

“Who says you can’t do maths in stockings?”: An exploration of representations of women doing mathematics in popular culture

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Popular culture plays an increasing role in our lives and mathematics and mathematicians have a growing presence within it: from multiple variants on sudoku puzzles to computer games like *Runescape*, from Russell Crow playing John Nash in *A Beautiful Mind* to US mathematics-solves-crimes drama series *Numb3rs*. While most popular representations of people doing mathematics are male, there are a growing number of mathematical women. In this paper, we look in detail at these representations, comparing and contrasting mathematical men with mathematical women. To do this we draw on research funded by the Economic and Social Research Council (Mendick *et al.*, 2008a) and the UK Resource Centre for Women in Science, Engineering and Technology (Mendick *et al.*, 2008b). The popular texts we interrogate are all in English and largely emanate from the United States. In presenting this work at ICME we hope to open up a discussion about the ways that these and other representations work in different national contexts.

Methodology

This paper draws on larger research which combines the analysis of the data from cultural texts that we discuss below with a survey, focus groups and individual interviews (see www.londonmet.ac.uk/mathsimages for more information on these). In the survey, of 15-16-year old school students and second year mathematics and media studies undergraduates, we included an open question asking for two examples of popular culture mathematics or mathematicians. We used the responses to build up an archive of ‘texts’, including films, television programmes, advertisements, newspaper and magazine articles, websites, books, games, radio programmes, computer games, puzzles and music.

We analysed the texts as part of collections of meanings or discourses that circulate within society (Fiske, 1987, Walkerdine, 2007). For the 22 texts that came up more than twice, we constructed a detailed written description.

These descriptions included information about musical, visual and verbal material as relevant. For books they ran chapter by chapter, for films and one-off television shows they ran scene by scene. For television series we carried out a detailed analysis of one or two typical episodes supported by a less in-depth analysis of a range of others. Sections of texts relating directly to mathematics were described in the most detail.

These descriptions were entered into a dedicated qualitative data analysis package, NVivo, and coded for sets of discourses. For example we looked at discourses of mathematics that constructed it as useful for particular purposes, as a sign of intelligence, as the language of nature, and so on. We also looked at discourses of people doing mathematics and of differences of gender, class, 'race' and sexuality. The codes were used flexibly and we added to them as the work progressed. In addition to the texts themselves, we collected 'satellite' resources, or associated texts, including reviews, online feedback and fansite information. A selection of these were also entered into NVivo and coded in the same way as the main text descriptions. For a sample of 20 of the 60 texts that came up once or twice, we compiled summaries of the main discourses circulating in and through them in relation to mathematics, people doing mathematics and difference. We then looked across the texts. We also did this for six additional texts that featured women doing mathematics (some of which had come up on the survey and some of which had not).

It quickly became clear that the majority of popular culture representations of mathematicians are male. However, we also found an emerging group of representations of women doing mathematics. Below we look first at the dominant male representations and then compare and contrast the emerging female representations.

Dominant male representations of mathematicians

Representations of mathematicians combine the attributes of privileged groups - generally, they are male, White, middle-class, heterosexual and heroic - with attributes that position them as 'other' - such as mental health problems, ranging from obsessional behaviour to schizophrenic disorders, lack of social skills and austerity of lifestyle and personality.

A detailed look at three popular culture texts will be used to illustrate this:

- *A Beautiful Mind* (Goldsman, 2001), a film based on Sylvia Nasar's (2001, first published 1998) biography of the same name, features the life of John Nash (played by Russell Crowe), from his time as a Princeton University student through to old age, when, after being

diagnosed with schizophrenia, he wins the Nobel Prize for economics for his work on game theory.

- *Good Will Hunting* (Affleck & Damon, 1997) focuses on Will Hunting (Matt Damon), a young self-taught working-class Irish-American who works as a janitor at Massachusetts Institute of Technology (MIT), and whose huge mathematical abilities are discovered by MIT mathematics professor and Fields medal winner (a sort of Nobel Prize for mathematics), Gerald Lambeau (Stellan Skarsgård).
- *Numb3rs* (Gansa, 1997) (series 1 and 2), an ongoing TV drama, is centred on two brothers collaborating to solve criminal cases: Charlie Eppes (David Krumholtz), a young and brilliant professor of mathematics and Don Eppes (Rob Morrow), his older brother and a special agent at the Los Angeles office of the FBI.

