# David Widdup<sup>1</sup> and Federation of Australian Scientific and Technological Societies (FASTS)<sup>2</sup>

Jan Thomas<sup>3</sup>
Former FASTS Vice-President

In preparing this I am indebted to Graham Willett (President, Australian Lesbian and Gay Archives), Frank Larkins, Graham Johnston, Ken Baldwin (former FASTS Presidents), Bob Anderssen (inaugural FASTS Treasurer) and the FASTS office for their assistance.



### **Background**

Dr David Widdup was the inaugural Executive Director of FASTS. His contribution was critical to the consolidation of FASTS and its success. However there is very little in the public records and this is an attempt to address that before memories and records are lost.

I first met David in Melbourne in 1987. At the time I was working in the Policy Coordination Division of the Victorian Department of Education in areas of mathematics and science education. My previous position had been concerned with the mathematics education of non-English speaking background students. We immediately found some common interests, especially in regard to mathematics education. However it was not until the Australian Mathematical Sciences Council (AMSC) was formed under the FASTS umbrella in 1989 that I had regular contact with him.

# **FASTS:** The beginning

David's contribution needs to be put in the context of how FASTS came into existence. The founding of FASTS was the subject of Master of Arts thesis *Australian Science in Crisis: 1984* 

<sup>1</sup> Photo courtesy of Australian Lesbian and Gay Archives

<sup>2</sup> Now Science & Technology Australia. FASTS will be used here as the matters discussed predate the name change.

<sup>3</sup> jan.thomas41@gmail.com or 0419006205

submitted by Richard Payling of the University of Wollongong in 1989<sup>4</sup>. To quote from the abstract:

The thesis covers two troubled years in Australian science: April 1983 to April 1985. The two years began with the arrival of Barry Jones as Minister for Science and Technology, with his vision for a high technology future, and the growth in expectations amongst Australian scientists – resulting from this vision – of increased government support for scientific research. They ended in dismay following the fall from grace of Barry Jones, the dashing of expectations from the 1984 federal budget, and the resolve of the scientist to form a national political organisation FASTS …to act on their behalf to lobby government.

The thesis finishes with the formation of the Interim Federation Committee in April 1985. The Foundation Meeting of FASTS was held on 12 November 1985.

The simplistic version of how FASTS came into being is that it was a reaction by scientists to Jones calling them 'wimps' after the 1984 budget cut funding for science. He did describe scientists as 'the wimpiest collection of lobbyists you can image' but he also told them to look at the way interests groups are formed<sup>5</sup>. There was already considerable concern in regard to how well science and technology issues were being conveyed to the government and to the community, especially from some members of the Australian Academy of Science, and from discipline based societies such as the Australian Institute of Physics. To me one of the astonishing aspects of the creation of FASTS is how such a diverse group of often competing interests worked through grandiose ideas for two secretariats and other issues in a relatively short period of time to arrive at FASTS. The stimulus of being called wimps was probably a factor but, as Payling notes: "...a surprisingly small number of names from this large community recur repeatedly in the events leading up to the formation of FASTS: Wilson, Smith, Pockley, Bennett, Birch, Farrell, Wild, Sheehan" is their work that laid the foundation for FASTS.

Payling also points out that the small number involved in the formation of FASTS had to carry the great bulk of non-active scientists along with them. Many of these key people already had many other responsibilities. The appointment of an Executive Director who could support the FASTS Board carry the bulk of non-active scientists along with them was therefore going to be crucial to FASTS early success and stabilisation.

Following the foundation meeting in November 1985, the Australian Computer Society offered FASTS full secretarial and offices services and accommodation, including support for an Executive Director. An advertisement for an Executive Director was placed in the Weekend Australian of 29 March 1986. A short list of applicants was interviewed on 24 April 1986 by a panel comprising Professors Chubb and Wilson, Dr Anderssen and Wing Commander Christie<sup>7</sup>.

Dr David Widdup was appointed and took up the position on 2 June 1986. Initially it was part-time. A full-time contract was negotiated in April 1989.

