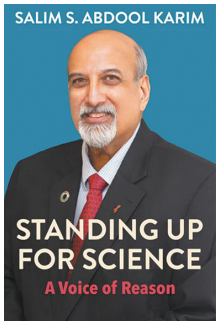
BOOK TITLE:
Standing up for science: A voice of reason



AUTHOR:
Salim S. Abdool Karim

ISBN:
9781770108905 (hardback, ZAR1319, 404pp)
9781770108233 (paperback, ZAR370, 404pp)

PUBLISHER:
Pan Macmillan, Johannesburg, South Africa

PUBLISHED:
2023

REVIEWER:
Jonathan Jansen[1]

AFFILIATION:
[1]Education Policy Studies, Stellenbosch University, Stellenbosch, South Africa

EMAIL:
jonathanjansen@sun.ac.za

HOW TO CITE:
Jansen J. Shedding light on the vexed question of science and uncertainty. S Afr J Sci. 2023;119(11/12), Art. #16549. https://doi.org/10.17159/sajs.2023/16549

ARTICLE INCLUDES:
☐ Peer review
☐ Supplementary material

PUBLISHED:
29 November 2023

Shedding light on the vexed question of science and uncertainty

What is science and scientific work really like? Here, for the first time, is a South African book that sheds light on what is often obscured from public view, on the one hand, but also misrepresented in the minds of ordinary citizens, on the other hand. To many, science is reliable and objective, the outcome of rigorous investigation that, these days, comes with the mildly amusing epithet, *evidence-based* (how could it be otherwise?). Those unsmiling white men in white lab coats surrounded by test tubes and microscopes was the image of science and scientists that generations of children grew up with thanks to standard images represented in school textbooks, movies, and advertising.

Salim S. Abdool Karim's *Standing up for Science* pretty much destroys those facile images of how science does its work behind the scenes. Neither a scholarly work nor a popular science text, this thoughtful book owes its warmth and accessibility in large part to the charm and storytelling skills of the author. I remember Professor Abdool Karim coming to the University of the Free State during my tenure there as Vice-Chancellor to address my colleagues in the medical school. My brain started to play historical tricks on my mind in the moments before I introduced him. After all, the last famous Indian South African to come to the Orange Free State was Justice Ismail Mohammed who did his work in the Bloemfontein courts during the day but had to travel back and forth to Kimberley; the petty cruelty of the apartheid masters dictated that Indians could not sleep over in the province. That was in the past, but I still wondered how this accomplished scientist was going to win over the auditorium of serious looking white Afrikaans-speaking physicians in the audience. What happened next was masterful for the context. The speaker started by telling the medical school staff about how he got his famous nickname by which we all know him, Slim. An Afrikaans schoolteacher sarcastically asked him whether he thought he was clever and hence this lasting name, Slim Karim. From that moment on he had my colleagues eating out of his hand.

Slim brings this formidable talent to connect to a wary readership on pandemics by detailing what actually happened in the rarified atmosphere of the COVID-years. I learnt for the first time that there were famous scientists who, in Slim's telling, wanted to dislodge him from the leadership role he was called to perform on behalf of government. It was not a surprise, however, to read how often he disagreed with the authorities, including on the petty regulations that once again made some government leaders look ridiculous in the eyes of a knowing public; it was garlic in the AIDS days, then footwear under COVID. Slim writes with considerable restraint, but I have no doubt there must have been extreme frustration with officials high and low peddling such nonsense in the middle of an existential crisis.

Perhaps the most important scholarly contribution of the book is how it sheds light on the vexed question of science and uncertainty. The news coming in from China was not good; the explosive spread of the novel coronavirus across borders was frightening. Millions would surely die. We all look to medical science for certainty not ambiguity, for scientific truth not prevarication. But science is not like that. It would take time to isolate the virus, let alone develop responsive vaccines. Unsurprisingly, medical scientists of all stripes contradicted each other openly, some more certain than others but all of them working with incomplete knowledge. Some crazy ones even suggested herd immunity as a preferred policy posture, as if humans were heads of cattle. The conspiracy theorists joined the fray.

"Medicine's ground state is uncertainty", Atul Gawande once wrote, and this was painfully evident during the pandemic years. In such a crisis, governments understandably want to convey certainty and thereby offer public reassurance. But science is not like that, and scientists are seldom trained in the virtues of uncertainty and how to communicate that reality of science and scientific work, especially when lives are on the line. One can only hope that medical schools revisit and revise their curricula to include more substantive modules on science and uncertainty in times of crisis. This book would be a good recommendation for the reading list.

There are other gems in the book, including the way in which science in the Abdool Karim home quite literally became a family enterprise. Everyone contributed from their disciplinary perspective as the home resembled a veritable laboratory for churning through incoming data from all over the world. One thing I would have liked to see more of, however, is the contribution of Quarraisha Abdool Karim, a highly rated world scientist in her own right who has for decades worked alongside Slim in the course of their careers fighting AIDS.

Which brings me to a special moment in which I had the privilege to participate. As President of the Academy of Science of South Africa, I was asked to say a few words on the occasion of a global award for courage in science that would be shared by Slim and his friend and collaborator from the AIDS years, the famed American immunologist and adviser to presidents, Anthony Fauci. Both men had at various times been roundly lambasted by their respective governments for, well, standing up for science.

Now, right in front of me on the screen were two giants of medical science and I could not help but point out the obvious: that the success of the scientific enterprise, whether it be climate science or pandemics, depends on solidarities and friendships that cross the borders of race, ideology and geography. That too is a lesson about how science and scientists *should* work, and this superb book tells that story well.