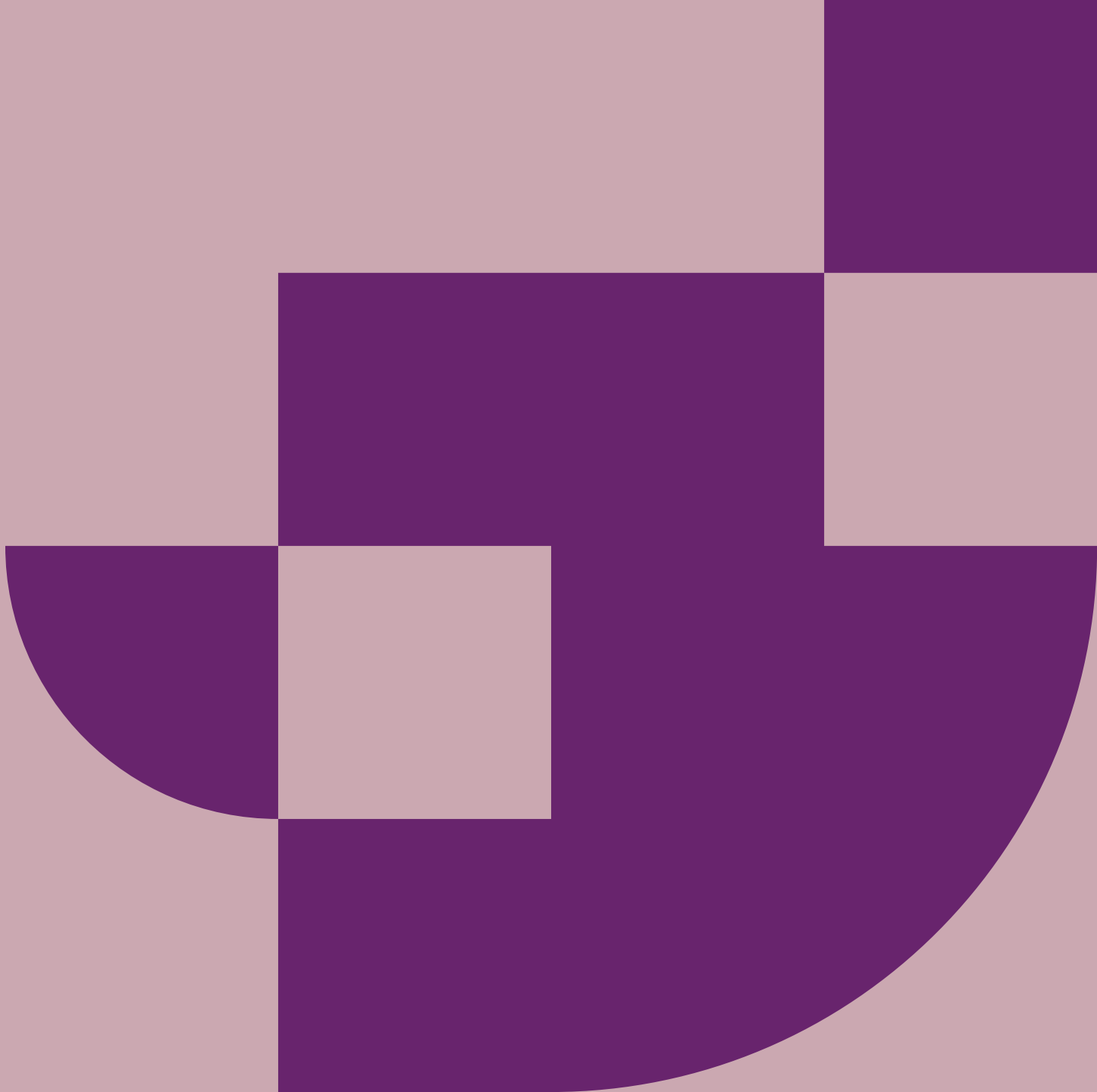




Decolonising the Maths Curriculum

Ric Crossman &
Emmanuel Ogundimu



Focus of Session

- Decolonising maths – a seven-year-old discussion
- The why and what are well-established
- So **how** do we do it?



1. The Who





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‘Decolonise’ maths by subtracting white male viewpoint, urges Durham University

A new guide says professors must question themselves if they are citing work from ‘mostly white or male’ mathematicians