### Dr David Widdup

David was born in Sydney on 10 April 1947 and died in Canberra on 26 October 1999. Significantly his obituary in *The Australian* on 17 November 1999 did not mention his involvement with FASTS<sup>8</sup>. It dwelt on his gay rights activism, especially in the years some time before FASTS. I doubt if those who appointed him as Executive Director knew of this

7 FASTS records

<sup>4</sup> http://ro.uow.edu.au/cgi/viewcontent.cgi?article=3226&context=theses

<sup>5</sup> Payling, p.151

<sup>6</sup> p. 258

<sup>8</sup> A shorter version of the obit can be accessed at http://www.socialism.com/drupal-6.8/bulletins/david-widdup-pioneer-gay-liberationist-1947-1999

part of his life. I also believe it was one of the reasons he was so successful in the early years but contributed to difficulties that developed later.

In reporting his appointment FASTS noted that he was at one time involved in scientific research and had as M.Sc. in Applied Science from UNSW. It went on to say that he had a Ph.D. in social sciences from Monash concerned with the underachievement of women and minorities in mathematics. 1975 was International Women's Year and David was a member of a committee of the newly created Australian Schools Commission that produced a report called *Girls, School and Society*. For five years he was Coordinator of the national Research Programme of the Australian Teachers' Federation. Prior to taking up the FASTS position he studied law at UNSW and became a Senior Legal Officer with the Federal Government<sup>9</sup>.

Not mentioned in the FASTS records is David's earlier activism with the Campaign Against Moral Persecution (CAMP). In the pre-google days it is unlikely that anyone involved in his selection knew about it although standing against William McMahon in 1972 with the slogan "I've got my eyes on Billy's seat" had gained some notoriety. His credentials above were excellent but his actions with CAMP also gave strength to his suitability.

In 1986 FASTS was a fledgling body with a few active participants and a large number of non-active scientists and technologists who were going to be paying for the enterprise. They needed to see FASTS in action. In David's obituary Graham Willett writes concerning his CAMP role: "Firmly believing that the group needed to be visible, he threw himself into getting the more recalcitrant sections of the media to acknowledge CAMP's existence" and that he "travelled extensively". I believe that both of these aspects were reflected in his FASTS role and helped enormously in establishing FASTS in both the eyes of the media and its membership. In addition, when appointed to FASTS, David already had a network of government connections.

David had had a formula for establishing CAMP branches described in a handwritten note from the Australian Lesbian and Gay Archives: "That was the formula – box no, media 'saturation' – paid for if necessary, the necessity of replying to all those people writing in formed a cohesive unit." The early FASTS needed visibility and cohesion.

There is further synergy with FASTS and the gay community. Science and technology may have had a crisis in the 1980s but the gay community had a much greater one. Graham Willett has pointed out to me that most gay rights organisations and activists only seriously started to engage with mainstream politics and politicians with the rise of HIV/AIDS when they had to start meeting with politicians and members of the medical profession.

In summary, in appointing David FASTS had a man of great talent and experience for the task ahead. He immediately arranged Post Office Box, phone, stationary and business cards and, as many of us soon discovered, started to travel.

### The Early Years

FASTS had an impressive start as illustrated by the following:

Members will have been encouraged by the energy and impact that FASTS has achieved during its first year of operation. An Executive Director, Dr David Widdup, has been appointed and an office established in Canberra. Regular newsletters have been circulated to member organisations which bear testimony to the range of activities being undertaken by FASTS<sup>10</sup>.

By July 1987 FASTS was distributing its eighth Newsletter. I haven't kept many of the Newsletters but this one is illustrative on the level of activity being undertaken, especially by

\_

<sup>9</sup> FASTS records

<sup>10</sup> http://www.ga.gov.au/corporate\_data/15190/Rep\_282.pdf, p.3

David. It reports on extensive action regarding the 1987 election held on 11 July and FASTS' role in the National Scientific and Technological (Budget) Analysis Group. It also notes that: "One of the most effective forms of communication FASTS has achieved with its Member societies was the series of interviews conducted by the Executive Director in August 1986". It went on to say the FASTS Executive had approved a repeat involving seven cities over about two and half weeks<sup>11</sup>.

The Australian Association of Mathematics Teachers (AAMT) and Australian Science Teachers Association (ASTA) had also joined FASTS. It is doubtful that this would have occurred with an Executive Director who did not have education credentials. Bob Anderssen, mathematician and founding FASTS treasurer, remembers an initial reluctance to join on the part of AAMT.

# FASTS and the Mathematical Sciences<sup>12</sup>

I am using the mathematical sciences as a case study and because I am most familiar with David's interactions with this area. I would encourage other disciplines with a long history of FASTS to consider documenting their involvement in the early years.