These texts are used as they are mainstream products which each feature mathematicians as central to the plot and are typical of the texts that we analysed. They were cited by survey respondents when asked to recall particular examples of mathematics or mathematicians in popular culture. *A Beautiful Mind* and *Good Will Hunting*, in particular, were the most mentioned pieces of popular fiction. Although *Numb3rs* got fewer mentions, it attracts a growing audience in a number of countries and has inspired both the development of a mathematics education programme in the US based on the series (www.weallusematheveryday.com) and a huge number of verbal and visual fanfictions on youtube and other websites. Our analysis of the films *Enigma* (Apted, 2001), *Rain Man* (Levinson, 1988) and *Pi* (Aronofsky, 1998), the TV programmes *Horizon* on Andrew Wiles (Singh & Lynch, 1998) and *Beauty and the Geek* (http://en.wikipedia.org/wiki/Beauty_and_the_Geek_%28UK_TV_series%29) and the book *The Curious Incident of the Dog in the Night-time* (Haddon, 2003) support the patterns discussed here and we make occasional mention of these.

As in most pieces of popular culture featuring mathematicians, these three texts contain images of mathematicians which are overwhelmingly male, thus reproducing the traditional association between mathematics and masculinity (Mendick, 2006). These images also associate mathematics with Whiteness, middle-classness and heterosexuality. The only notable exception is Will Hunting, an Irish-American from a working-class background. Yet, *Good Will Hunting* is very much the story of his 'middle-classification', as, in becoming a mathematician, he is required to embrace the values of the middle-class and to leave behind his working-class neighbourhood, friends and job. John Nash's bisexuality, first family and divorce (Nasar, 2001) are disappeared from the film of *A Beautiful Mind* in order to construct a conventional

heterosexual love story. Alan Turing, the gay real-life codebreaker of Bletchley Park, is replaced in *Enigma* with the fictional figure of Tom Jericho in order to enable, once again, the telling of a conventional heterosexual love story. However, while the mathematicians are all White they are often also minority ethnic: Charlie Eppes is Jewish (as is mathematician Max in *Pi*) and Will Hunting is Irish.

A recurrent feature in these fictional accounts of men mathematicians is that they are not just any mathematician: they are figures of 'genius'. *Numb3rs*, puts much emphasis on Charlie's precocious ability to solve complicated mathematics problems, on the fact that he was five years ahead of his age at school, entered Princeton at 13, and got his first journal article published at 14. *A Beautiful Mind* narrates the life of an extraordinary mathematician who goes on to win a Nobel Prize. Despite his lack of formal education, *Good Will Hunting's* main character promptly solves a problem which Professor Lambeau hoped to see only his best MIT students solve after weeks of work. When Lambeau asks his students to tackle an even harder problem which took him and his team two years to resolve, Will settles it swiftly too. This role as genius often casts them as heroes, changing or even saving the world with their abilities. However, this extraordinary 'gift' for mathematics comes at a price. In particular, they are positioned as Other and their mathematical abilities are closely associated with mental health issues, social awkwardness, autism and obsession.

John Nash in *A Beautiful Mind* presents symptoms of schizophrenia, paranoia, and some form of social anxiety disorder, as do the mathematicians in *Pi* and *Enigma*. There are also some suggestions of mental health issues in relation to Charlie Eppes and Will Hunting. Charlie reacts to events in a very emotional way suggesting his lack of control. For example, he spends the last three months of his mother's life, while she is dying of cancer, working on a mathematical problem he knows to be unsolvable. With working-class Will Hunting, there is a scene when he loses control reacting with severe violence when he meets a man who abused him as a child. The element of physical violence in the way Will expresses his emotions contrasts with Charlie's more middle-class ways. This incident happens prior to Will entering the mathematical community, embarking on a course of therapy, and falling in love with a wealthy Harvard student, thus suggesting that the story of Will is also one of redemption through becoming middle-class. These mathematical men are constructed as fragile and so as in need of being protected, rather than as being protective, in sharp contrast with dominant masculinities (Williams *et al.*, 2007).

