President's column

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Mathematics has been raised as an election issue only once in my lifetime. That happened three weeks before the date of this Federal election, during Google's launch of its 'australiavotes' channel on YouTube, when the head of engineering at Google Australia opened the salvo by asking three Australian politicians (Senator Kate Lundy (ALP), Senator Scott Ludlam (Greens) and the Liberal MP for Bradfield, Mr Paul Fletcher) what their parties were going to do to stem the decline in the number of students studying serious mathematics in Australian schools[1]. The answer, tragically, was 'nothing'. In this column, I want to concentrate on the medium of this message rather than the message itself[2].

I want to suggest that our Society will need to embrace the internet as a medium and become agile with social media networks if we want to reach and keep younger mathematically educated members of the public and our profession in our Society. I was struck by the fact that the introduction of the participants on Google's panel focussed on one key achievement: each participant was described as having thousands of followers on Twitter. Their following on Twitter was obviously an important indicator of their standing amongst the youthful audience on which the channel was focussed.

This launch coincided with my suddenly accelerated understanding of the enormous change happening in our world. With apologies to those of you who are already experienced users of Twitter, Facebook, MySpace, and other equivalent networks, I suddenly saw the potentially immense impact of such media, not just personally but for mathematics. Right now, we (or at least, I) feel it is great to have mathematics appear as a focus of articles in a newspaper or interviews broadcast on TV or radio. In a few years' time, we will be judging the impact of a mathematical topic as great only if it becomes the epicentre of a viral video on YouTube or the focus of thousands of tweets on the internet.

This is not as far-fetched as it may sound. You may already know about Terry Tao's blog on mathematics[3]. In a post of 17 September 2009, Terry touches upon the idea of how the internet can be harnessed for collaboration by an online community of mathematicians (for a speech to the American Academy of Arts and Sciences). Such large collaborations are happening now, in a way that is similar to the development of open-source software. If you like this model, imagine what it

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[1]See www.youtube.com/watch?v=4K0veLorwCY.

[2]See www.theaustralian.com.au/national-affairs/commentary/wrong-numbers/story-e6frgd0x-1225902743924 for my op-ed article on the message.

[3]See terrytao.wordpress.com.

might bring to the generation of new ideas and proofs in mathematics. The open participation by a large and diverse group of interested mathematicians would at the very least mean that many people had read the proof, leading to fewer errors in the published version. It also means that there are no barriers (other than access to the internet) between sub-communities, which are often imposed by geographical or cultural constraints.

Such open communication is precisely what attracts people to participation in online communities. My hypothesis is that it may also be attractive to those people who find engagement with professional mathematicians difficult. Participation in an online community allows for widespread, immediate, often irreverent content, which allows self-correction by the community. It is this combination of characteristics that appears to lead to deeply felt validation, something that engages many younger participants.

What can our society do to harness this power of the internet? We could facilitate the production of short videos for posting on YouTube. The Australian Association of Mathematics Teachers has produced four videos for community announcements to encourage participation called 'You can do maths' in 2009 and they are posted on YouTube[4]. We could provide a forum for online discussion, create a Facebook profile, produce blogs and broadcast on Twitter. I hope you will agree with me that these are all worthwhile endeavours that our society should initiate and maintain if we wish to be remain relevant for the generations to come.

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[4]See www.aamt.edu.au/Activities-and-projects/Previous-projects/Community-Service-Announcements.