FASTS and the mathematical sciences is a complex mixture of successes and failures with history showing that the positives far outnumber the negatives. As noted above, David's studies and activities prior to FASTS involved issues of equity around mathematics and girls and minorities. It also included work for the Curriculum Development Centre on sex bias in educational materials<sup>13</sup> and for the Australian Teachers Federation on policy development concerning gay rights, sexism, school-to-work transition and youth unemployment<sup>14</sup>.

The Australian Mathematical Society (AustMS) was a founding member of FASTS and Dr Bob Anderssen, President at the time, became FASTS Treasurer. Other founding members were the Statistical Society of Australian Incorporated (SSAI) and Australian Society for Operations Research (ASOR). As mentioned above they were later joined by AAMT.

David paid particular attention to issues in mathematical sciences, particularly in regard to matters affecting mathematics education. Early actions included:

- A speech to the Mathematical Association of Victoria that was given a full page in the Canberra Times<sup>15</sup>,
- An address to the AustMS conference, Sydney, 2/7/1989,
- An AAMT/FASTS survey of resources for school mathematics,
- Opening a seminar on *Policy Issues in Mathematics Education*, 1/7/89,
- A paper on Women and Mathematics<sup>16</sup>
- A study for the Office of Multicultural Affairs: "Comparative Achievement in Mathematics and Science of NESB Students"

The latter involved both AAMT and ASTA<sup>17</sup>.

<sup>&</sup>lt;sup>11</sup> The interviews were with FASTS Members. Meetings outside of Canberra where ordinary FASTS members could attend and have input were a regular event long after David left.

<sup>&</sup>lt;sup>12</sup> The term "mathematical sciences" is used to encompass teaching and research in mathematics, statistics and related disciplines.

<sup>&</sup>lt;sup>13</sup> http://catalogue.nla.gov.au/Record/2764737

<sup>14</sup> http://www.socialism.com/drupal-6.8/bulletins/david-widdup-pioneer-gay-liberationist-1947-1999

<sup>&</sup>lt;sup>15</sup> Demand for maths graduates growing, 19/10/87, p.2

<sup>&</sup>lt;sup>16</sup> This is an academic paper and may not have been published

<sup>&</sup>lt;sup>17</sup> As David was part-time until April 1989, time could presumably be used for activities such as the NESB study although it does not appear to be core FASTS business.

Probably the most important event for the mathematical sciences was the formation of the Australian Mathematical Sciences Council (AMSC) under the FASTS umbrella in 1989. This is documented in a book by Ellerton and Clements<sup>18</sup> and followed the seminar on *Policy Issues in Mathematics Education* listed above. Professor John Mack, a mathematician at the University of Sydney, organised the seminar and key people subsequently involved were Garth Gaudry (AustMS), Pat Costello (AAMT) and David. The inaugural meeting of AMSC was held on 27 October 1989<sup>19</sup>.

I was involved with the AMSC from its formation. It began when the President of the Mathematics Education Research Group of Australasia (MERGA), Ken Clements asked me—as Chair of MERGA's Political Special Interest Group—to attend the seminar in Sydney. When AMSC came into being I was the MERGA representative<sup>20</sup>. In 1990 the AMSC Secretary, Pat Costello, moved to Perth and left AMSC and I became Secretary, Garth Gaudry was President and FASTS Board member, followed by Richard Jarrett and then me. David attended AMSC meetings as an observer and he and Garth had considerable influence on the early years of AMSC.

In particular, Garth and David saw the need to promote the mathematical sciences and their contribution to the nation. A national mathematics symposium, *Adding to Australia's Future*, was organised in Canberra and held on 29-30 November 1991 at the Academy. It gained significant media coverage, especially for a presentation by Professor Neils Becker on modeling AIDS<sup>21</sup>. It set the tone for many symposia and forums held since with a mix of speakers from government, academia and business<sup>22</sup>.

Cohesion on the AMSC was eventually broken by events around the national Statements and Profiles project<sup>23</sup>. The national Statement for Mathematics was cause for angst but the Profiles process was a cause of outrage. Among other things the AMSC discovered that a key person employed on this project was also appearing on advertising material for a textbook company that clearly stated she was a writer for the project. The AAMT was also concerned about the project but, with one exception, their executive members were employed by government. The AAMT was also about to receive money to help teachers with implementation. I think the AAMT would have eventually left FASTS and AMSC anyway but a press release that David was involved in started the tensions. Key members of AMSC had agreed to the content but when David saw it he didn't think it would get media attention and he and Garth re-worded what was sent. It created considerable tension that never really went away. One of the angry faxes came from the same person involved with the textbook company. Notes from a meeting between Garth and the AAMT Executive in March 1992 clearly indicate that they questioned David being at AMSC meetings and the relationship between AMSC and FASTS<sup>24</sup>.