Mathematical men also lack social skills. In some cases there are direct links made with aspergers and autism, notably in *The Curious Incident of the Dog*

in the Night-time and *Rainman*. However, more usually mathematical men are simply presented as 'geeky' or 'nerdy'; geeks (as epitomised in shows like *Beauty and the Geek*) are socially incompetent and usually expert in some field of science, technology or mathematics. In *A Beautiful Mind*, John Nash is described as a loner with few friends. Will Hunting may have a small fixed group of friends, yet he finds it difficult to manage the closeness that his relationship with girlfriend Skylar (Minnie Driver) involves. He initially denies his love for her and runs away when she asks him to follow her to Stanford where she has been accepted at Medical School. In *Numb3rs*, Charlie's best (and initially his only) friend is a theoretical physicist at Princeton, Professor Larry Fleinhardt (Peter MacNicoll), who has in common with Charlie an obsession for his work (in theoretical physics) and a certain level of awkwardness in social situations.

This supposed lack of social skills is indeed often explicitly related to their obsession for mathematics, as is the case both in *A Beautiful Mind* and *Numb3rs*, where the main characters see the world through mathematics. This obsession with mathematics interferes with relationships, resulting in mathematicians' private lives often being constructed as non-existent or in conflict with and secondary to their mathematical identities. A particularly dramatic example of this can be found in *Pi*, when mathematician Max is seen drilling into his own head, metaphorically excising the mathematical ability from his brain, before he can go on to a happier and more relational future. The ending of *Good Will Hunting* provides another example, when Will leaves behind high-level mathematics to 'go see about a girl'. An underlying message is that a life dedicated to high-level mathematics is antithetical to a fulfilled private life and domestic happiness.

In these texts, mathematicians' lives are read as if everything in their life, personality, practices and beliefs is subjugated to their mathematical self and leads to them becoming great mathematicians. This not only suggests that mathematics takes over their life, but also their identity. Such accounts are also characteristic of biographies which, because of drawing on 'facts', are powerful in establishing ideas of truth and authenticity. Sylvia Nasar's (2001) biography of John Nash, or Andrew Hodges' (1983) of Alan Turing are typical in this respect as they read small details in the lives of these men as evidence of their mathematical genius.

Having established the association of mathematics with masculinity and the key features of popular cultural representations of mathematical men, we go on, in the next section, to look at how the increasing number of images of mathematical women compare to these more traditional images.

Emerging representations of women doing mathematics

In looking at the growing number of popular representations of female mathematicians and other women doing mathematics, we analysed the following texts:

- *Proof* (Madden, 2006): a film telling of mathematician Catherine's (Gwyneth Paltrow) attempts to deal with the death of her father, Robert (Anthony Hopkins). Robert, who was also a mathematician, died after years of mental health problems throughout which Catherine was his carer. She attempts to deal with her own possible mental health problems and to get her work recognised as her own rather than her father's by young mathematician and love interest Hal (Jake Gyllenhall).
- *Numb3rs*: a TV series (see above) featuring mainly male mathematicians but also one less central female mathematician Amita Ramanujan (Navi Rawat) who begins as Charlie's doctoral student and then becomes his love interest.
- *The Da Vinci Code*: a global phenomenon as first a book (Brown, 2003) and then a film (Howard, 2006), in which academic, Robert Langdon (Tom Hanks), and cryptographer and descendant of Jesus and Mary Magdalene, Sophie Neveu (Audrey Tatou), battle and puzzle their way to the Holy Grail.
- *Digital Fortress* (Brown, 1998): a thriller novel in which an attractive and intelligent female cryptographer Susan Fletcher works to stop all the national security data kept by the US becoming accessible to the world via the web.
- *Countdown* (<http://en.wikipedia.org/wiki/Countdown>): a long running daily UK television game show consisting of numbers and letters games. Engineering graduate Carol Vorderman features both in the hostess role and as the resident numbers expert or 'vital statistician' who is turned to for a solution to the numbers games when the contestants fail.
- *Mean Girls* (Waters, 2004): a film telling of Cady Heron's (Lindsay Lohan) entry into high school at age 16 after previously being home-schooled in Africa. Encouraged by her friends she enters the most powerful clique in 'girl world' and becomes absorbed into boys, fashion, popular culture and bitchiness. She pretends ignorance in her advanced calculus class in order to attract a boy in the group. Eventually she comes clean and, on instruction from her mathematics teacher, Ms Norbury (Tina Fey), she joins the mathletes team.

