



# Habitable and sustainable worlds

On 14 July 2022, the Academy of Science of South Africa (ASSAf) hosted its 8th Presidential Roundtable discussion, with Prof. Jonathan Jansen as the chair, and with Prof Mary Scholes, Ms Alize le Roux and Mr Matthew Hemming as speakers. The topic was 'The Human Costs of Climate Change'. The event was a model of good science communication – clear, sober analyses backed up by evidence, presented in an accessible and understandable way and with no unnecessary use of jargon. The messages were compelling and clear, and a recording of the event (available [here](#)) should prove helpful to anybody wishing to share information on this important topic.

For the *South African Journal of Science*, the event is noteworthy in at least three ways. First, the topic is one of existential concern to all who share our planet. Second, the science was communicated accessibly and clearly, and not just for a niche audience. Third, the meeting demonstrated the importance of working together across disciplinary lines to begin to address difficult problems. Our Journal is a mouthpiece for science on our continent, but it is also committed to transdisciplinarity, clear communication across boundaries, and working together to solve big and difficult problems.

Our most recent special issue, on COVID-19, explicitly sought this kind of interdisciplinarity to approach the difficult question of understanding and managing a pandemic in low-resource contexts, and a forthcoming special issue, similarly, will examine, from perspectives ranging from engineering to the social sciences, how what is commonly thought of as waste can be a resource in a different kind of economy. But over and above these explicit and planned efforts to encourage communicating and working together across divides, it is pleasing to see the extent to which regular contributions to the Journal, singly and collectively, strengthen the overall messages central to a journal like ours.

In a review essay, the disability studies scholar Rosemarie Garland-Thomson<sup>1</sup> cites (p. 301) the work of Nancy Mairs<sup>2</sup>, declaring that her task in writing about living with multiple sclerosis is 'to conceptualize not merely a habitable body but a habitable world: a world that wants me in it'. In referring to this world, both Mairs and Garland-Thomson are alluding to a world which excludes people on the basis of bodily difference; they both hope for a world which accommodates and caters for us all. There are, though, of course, many other ways in which a world can exclude and not be habitable for everyone. There are exclusions on the basis of any number of social markers, including race, gender, and age, and there are exclusions on the basis of physical habitability – the inaccessibility of the built environment, and the destruction of the planet in what has come to be referred to as the Anthropocene. The ASSAf Roundtable amply demonstrated the impact of climate change on where, and under what conditions, members of our species and others may or may not be able to inhabit parts of (and ultimately all of) the planet on which we live.

Many articles in the current issue of our Journal demonstrate the contribution of human and environmental factors in creating a world that is difficult to inhabit optimally. In their Commentary, [Booyesen and colleagues](#) outline both the problem of the energy demands and environmental impact of minibus taxis and the ways in which electrification, including the use of solar energy, may go some way to

solving the problem. The minibus taxi industry in Africa is, of course, an ingenious but costly solution for a range of problems on our continent. The colonial and apartheid design of cities contributes to a situation in which people live far from where they work, the transport infrastructure is commonly inadequate, with huge backlogs in terms of rail and other networks, and the vehicles that are in use depend at this stage on fossil fuels. But as these authors show, large-scale systems and design thinking, and harnessing of local renewable resources may suggest a way forward.

A number of other items in this issue address environmental issues in similarly innovative ways (see, for example, the contributions from [Windapo et al.](#), [Chidi et al.](#), [Adlam et al.](#), [Dhansay et al.](#), [Welz et al.](#), as well as others in this issue). Clearly, thinking for the future requires reassessing and innovating in the fields of education and training as well, as discussed by [Boughy](#) in her Book Review. It also requires openness to rethinking how we value and reward research and research careers. In his provocative Perspective, [Glenn](#) suggests that current approaches to rewarding research in South Africa (he focuses on the NRF rating system but his comments have wider implications) may be lacking. He cites anecdotes, which certainly resonate with many conversations within the academy in South Africa and more broadly, in which ambitious new researchers are encouraged to specialise as narrowly as they can in their work. Hyper-specialisation (the academic equivalent of the production of monocultures) is commonly rewarded and valued, with global expertise in a highly specialist field being the implicit marker of an excellent scientist. In my experience, though there is much lip service given to working across boundaries, to collaborating and to constantly starting from scratch as researchers discover and create new fields of endeavour, the allure and prestige of hyper-specialisation remain. I do not wish to imply that we do not need specialists – we do. But in order to address complex problems, we need more than this. We also need boundary-spanners and rule-breakers, researchers open to learning different ways of thinking and doing science.

The issues of climate change and habitat destruction are existential for all of us. In order to address these issues, we need to think not only about how to collaborate in innovative ways but also about what we value in the research world and how we train future generations of scholars. At our Journal, we address questions of sustaining and diversifying the academy through training and support for new academic writers, and through mentorships. But these are small contributions. We want our Journal to be part of the conversation about the histories of the sciences and professions on our continent (and [Limebeer and Dwolatzky](#) address this in their Commentary), and also, crucially, about how we go forward so that future generations are better than we have been at making the world more habitable.

## References

1. Garland-Thomson R. A habitable world: Harriet McBryde Johnson's "case for my life". *Hypatia*. 2015;30(1):300–306. <https://doi.org/10.1111/hypa.12132>
2. Mairs N. *Living waist-high in the world*. Boston: Beacon Press; 1996.

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