When David left FASTS he left the mathematical sciences with skills that have stood them in good stead. A negative was that AMSC and FASTS lost AAMT and this has had long-term

\_

<sup>&</sup>lt;sup>18</sup> The National Curriculum Debacle (1984), chapter 2.

<sup>&</sup>lt;sup>19</sup> Both MERGA and MELA (Mathematical Education Lecturers Association) became FASTS members. MERGA and MELA later merged.

<sup>&</sup>lt;sup>20</sup> Being something of a political junky, I am forever grateful to Ken for giving me this opportunity and the opportunities it presented to me personally.

<sup>&</sup>lt;sup>21</sup> It showed that cases of AIDS were slowing post government initiatives regarding transmission.

<sup>&</sup>lt;sup>22</sup> The proceedings were published and distributed by AAMT in 1992.

<sup>&</sup>lt;sup>23</sup> See Ellerton and Clements but there are numerous papers and it certainly affected the science disciplines also.

<sup>&</sup>lt;sup>24</sup> Personal copy. AMSC files went missing some years ago.

consequences<sup>25</sup>. The AAMT retreated to their Adelaide office. It has damaged the mathematical sciences voice in Canberra with perceived divisions that don't actually exist.

There are many positives and I am particularly grateful to David and FASTS for the skills and opportunities they gave me. The AustMS helped me to use those skills by employing me as their Executive Officer. It gave me money to buy out of some of my teaching and to travel when needed. Ultimately, it gave the mathematical sciences the Australian Mathematical Sciences Institute (AMSI) because the FASTS Occasional Paper<sup>26</sup> I wrote was extremely helpful in the initial application and in our interactions with Brendan Nelson<sup>27</sup>.

There has been another huge positive. The very public row over the National Statement and Profiles that was led by the mathematicians, especially Garth but also Professor Tony Guttmann and many others, lived on in the memory of those in charge of the latest national curriculum. This time the mathematical scientists were involved in a real way. There will never be a perfect curriculum—mathematics and statistics are too dynamic for that—but the latest one is a good beginning.

# What went wrong?

The mathematical sciences are a case study for something that was going very well within FASTS and started to go seriously wrong around about 1992. When I look at what David said to the mathematical scientists in July 1989<sup>28</sup> it is at odds with the way he was acting some years later and the tensions he was creating especially with AAMT.

Garth Gaudry and I sometimes had dinner with David prior to AMSC meetings. We were among many FASTS people who were well aware he was gay. It wasn't an issue but him being able to adequately represent FASTS was. As his friends we were dismayed at his life-style and the decline in his physical and emotional health. In particular he seemed to revert to his CAMP days of press releases with too much focus on media at any price rather than thinking through how to continue to work with all sides of politics. As I was able to do with the Occasional Paper, and AMSI continues to do<sup>29</sup>, it is telling a story that includes data that says something interesting that gets the press and the eye of government.

In late 1992 a trigger for particular concern amongst the FASTS membership was: "...an article in October criticising the government's science and technology White Paper by David Widdup"30. It appears that this was done without the Board's knowledge or permission. It led to the Ross Free, the Minister for Science & Technology, calling for a new body to replace FASTS. In December the Minister wrote to FASTS member societies stating that the Government had ceased dealing with FASTS "...following the partisan position adopted by the FASTS executive and Board"31.

The issues were much deeper than the concerns above. A copy of a letter to Ron MacDonald from Garth in response to a fax from him shows there were several major concerns at the time, David being one of them<sup>32</sup>. Ron was trying to set up a meeting to discuss the way

<sup>&</sup>lt;sup>25</sup> ASTA also left FASTS. However, with on office in Canberra they continued to be engaged with the wider political and scientific community.