- *High School Musical* (Ortega, 2006): a musical in which Gabriella Montez (Vanessa Hudgens), star scholastics team member, and Troy Bolton (Zac Efron), basketball team captain, break free of their stereotypical roles by auditioning for their school musical. This move at first challenges and then gains support from their friends.
- *Matilda* (DeVito, 1996): a film (based on the Roald Dahl children's book of the same name) about Matilda (Mara Wilson) who is a child with remarkable mathematical and verbal abilities and magical powers. Matilda manages to use her powers to escape her unappreciative family, and to help her benevolent teacher and school mates.
- *Cube* (Natali, 1997): a cult science-fiction horror film in which seven characters are imprisoned inside a cube-like device consisting of inter-connecting rooms. Their escape involves a young school girl, Leaven (Nicole de Boer), and an autistic man, Kazan (Andrew Miller), having to do 'astronomical' mathematics quickly in their heads in order to escape torture or death.

The women in these texts occupy a range of positions. However before looking in detail at these, it is important to note that in several of the examples, while women are present, their contributions are downgraded, they are positioned as subordinate to men and they or their contributions are rendered invisible in key ways. This is not a new phenomenon. An overview of biographical volumes on mathematicians (for example, Ashurst, 1982, Bell, 1986, Morgan, 1972, Turnbull, 1962) reveals their focus on 'men of mathematics', as E. T. Bell puts it in his book of the same name. The contributions of the likes of Emmy Noether, Sophie Germain, Ada Lovelace, Hypatia and the many contemporary female mathematicians are disappeared or downgraded (with the exception of those feminist-inspired books dealing 'specifically' with women mathematicians, such as: Henrion, 1997, Osen, 1994, Perl, 1978). The subordination of women mathematicians is multifaceted and materialises in the side-lining of women in the plot and in materials 'satellite' to those fictions and in the positioning of women as dependent on men as students, partners, daughters and assistants.

In *Numb3rs*, Amita is Charlie's doctoral student (although she switches supervisor and specialty at the end of season one in order to pursue the possibility of a romantic relationship with him). Further, as Alice Silverberg (2006) observes, only three characters in *Numb3rs* do not have a character profile on the official website, including the two main women in the series (Amita Ramanujan and Megan Reeves). Similarly, the website never gets Amita's surname right, calling her variously Ramanjuan or Ramajuan. In *A Beautiful Mind*, Alicia Larde, although a Physics graduate, is a student of John Nash, and later his wife. In addition to this multiple subordinate positioning

(daughter-student-wife or girlfriend), these women are frequently positioned as 'assistants' to more senior mathematicians. As student-wife (Alicia Larde/Nash) or student-girlfriend (Amita Ramanujan), they provide all forms of support. This is apparent in *A Beautiful Mind*, where Alicia Nash goes to great lengths to support her husband through schizophrenia, and in *Numb3rs* where Amita is seen providing emotional, intellectual and domestic support to Charlie, for example, helping him to solve FBI cases rather than solving them in her own right. This downgrading of women's abilities can also happen in the transition between one medium and another, as in the disappearing of Sophie Neveu's abilities in the move from page to screen; the puzzles and anagrams solved by Sophie Neveu in *The Da Vinci Code* book are either left out or ascribed to the workings of Robert Langdon's mind in the film.

These practices of disappearing the mathematical contributions of female characters and of subordinating them to male characters support the associations of mathematics with masculinity discussed above. However, in some of these texts women are the stars and it is these that are the focus of the rest of this section.

Like the texts in which men are at the centre, these representations generally support the associations of mathematics with Whiteness, middle-classness and heterosexuality. However, there is a little more 'difference' with the women than the men: Amita Ramanujan and *High School Musical's* Gabriella Montez are from minority ethnic backgrounds, being Indian and Hispanic respectively, and Sophie Neveu, as French, occupies the 'White Other' category like several of the men discussed earlier.

However, unlike the figures of male mathematicians, these women are not generally figures of genius who have mental health problems, are socially incompetent and whose obsession for mathematics has colonised their entire personality. Only Catherine in *Proof* fits this figure. Although she may be described as pretty by common standards, she is ungroomed, appearing mostly with messy hair and wearing jeans and a T-shirt. She is defensive and neurotic in relationships with others and breaks social codes. For example, at her father's funeral she interrupts the orchestra to accuse people of having let her father down in the last years of his life and to detail the hallucinations and schizophrenic episodes that happened during that time. Mathematical skills are a characteristic that permeates all aspects of her identity; with Hal, her love interest and her father's ex-student, she discusses how to "prove" that her dress fits, while Robert is seen in her imagination telling her "you knew what a prime number was before you could read". Crucially she dropped out of her mathematics degree to care for her father. However the film does not simply reproduce the opposition between domesticity and mathematics, for Catherine found a way to continue doing mathematics alongside her caring

role, although she struggles to get her work taken seriously as her own after her father's death.

