

MAGAZINE | MOVIES

Films like 'Shakuntala Devi' delve into the pers of women scientists. But where's the science?

Nandita Jayaraj

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When the BBC interviewed ISRO scientist B.P. Dakshayani in 2018, they titled the feature 'How to cook curry and get a spacecraft into Mars orbit'. The article told us all about her early life and her domestic routines – a sweet piece that gained instant popularity. The 2019 Hindi film *Mission Mangal* also spent a lot of reel time giving us generous peeks into the rocket scientist protagonists' personal lives: we learnt that Eka was just another young millennial with a thriving dating life and a disdain for the *desi*, and that Tara was unshy about her passion for her job and was refreshingly unguilty about leaving domestic and parenting responsibilities to her husband.

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portrayed as ambitious, mighty, fiery, fashionable and above all, a highly flawed parent.

Mainstream Bollywood rarely allows its women these traits, without demonising them, so many of us loved it and these filmmakers gained accolades for being progressive. Indeed, popular media in India is finally waking up to our fantastic women in STEM (an acronym for 'Science, Technology, Engineering and Mathematics'). So then, why are some of us still walking out of the theatre (or now, closing our laptops) with resigned sighs?

More than their star casts and colourful promotions, what had drawn me to *Mission Mangal* and *Shakuntala Devi* was the promise of STEM. As a scientist, I was excited to see a familiar world. However, in both these movies, the role of science or maths in the lives of the protagonists was so superficial that I realised we could very well replace the animations of the rocket trajectories and cube root calculations with recipes or interest rate calculations, and voilà – we'd have a movie about a chef or a banker. I felt cheated.

As a storyteller who makes a living researching the lives and contributions of women in science, I am only too familiar with the challenges of building a gripping narrative from the lives of scientists. But every so often there is a fantastic piece of work that reminds us that it's not impossible for big science to capture the lay audience's imagination. Take *Interstellar* (2014), for example. Although it's a science-fiction film, the plot relies very heavily on real scientific theories, making it more watertight than it would have been otherwise. They even had Nobel Prize-winning physicist Kip Thorne on board as a producer and scientific consultant.

Intricate tribute

Similarly, the 2020 documentary *Secrets of the Surface: The Mathematical Vision of Maryam Mirzakhani* is a worthy tribute to the late Iranian mathematician because the filmmakers wove in the story of her life with the beautiful complexities of the conjectures she was trying to prove. With the help of maths journalist Erica Klarreich, the documentary team

Still from 'Secrets of the Surface.'

In *Shakuntala Devi*, Vidya Balan's performance fully convinces us that nothing brought a sparkle to this woman's eyes like big numbers did. But what was it about numbers? In an interview with a Russian TV network in 2009, journalist Sophie Shevardnadze tried to explore this with the real Shakuntala Devi. Devi replied, "Numbers don't lie, that is their greatest strength. Numbers are very real, numbers are very true. The only truth in the whole world. Numbers are the greatest philosophy." This love for an ultimate truth is reflected in the movie, with Devi's unapologetic, sometimes brutal, honesty about her desires and ambitions. However, in the movie, her love for truth seemed to end there. As a viewer, I had immense trouble reconciling this with the apparent ease with which movie Devi deceives,

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been a fascinating one for the film to explore, but in its rush to pace through the real Devi's eventful life, I was just left unconvinced.

Of course, not all movies about women in STEM need to be science-heavy. Fortunately – for storytelling at least – scientific environments through history have been sites of as much drama and politics as any other.

Take the 2016 Hollywood film *Hidden Figures*, for example. The film revolves around the experiences and accomplishments of a group of African-American scientists at NASA in the 1960s. One of the most powerful scenes has nothing to do with space or rockets. It's when one of the scientists, Katherine Johnson, confronts her boss about being forced to walk half a mile to a washroom allocated for people of colour every time she wants to pee.

Scholarly sisterhood

There is an equally affecting anecdote related in *Secrets of the Surface*. When she won the Fields Medal in 2014, Mirzakhani was wary of the media frenzy that would come. It was the first time the medal – known as the mathematician's Nobel Prize – was being awarded to a non-male since 1936. Fame was hardly new to the 37-year-old, but she preferred not to dwell on it, especially that year with her chemotherapy sessions ongoing. She had been diagnosed with breast cancer just months before. To ease the burden on Mirzakhani, Ingrid Daubechies, then the president of the International Mathematics Union (which awards the prize), and her fellow senior mathematicians devised a strategy they called 'the MM shield'. They ensured that at least two women would be by Mirzakhani's side at any point when she was out in public. "One of them would intercept a journalist and say, 'Oh you are very interested in mathematics – let me tell you about my career,' and so on, while the other would escort Maryam discreetly away," reminisces Daubechies in the documentary. This display of sisterhood is sure to linger with viewers.

Providing glimpses into scientists' personal lives is, without doubt, an effective way to get the audience interested, but this is a tool that storytellers must use sparingly. Women in STEM usually prefer to be known as scientists, not as women, wives or mothers.

Disproportionately highlighting their personal lives and reducing the role of their science to jazzy headlines or screen animations feels like a cop-out. Somewhere along the way, we seem to have accepted the idea that there's only one way to make a scientist's life seem exciting – to take out the science from her life.

The writer is part of the feminist science media collective TheLifeofScience.com

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