<sup>&</sup>lt;sup>26</sup> This doesn't appear to be on the FASTS web but can be accessed at <a href="https://www.austms.org.au/AustMath/lookfuture.pdf">https://www.austms.org.au/AustMath/lookfuture.pdf</a>

<sup>&</sup>lt;sup>27</sup> Minister for Education, Science and Training (2001–2006)

<sup>&</sup>lt;sup>28</sup> Appendix

<sup>&</sup>lt;sup>29</sup> See for example http://amsi.org.au/wp-content/uploads/2015/08/discipline-profile-2015.pdf

<sup>30</sup> https://www.newscientist.com/article/mg13618508-200-policy-debate-ignites-war-of-words/

<sup>&</sup>lt;sup>31</sup> From letter to Richard Jarrett, SSAI

<sup>&</sup>lt;sup>32</sup> Personal copy.

forward. Garth's reply noted that he would be happy to have dinner to discuss the concerns but wanted all Board members to know that the meeting was happening.

Ultimately David was asked to resign. Unfortunately the troubles around this time meant that the enormous contribution he made to FASTS in the early years tended to be overlooked. Graham Johnston has sent me the transcript of an interview with Ruth Park where he was asked: "What was your greatest disappointment as President of FASTS?" He replied: "Having to part company with the FASTS Executive Director, David Widdup, who had given FASTS sterling service over many years but had fallen out disastrously with the Science Minister, was ill at ease with the push for FASTS to become much more proactive, and was in poor health."

Those around in the early FASTS years acknowledge the enormous contribution David made to the success of the fledgling body. It should not be forgotten especially as ill-health was almost certainly a contributing factor to the problems that arose.

# Final thoughts

David committed suicide. As a community I think we now have a much better understanding of mental health issues. I believe we also have a much better appreciation of what a dreadful time this was for the gay community. Consider what it was like to have many of your friends dying of a horrible disease that had a huge stigma attached to it. Whether we could have helped David is another matter and I believe with hindsight he had serious mental health problems. However the support services available today weren't there and there was still a great deal of homophobia in the community.

As it became clear to me that FASTS would probably have to let him go I tried to get him to see that matters couldn't go on as they were and for him to look at other options. However it had become difficult to have a rational conversation with him. Graham Johnston, then FASTS President, certainly kept in touch with him and helped with some professional advice after he left FASTS. Graham notes: His important contributions to FASTS are unquestioned<sup>33</sup>.

I heard about his death at the 1999 Science Meets Parliament. My appointment immediately after was with Senator Kay Patterson and I arrived at her office to find she was about to have to go to the House. However, she stopped and wanted to know if I knew about David and she "knew about FASTS because David had spent so much time lobbying her". His legacy was still living on in the Parliament.

The feelings of many of us at the time of his death were beautifully summed up in an email to me from Garth: "I'm still thinking about David, and how it seemed impossible to help him in the end".

A final comment from Graham Willet speaking of David's contribution to the gay community surely also applies to FASTS<sup>34</sup>:

The movement that he did so much to build, and the communities that have emerged from that work, are among his lasting legacies.

Jan Thomas July 2016

<sup>33</sup> Personal communication

<sup>34</sup> https://groups.yahoo.com/neo/groups/ozhomohist/conversations/messages/44

# FEDERATION OF AUSTRALIAN SCIENTIFIC AND TECHNOLOGICAL SOCIETIES

# POLICY ISSUES IN MATHEMATICS EDUCATION, JULY 1 1989

Opening remarks by Dr David Widdup, Executive Director of the Federation of Australian Scientific and Technological Societies

The 8 May Science Statement is an indication by the Government that it is prepared to take science and technology seriously; as Barry Jones, the Minister for Science said recently, "we are moving at a decorous pace in the right direction". It is something we need to build upon.

FASTS has worked fairly consistently since its inception in late 1985 to improve the political profile of science and technology. To do this we have concentrated on a number of fronts - the government and its committees, the business community, the labour movement, the Opposition and the general community through the media. In all of these dealings we have voiced our concerns about mathematics.

Media interaction by FASTS has mostly been through press releases often taking advantage of speeches given by the President, Professor Frank Larkins or myself. At other times it is based on comment on Government announcements.

Publicity we have generated for mathematics has included a speech I gave opening the Mathematics Association of Victoria AGM in 1987. The speech was reprinted in full on page 2 of the "Canberra Times"; and reported fairly extensively elsewhere. And in January this year FASTS and AAMT released the national results of our Australia-wide survey of mathematics teachers. It made page 1 of the Melbourne "Herald", generated a cartoon in the Melbourne "Sun" and was covered fairly well across the country. By any standards it was a big story. Of less public exposure but nonetheless important is our direct communication with opinion leaders. Much of the work in interaction with the business community has fallen to Professor Larkins. seminar given for R&D managers of large companies Frank outlined for them the problems they will increasingly experience in recruiting skilled personnel in key areas including mathematics.

