



Decolonizing Science

Diversity Minute

October 7, 2020

What does that mean?

- “Remnant or transformed colonialist structures continue to shape science and science education... suggest that the mainstream, standard account of what science is seems to represent a globalized- or arguably a Western, modern, secular-conception of science. This standard account of science can act as a gatekeeper to the indigenous ways of being, knowing, and doing of postcolonial populations. ”

Wait what does that mean?

- “As a physicist, I was taught that physics began with the Greeks and later Europeans inherited their ideas and expanded on them. In this narrative, people of African descent and others are now relative newcomers to science, and questions of inclusion and diversity in science are related back to “bringing science to underrepresented minority and people of color communities.” **The problem with this narrative is that it isn’t true.** ... So, even though for the last 500 years or so science has largely been developed by Europeans, the roots of its methodology and epistemology are not European. Science, as scientists understand it, is not fundamentally European in origin. This complicates both racist narratives about people of color and innovation as well as discourse around whether science is fundamentally wedded to Euro-American operating principles of colonialism, imperialism and domination for the purpose of resource extraction..... This leads me to the second angle at play: Europeans have engaged what is called “internalist” science very seriously over the last 500 years and often in service and tandem with colonialism and white supremacy.”

Impacts: Space

- Extremely Large Telescope (ELT) proposed to be built on top of Mauna Kea
- Mauna Kea is very sacred in Native American culture
- First protests since 2008
- Building/construction has been on hold and will be through at least this year



iamstarboard

@iamstarnord

Replying to @iamstarnord

Folks will literally go to the ends of the Earth to get photons from the early Universe, but they won't go to an annual meeting of the National Society of Black Physicists in Rhode Island.

7:19 AM · Jun 1, 2020 · Twitter Web App

59 Retweets 3 Quote Tweets 271 Likes



iamstarboard @iamstarnord · Jun 1

Replying to @iamstarnord

Folks will build the most complex machines in human history, and build them over and over again, but they refuse to even open a book about how to build an inclusive and justice-oriented research community.



iamstarboard @iamstarnord · Jun 1

Folks act like the smartest people on Earth, interjecting themselves into every other scientific discipline, and then throw their hands up in ignorance when asked to figure out a minor contribution to justice and equality.



iamstarboard @iamstarnord · Jun 1

Folks spend half a century building one of the most precise devices in history to measure one of the faintest signals in the universe to confirm Einstein's ideas.

But they won't put spend weeks a year to turn our moral telescope toward the dreams of Martin, Malcolm, or James.

Impacts: Education

- Students often get a very selective perspective of science history and discovery
- Often leads to the “lone genius” myth which is harmful to scientists, science communication, and the world
- (Also difficult, because colonization/imperialism has long affected who participates in science already)



Chanda Prescod-Weinstein, #Justice4AnthonyMcClain 
@IBJIYONGI

Friends who think about things relating to teaching physics: if you wanted your quantum mechanics course to have historical touch points that weren't just white men, what supplements/texts might you include? (I'm not teaching it but a colleague is!)

3:09 PM · Jun 23, 2020 · Twitter Web App



M Gallardo-Williams
@Teachforaliving

If you are teaching organic chemistry, do you have any good resources to include Black chemists in your course materials? I'm putting together a list of resources and would love to hear from you.

We have a lot of work to do to balance all those reactions named after white men.

Impacts: Credit and Belonging



Stephanie Melchor, PhD (Black Lives Matter!) @sjmel... · May 20

Replies to @sjmelchor

Edward Jenner is hailed as the "father of immunization," bc of his use of vaccinia virus (cowpox) to immunize against the much deadlier

However, the process of intentional immunization had been around for almost a millennium before Jenner's vaccine.

4

29

280

↑



Stephanie Melchor, PhD (Black Lives Matter!) @sjmel... · May 20

As early as 9th century AD, the Persian physician Al Rhazes observed that survivors of smallpox were immune to subsequent exposure to the disease (1).

2

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405

↑



Stephanie Melchor, PhD (Black Lives Matter!) @sjmel... · May 20

In 1000 AD China, inhalation of dried smallpox scabs was a common practice to develop immunity against smallpox, and it worked (2).

3

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↑



Stephanie Melchor, PhD (Black Lives Matter!) @sjmel... · May 20

In 16th century Northern Africa, it was also common practice, although they inoculated by rubbing pus from an infected lesion into an open wound vs. inhalation.

A Libyan slave named Onesimus described this procedure to Cotton Mather in Boston in the early 1700s (pre-Jenner) (3).

6

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387

↑



Stephanie Melchor, PhD (Black Lives Matter!) @sjmel... · May 20

The idea didn't get much traction in colonial Boston, because, YOU GUESSED IT! Racism.



Stephanie Melchor, PhD (Black Lives Matter!) @sjmel... · May 20

To all of my friends who are women, LGBTQ, POC, 1st-gen, disabled, etc. don't let ANYONE tell you you don't belong in STEM (especially immunology!!) because you aren't an abled white man. Don't let anyone tell you that this needs to be a boys' club because "it always has been."

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668

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Stephanie Melchor, PhD (Black Lives Matter!) @sjmel... · May 20

We need to TALK about the contributions women and people of color have made to science and medicine, not just because they deserve recognition (although they do), but because there are SO many scientists being told they don't belong in their fields, and that's not okay.

1

89

645

↑

What do we do?

- Don't forget science is done by scientists!
- Don't forget scientists are people!
- Don't forget science history!



🔥 Kareem Carr 🔥
@kareem_carr

I don't know who needs to hear this but SCIENCE IS SOCIALLY CONSTRUCTED. Like literally socially constructed. It's the consensus view of the available evidence by a relatively small club of people who chose their own successors!

10:15 AM · Sep 23, 2020 · TweetDeck

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