Of the other seven women, four are young. These characters need to be understood as part of a broader trend of proliferating 'smart girls' in contemporary popular culture (Inness, 2004, Paule, 2007), that also includes, for example, the general science-computing-mathematics-whiz Willow Rosenberg from *Buffy the Vampire Slayer* (Battis, 2003), the graduate physicist Fred Burkle from *Angel* (Greenwald & Thornley, 2007) and Lisa Simpson from *The Simpsons*, who dresses up as a boy in one episode in order to gain access to 'hard' mathematics (Herzig & Bowitch, 2006; <http://www.mathsci.appstate.edu/~sjg/simpsonsmath/>). Their youth and student positioning can be read as a further example of women's subordination. They are not (yet) mathematicians and questions can be raised about whether they will be able to grow into them. Perhaps like tomboyism, mathematical ability in girls "is tolerated as long as the child remains prepubescent; as soon as puberty begins, however, the full force of gender conformity descends on the girl" (Halberstam, 1998, p.6). *Mean Girls* and *High School Musical* dramatise the struggle between femininity and mathematical ability. These texts are discussed further below.

Even within the adult representations there is a pattern of 'generational' subordination, as these women are frequently the descendants of celebrated male mathematicians. A striking example is Catherine in *Proof* who is the daughter of a 'mathematical genius'. This idea of mathematics as a heritage from the father is central to the film, as Catherine's struggle with her father's inheritance - his mathematical skills and his, possibly related, insanity - is integral to the storyline. Similarly, Sophie Neveu, in *The Da Vinci Code*, 'inherits' her mathematical interests from her grandfather, Jacques Saunière, who brought her up. As the book says:

Sophie's passion and aptitude for cryptography were a product of her growing up with Jacques Saunière - a fanatic himself for codes, word games and puzzles. *How many Sundays did we spend doing the cryptograms and cross words in the newspaper?*

At the age of twelve, Sophie could finish the *Le Monde* crossword without any help, and her grandfather graduated her to crosswords in English, mathematical puzzles and substitution ciphers. Sophie devoured them all. Eventually she turned her passion into a profession by becoming a codebreaker for the Judicial Police. (Brown, 2003, p.113)

This patrilinear transmission of the mathematical 'gift' to granddaughters has no equivalent when it comes to male mathematicians, suggesting they do not need to owe their mathematical skills to a forefather. Indeed, in the three texts subjected to in-depth analysis in the last section, none of the male mathematicians seem to have 'inherited' it. The same cannot be said of the one woman mathematician given some importance in these three texts, Amita Ramanujan, whose name suggests some kind of descent from Srinivasa Ramanujan, the self-taught Indian mathematician. Although Will Hunting is supervised by Professor Lambeau, there is no symmetry whatsoever as Will vehemently challenges Lambeau's authority and finally breaks from him, and as the film clearly sends the message that, despite his lack of formal education, Will's mathematical abilities are superior to Lambeau's. In striking contrast to the relationship between Charlie and Amita, Will is never positioned as an 'assistant' to Lambeau.

Unlike the male mathematicians, and with the notable exception of Catherine in *Proof*, women doing mathematics are socially skilled and comfortable. It is difficult to imagine a series of *Beauty and the Geek*, in which beautiful men teach geeky women how to be comfortable in social situations and how to interact with the 'opposite' sex. However, these women's mathematical abilities are presented as in tension with their social position: Matilda's mother tells her that "a girl does not get anywhere by acting intelligent", while joining mathletes is described repeatedly as "social suicide" in the High School based 'girl world' of *Mean Girls*. This film dramatises the tensions between mathematics and feminine hetero/sexuality as the central character Cady hides her mathematical capabilities to appeal to the best looking boy in her calculus class. It is her feigned ignorance that precedes their first kiss. This stands in stark contrast to the scenes in *Good Will Hunting*, *A Beautiful Mind*, *Numb3rs* and *Enigma* where the leading man's intellect and his fascination with mathematics are presented as attractive to, at least some, women.