Specifically, we do not have sufficient teachers, those we have are often undertrained and have little access to retraining, too few students are coming through the system and there are an increasing number of competing demands for graduates. Government is in a position to improve the situation.

When I was overseas recently someone asked me what I did for a living and I said I represented the science and technology community. The follow-up question was whether I worked for the Government. I said that I worked against the Government. is not entirely true. FASTS does try to work constructively

with the Government. We provide what I believe are well-thought-out, balanced submissions and advice. We have also put forward a few excellent nominees to work on Government committees, and in this we have had outstanding success.

Professor Geoff Wilson is FASTS' nominee on the Australian Research Council. His report on the needs of postgraduate students, the "Wilson" Report is being implemented 98% by the Government. It would have been implemented 100% if John Dawkins could have screwed the extra money out of Cabinet. He certainly tried.

Frank Larkins our representative on the Research Training and Careers Committee I hope will be as successful for post-doctoral researchers. Frank and John Mack were among nominees put forward by FASTS to assist the Discipline Review on Teacher Education in Mathematics and Science. Doubtless they were recommended by other organisations as well. Their work is greatly appreciated by the Review and by FASTS.

As well as working directly with the Government we also lobby others working with the Government. Because of its influence with the Government the ACTU is very important to FASTS. The union movement has the ability to lock the Government into a strategy that extends beyond the next election. FASTS has been co-ordinating the development of an S&T policy by those unions representing people employed in science and technology. Through the CSIRO Officers Association - in fact, acting as their consultant I will be part of a small team negotiating with the ACTU leadership on the inclusion of significant parts of the S&T policy into the wider ACTU strategy for industry restructure which will be considered at the ACTU Congress in September.

People may find it strange that I advise on S&T policy for the ACTU and for the Liberal and National Parties. We are however asking for such basics in S&T that subtle political differences between the National Party and the ACTU have very little bearing. Roughly the same advice can be given to both.

The Opposition are very interested in mathematics although I am not sure many understand it. When FASTS' first President, Fred Smith and I first met with the Opposition Committee on Industry, Fred was asked what were our discipline backgrounds. Fred told them he was a Professor of Physics and was head of the department on Monash "And David" he said "Is a lawyer and a mathematician or perhaps a mathematician and a lawyer." You could see their focus shift from Fred to me, and nearly all the sensible remarks - and they were mostly Fred's, were attributed to me in follow-up questions. They had found a mathematician whom they felt would communicate with them. You really do have to assure them that you are not going to say something in algebra that will make them look silly. They do cope but are a bit frightened. Or perhaps they were older-style politicans.

The Shadow Minister for Science and Energy - who has also taken responsibility for science and mathematics education is Peter McGauran. He is basically not put off by anything. He is extremely capable and interested in his portfolio.

With the change of leadership there has been renewed effort by Peter to develop some forward-looking policies. Andrew Peacock went out of his way to write an encouraging letter to FASTS, an extract of which appeared in FASTS' last Newsletter. Senator Chaney, the Deputy Leader has since also written to us with an encouraging letter and it will be extracted in this month's Newsletter. They are lobbying us as quickly as we can lobby them.

The lines of communication <u>are</u> open but what is FASTS going to say about mathematics you may ask. That is really getting it completely the wrong way around. The mathematical sciences community should be telling not only FASTS what to say but doing its own lobbying as well. FASTS can speak for S&T as a whole; individual disciplines have responsibilities for themselves. And the time-frame is this: I am negotiating with the ACTU on Wednesday, and I said to Peter McGauran's office I will get back to them at the end of the week.

We are in fact saying to the ACTU that more resources are needed for mathematics throughout education, and mathematics must be recognised as a laboratory subject and financed accordingly. They will probably argue for much greater access, with mathematics pre-requisites covered in bridging courses or otherwise eliminated. They will certainly want to see the links between mathematics and economic recovery spelt out clearly.

I am not sure what to say to the opposition. My feeling is that they would love to go to the electorate with a programme for mathematics reform which stresses excellence for everyone, and links mathematics very strongly to economic recovery.

But whoever we deal with we have to show that what we want fits in very closely with what they want. My experience so far inclines me to the view that this requires very little capitulation but a great deal of communication. We have to start talking. And with those words I declare this seminar open.