<b>TOTAL ASSETS LESS CURRENT LIABILITIES</b>		<u>393,202</u>	<u>414,044</u>
<b>REPRESENTED BY</b>			
Unrestricted Funds	10	393,202	397,160
Restricted Funds	10	-	16,884
		<u>393,202</u>	<u>414,044</u>

The financial statements have been prepared in accordance with the special provisions of Part 15 of the Companies Act 2006 relating to small companies and in accordance with the Financial Reporting Standard for Smaller Entities (effective April 2008).

The financial statements were approved and authorised for issue by the Council and were signed on its behalf on

Mr B Lewis  Chair of Council

Dr P Harris  Treasurer

Date: 6 April 10 .