2. The Why

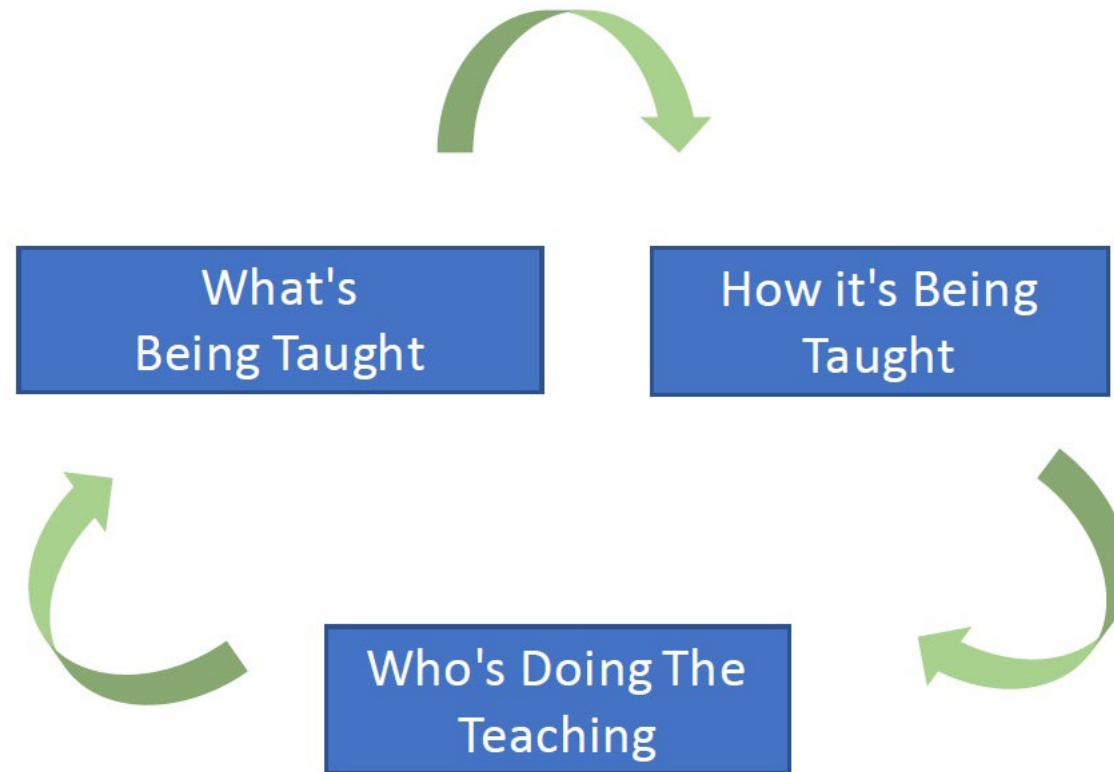


The Broad Context

- BAME students less likely to get a 1st/2:1 in mathematics – difference of 3.9 percentile points in 2019/20.
- BAME UG incompleteness rates higher in STEM – 7.0% vs 5.7% in 1st year, 1.8% vs 1.3% in subsequent years in 2017/18.
- Only 1.7% of UK STEM academics in 2019 were black (compared to 3% of UK population).
- 25.0% of academics on fixed-term contracts were BAME in 2019, vs 15.2% of academics on permanent contracts.
- Only 11.2% of professors and 9.3% of HoDs (or equivalent) were BAME in 2019.

The Broad Response

Decolonisation is one strand of the solution:



3. The What



What Is “Decolonising”?

- The process of uncovering and unravelling **coloniality**.

[T]he ongoing relations of colonial injustice that continue to structure, permeate and pervade our lives today. [These are o]ngoing processes of exploitation, expropriation and extraction – [Professor Richard Hall](#), De Montford University

- Decolonisation then can be thought of as:

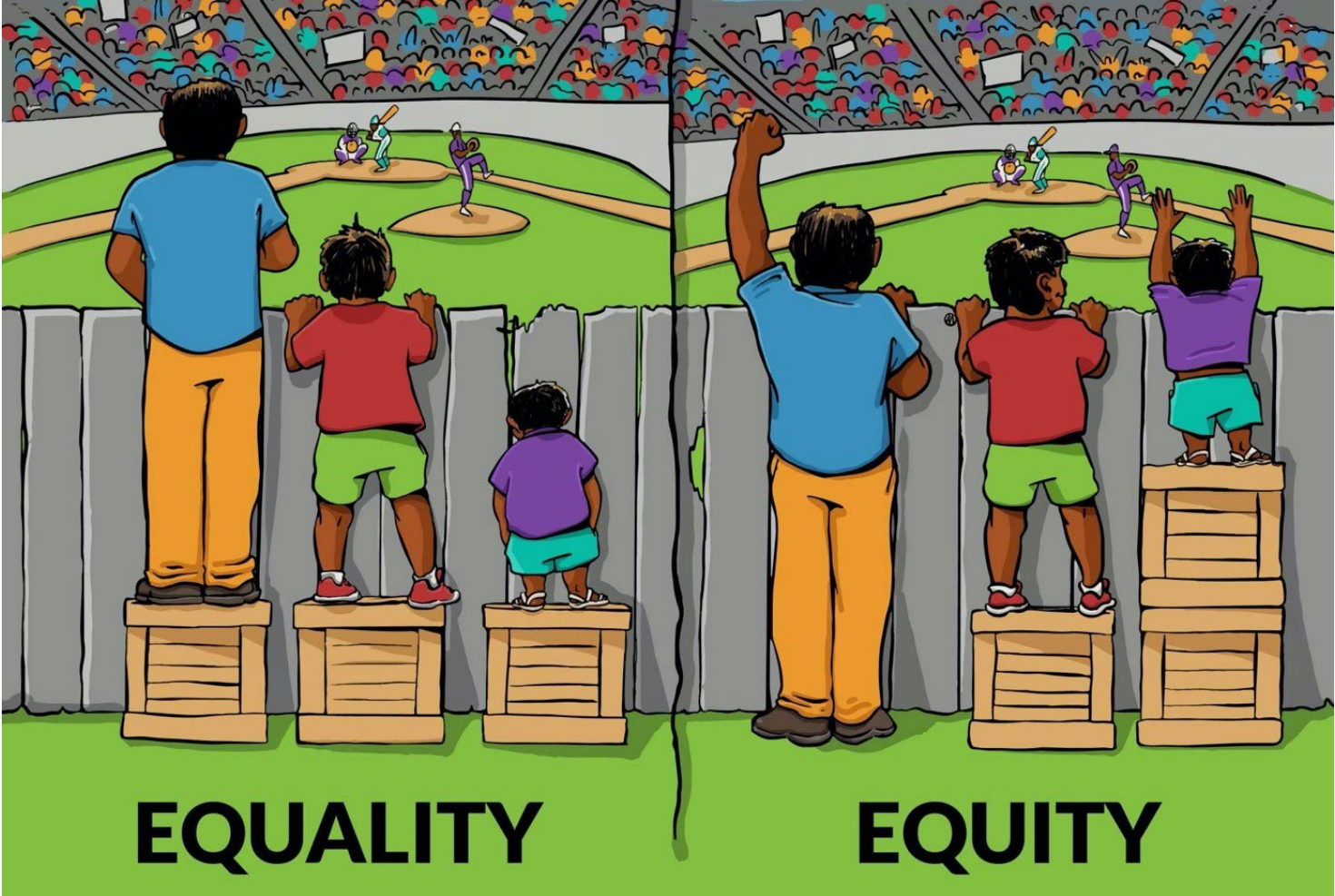
[A]n ongoing process of decoloniality, which deliberately diminishes predominant voices, disinvests from power structures, devalues hierarchies, decentres knowledge production, and diversifies ways of knowing. Its movement is to generate empathy and mutuality towards entangled subjectivities, such that individuals become many-sided, social beings, capable of lifelong transformation - [Hall](#)

Decolonising & EDI

EDI	Decolonising
Short term/tactical?	Long term/strategic
Helping out-groups work within an unjust system	Dismantling an unjust system
Challenging prejudice/changing behaviour	Unlearning prejudice/changing culture
Focus on the individual	Focus on the structural

“[a] lot of times you talk about inclusion as bringing someone to the table. And the thing is who decides what the table looks like” – [Dr Maha Bali](#), Open University

Fences and Boxes



4. The How



Can we Decolonise Maths?

- Isn't $1 + 1$ always 2?

it's not obvious how mathematics can be decolonised at the level of content. This means that those within the discipline must consider other aspects: curriculum processes, such as critical thinking and problem solving; pedagogy – how the subject is taught and, as a number of people have argued, addressing the issue of identity – [Professor Karin Brodie](#), University of the Witwatersrand

- What **is** a mathematician?

[M]athematics is the only subject where students and mathematicians give very different answers to this question... Students tend to believe that mathematics is a set of procedures to be followed. They think only particularly gifted people can do and understand these procedures - *ibid*

- Who do we want our graduates to **be**? What do we want them to value?

Four Questions

How decolonised is your curriculum?

1. What (and who) does your reading list cover?
2. Who does your module design/delivery include, and who does it exclude?
3. Who and what is the “perfect” student, according to your approach to assessment?
4. Which students will need the most support in the context of your curriculum, and how are you ensuring that support is given?

(For more context/resources, see the University of Liverpool Self-Reflective Evaluation Tool [here](#).)

Expectations and Opportunities

- Do students know from the beginning what they'll learn **and why**?
- Do students understand how they'll be assessed **and why**?
- Do students understand what will be required from them **and why**?
- Do students understand what they will gain, and why what's gained will be valuable to them?
 - Do they know what professional/"life" skills they will gain?
 - Do they get the opportunity to work with others from cultures/contexts other than their own?

Links to Resources

- [Decolonising Technological Pedagogical Content Knowledge Of First Year Mathematics Students](#)
- [Decolonising the Curriculum Through the History of Mathematics](#)
- [10 Questions to Begin Decolonizing Maths in Your Classrooms](#)
- [Ethnomathematics and Language in Decolonizing Mathematics](#)

Prasanta Chandra Mahalanobis



- Born Kolkata, 1893
- "Father of modern statistics" in India.
- Featured on an Indian stamp in 1993.



Thanks for listening!

Questions

1. **What examples of mathematical origins outside of the West are you aware of?**
2. **Which BAME mathematicians do you include work from in your module(s)?**
3. **What decolonising activities are you already aware of in your discipline/department/institution?**
4. **What barriers to decolonisation might you face in your discipline/department/institution?**
5. **What are the “quick wins” you could apply immediately to your module(s)/within departments. What are the downsides to focussing on quick wins?**
6. **Which of your institutions maths modules would most easily lend itself to any of the approaches mentioned in the talk?**