There is much research documenting the tensions for girls between intelligence and femininity (Hey, 1997, Renold, 2001, Walkerdine, 1990). We can see these tensions in the way that Leaven in *Cube* initially hides her facility for mathematics from the others in order to construct herself as a normal schoolgirl. It is an open question whether these new representations will change this. It is encouraging that the tensions are being dramatised and that happy, albeit exclusively heterosexual, resolutions are imagined in both *Mean Girls* and *High School Musical*. One important reservation is the way that these women are all classically attractive and conventionally feminine. This applies equally to the adult women mathematicians. Carol Vorderman through the hostess role on *Countdown*, her diet, exercise products and a range of sexually provocative publicity material reminds us that she is a body

as well as a mind. Cryptographers Susan Fletcher and Sophie Neveu are seen more than once in Dan Brown's novels as the object of the male gaze—the latter being described when we first meet her through the eyes of a male detective as “an attractive young woman [who] always drew eyes [of male colleagues] away from the work” (p.78). So while it is helpful to show that hyper-femininity is compatible with mathematics, it would be useful to also have some representations that suggest that it is neither essential nor compulsory (Kitzinger *et al.*, 2007).

We have focused so far on the points of difference between the popular culture representations of men and of women doing mathematics. There is one important point of similarity: the ways that their mathematical abilities are presented as in-built or 'natural' as opposed to something that is acquired. In the case of male mathematicians this happens through the associations between mathematical skills and mental health problems and the ways that their whole personality becomes subjugated to mathematics. For women, this more often happens through suggested links between mathematical and other abilities. Matilda and Willow have magical powers while Sophie Neveu as a descendant of Jesus is very much special (Picker & Berry, 2000, found a link between figures of mathematicians and magicians for school students). Magic and madness are both ways of writing mathematics into and onto the body as a 'special' and 'natural' ability. In this way they persist in constructing the mathematician as something you are or are not 'naturally' and mathematical ability is not seen as something that is accessible to all. So while literacy is seen as an essential part of being fully human, “in contrast to this framing, arithmetic is not naturalized as genetically human, but as *genetically determined within humans*” (Damarin, 2000, p.76, original emphasis), hence the common stories of the mathematics gene. This, like all the discourses discussed in this section, is part of wider social stories about mathematics and mathematicians. It is gendered through the opposition between effort and ability and has problematic consequences for women's relationships with the subject (Mendick, 2005, Walkerdine, 1998).

Conclusions

Popular culture texts strongly support the association of mathematics with masculinity, and also with Whiteness, middle-classness and heterosexuality. This gendering happens through: the dominant representations of mathematicians being men, the disappearing of women's mathematical contributions and the ways that women doing mathematics are subordinated in a range of ways including their youth and their positioning as appendages to 'greater' male mathematicians. Representations of male mathematicians combine features that ally them with heroic and powerful men and also

features that present them as other, including: mental health problems, obsessiveness, fragility, and social incompetence. Their 'genius' is seen to mark them out from others and all other aspects of the self are subjugated to this. There is an emerging group of cultural texts featuring women mathematicians, several of which are part of a growing trend of young, attractive, 'smart girls'. While encouraging, there are questions to be raised about the low proportion of adult women mathematicians, the dramatised tensions between feminine heterosexuality and mathematics and the hyper-attractiveness of these characters. Both the representations of women and of men mathematicians, in different ways, present their mathematical abilities as 'natural' and as something people are born with rather than something that is acquired. This is an idea which constructs mathematics as something accessible to a select few and so is problematic for all learners. However, given the associations between mathematical ability and masculinity it is particular problematic for girls and women.

This research has addressed only a small number of the constantly growing and shifting collection of cultural representations of people doing mathematics and we feel there is a need for further and ongoing analyses of these. Throughout this research, we have been concerned to develop an approach that allows us to look at the intricate ways that people interact with cultural texts. In this paper, we have looked at textual representations independent of our data on how people 'read' or make meanings from them. However, we want to end by emphasising that the ways that people read images of mathematicians depends on the resources they bring to them. For example, participants who identified with feminism more often read mathematical ability into feminine bodies and the quotation in the title of this paper comes from one such woman and serves as a reminder that people negotiate their identities in relation to texts in ways that are not predictable. Because of this we want to end by suggesting that we need to create space within the mathematics curriculum for looking critically at representations of mathematicians in popular culture.

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