

# SCIENCE FORUM 2020:

## Solving global crises requires breaking thought barriers

At the virtual Science Forum 2020, scientists and social scientists discussed ways of addressing the interlinked crises facing humanity today. To create a just future world requires that we challenge the lines we have drawn between groups of people, between academic disciplines, and between humans and nature. *By Andrea Teagle*

*Referencing the annual Barrydale puppet parade, Professor Jane Taylor, director of the Laboratory of Kinetic Objects, spoke about how AI entities, like puppets, reflect the selves we project onto them. In this photo, Mr Air, a mechanical puppet built by the Ukwanda Puppetry Arts and Design Company, performs at the Barrydale parade in December 2019.*

*Photo: Ashraf Hendricks, GroundUp (CC BY-ND 4.0)*



“HIV doesn’t exist in isolation,” said epidemiologist Professor Quarraisha Abdool Karim, who, together with Professor Salim Abdool Karim, received the Chilean Strait of Magellan Award at the [Science Forum 2020](#) for her work in the prevention and treatment of HIV.

“I focus a lot on the biotechnologies, but there is an intersectionality with other issues, including gender-based violence, including the access to sexual reproductive health services... [and] to comprehensive sexuality education.”

Some of the greatest breakthroughs in HIV research have happened at the intersection of science

and social science: for example, female-controlled contraception, and interventions that reflect the experiences of adolescents living with HIV. As writer Professor Lesley Green pointed out at the launch of her recent publication [Rock | Water | Life](#), the people on the ground do not experience the impacts of climate change, racism and inequality through the lens of separate disciplines.

The need to break the barriers between and within the sciences and social sciences was a central theme at the Science Forum, co-hosted by the Department of Science and Innovation and the HSRC. The event itself, a virtual undertaking,

brought together thinkers of multiple disciplines, across Africa and internationally. It also marked the launch of partnerships committed to open science, including the New South Africa-China cross border [incubation programme](#) for start-up enterprises.

### **Transdisciplinary thinking**

Over the course of three days, speakers discussed how the problems facing the world today – such as HIV, COVID-19, climate change and poverty and inequality – can be solved only by forms of thinking that break down categories of study and categories of being. In the words of HSRC CEO Professor

Crain Soudien in his welcoming speech: “This crucial moment that we are in together demands, as we call it, radical reason.”

In her keynote address, renowned scholar and first female co-president of the [Club of Rome](#), Dr Mamphela Ramphele, contended that addressing climate change requires a conscious shift away from the mechanistic thought that underlies our extractive attitude towards Earth’s resources. She pointed to the value of African knowledge that situates humans in relation to one another and as part of the natural world.

Challenging scholars to form transdisciplinary, pan-African partnerships, she said, “We need to actively challenge the Euro-American dominance and the so-called universality [of Western knowledge].”

### Decolonisation

“What was the mission of the first universities established in Africa?” In posing this question, historian and theorist Professor Sabelo Ndlovu-Gatsheni suggested that we can start to understand the problem of decolonisation.

His fellow discussant, leading decolonial scholar Professor Boaventura de Sousa Santos, said universities are at a crossroads. On the one hand, he said, there is pressure from below; from students who recognise that merely increasing black representation in student and staff bodies is not enough. On the other hand, there is top-down pressure from global capitalism.

This session at the Science Forum highlighted the challenge of stepping outside of the Western-European system to critique it through a more objective lens, and to recognise that it does not encompass a complete understanding of the world. “I claim, and I strive, for a college of knowledge,” De Sousa Santos said.

Equally, in recognising the validity of other sources of knowledge, we must avoid the trap of turning indigenous knowledge and African scholarship into a shrine of worship, argued Ndlovu-Gatsheni.

“We need to then subject [indigenous knowledge] to the same critical view that we adopt for other knowledge. By doing that, we are actually taking them seriously.”

In another panel, Professor Joel Modiri of the University of Pretoria argued that the academic peer-review process was throttling different types of thought.

“White academics reproduce the centrality and false universality of their own perspective, policing the boundaries of the disciplines. This has placed many black academics and postgraduate students in the demeaning and disempowering position of having to reproduce traditions of white scholarship, so as to ... gain employment and academic recognition.”

However, De Sousa Santos also noted that [inroads](#) had been made in decolonisation, through African scholarship and movements like Rhodes Must Fall. Acknowledging the limited progress made at individual institutions, Ndlovu-Gatsheni argued that universities needed to take a national approach to transformation.

### Inequalities reflected in education

At the school level, the HSRC’s Dr Adam Cooper observed that education did not automatically amount to social justice. Despite progressive policy, inequality continues to reflect in the South African education system. A contributing factor is the absence of multilingualism in classrooms, suggested fellow speaker and colleague Jaqueline Harvey. In Grade 4, children are expected to make a complete switch from indigenous language instruction to English, with [far-reaching repercussions](#) for their confidence, learning and sense of place.

The continued subjugation of indigenous languages – and the internalised message that English (and whiteness) equates to competence and intelligence – is an important part of South Africa’s education puzzle. In another panel, the world’s foremost cultural theorist, Professor Homi Bhabha, and historian

Professor Premesh Lalu argued that the psychological impacts of the normalised, routine indignities of apartheid continue to ripple through our society.

“[T]here was something particular about the modes through which [petty apartheid] infiltrated everyday life,” Lalu said, “and created a psychopathology that has stayed with us for decades after we’ve laid apartheid to rest.”

### The future of AI

In a panel on artificial intelligence (AI) futures, speakers discussed the transdisciplinary nature of AI research. To direct technological advancement towards futures that we want, “we need to understand our societies and politics and cultures, our histories and the trajectories that they have set us on,” said Dr Stephen Cave, director of the Leverhulme Centre for the Future of Intelligence at the University of Cambridge.

Referencing the annual [Barrydale puppet parade](#), Professor Jane Taylor, director of the Laboratory of Kinetic Objects, spoke about how AI entities, like puppets, [reflect the selves we project onto them](#). In this way, AI research is an opportunity to explore what it means to be human in relation to the rest of the world.

It challenges us to resist the tendency, as humans, or as members of a particular group or gender or discipline, to set ourselves apart and above. In the words of Ramphele, planetary emergencies require that we learn “to embrace the interconnectedness and interdependence of Earth as a living system”.

In 1543, the scientist Nicolaus Copernicus discovered that the sun does not revolve around Earth. Now, as then, it may be by moving away from our perceived centrality that we take our next leap in understanding – in this way, ironically, we might reclaim our humanity.

**Note:** This article first appeared in [Daily Maverick](#)

**Author:** Andrea Teagle, a science writer in the HSRC’s Impact Centre  
[ateagle@hsrc.ac.za](mailto:ateagle@hsrc.ac.za)