

# President's Column

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## About this issue

We are now concluding this volume of the New Zealand Science Review – our first in our new open online format, managed under a new editorial board structure. Contributions began appearing with the first articles online a year ago. As a result, this issue covers the period during which Te Ara Paerangi Future Pathways has been underway to receive submissions and then begin a reform programme for New Zealand's Research Science and Innovation System. It is a special issue on Te Ara Paerangi and marked as our Volume 78 2022.

The new format signals a major update and shift in our publishing model. I thank the entire editorial board for gathering around this model, which enables rapid publishing online when policy or current events require it, while maintaining a more diverse and robust review process. Past President Craig Stevens has ably chaired the editorial board through the process and Ben Dickson deserves credit for efficiently driving the Open Journal System (OJS) software. We thank particularly Tara McAllister and Simon Hills for joining us to ensure Māori views are included on the board. We also owe Victoria University of Wellington a debt of gratitude for hosting OJS allowing us and other journals to publish in this way. Finally, we thank the authors who have contributed and invite submissions to our rejuvenated publication.

## Reflection on the journey – Te Ara Paerangi

We stand now at what seems to be the most difficult time for scientists, science and research institutions in many years. Over the last couple years, the reform programme – Te Ara Paerangi Future Pathways – has provided a remarkable opportunity to think about and discuss how a better research, science and innovation (RSI) system can be built for our nation. During hopeful times and with the privilege of the openness of the process, I nearly completed optimistic updates to members of NZAS and the wider science community, only to see the tides change. The change of government very likely spells an abrupt end, or at least a reprioritisation of Te Ara Paerangi. Some groups face a fiscal cliff at the end of contracts, and Curious Minds funding has been quietly yet inexplicably ended as we enter an age of disinformation. We must ask *why?*

Looking back further before Te Ara Paerangi, to times across 2020 and 2021, I felt that I was perceived as an

unnecessary doomsayer when speaking about the impact the pandemic would wreak on research and academia – on the moral and institutional frameworks that deliver trust and allow research communities to deliver excellence and innovation. Sadly, this foreboding proved largely correct, as Te Ara Paerangi has produced little in the way of pathways to the funding needed to maintain or grow our nation's research capability. We now face an unprecedented crisis in universities and we also have a reform programme that budgeted no future for teams in National Science Challenges. Many other areas have no means to justify increases to match real costs and inflation.

We're left to ponder how we arrived here and what to focus on. Looking back at Te Ara Paerangi, there was much to like. It was a moment of listening and recording where the people in the research system were at, what they needed, and what was driving them to a breaking point. However, few if any called for the political expedience of the high profile funding vehicle, 'National Research Priorities', that has come to represent the only hope of significant new funding. Sadly this rushed initiative looks potentially worse than anything that has come before it, and most notably is very unlikely to find integrated approaches to addressing the largest challenge – climate change.

In short, expedience has been put ahead of the foundations and frameworks that matter for solving the big challenges. As we begin to reconsider what is needed and what is possible, our analysis (pp. 6 – 11) provided to the Green Paper consultation stands up well, and deserves to be revisited along with the papers contributing to it (see further commentary in this issue).

Despite the message we provided and some acceptance of it, we find ourselves in a situation where understanding the need to rebuild the foundations of the careers, capability and institutions that underpin the delivery of RSI has come too late or too slowly. We are now on the verge of an impending collapse for many important areas, teams and in some cases institutions. The diagram in our Green Paper submission describes the collapse and how to reverse it: the loop of trust and reciprocity that drives those in the RSI system to deliver for our society, and funding and resources to flow to RSI is at risk of entering localised downward spirals where we had hoped it would amplify a process of building earned trust to lift our collective well being.

To provide the relevant urgent messages, our Briefing for

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the Incoming Minister (BIM, pp. 58 – 59) contains two foci that can both prevent impending ‘death spirals’ and turn the instincts of change management toward building the foundations that will actually deliver RSI benefits to the nation in the short and long term.

The first focus is rebuilding careers and capability as a priority. Secondly, we must reforge an outward looking system, more able to connect internationally, with business, with te ao Māori, and across our research institutions to achieve results.

While simple, and balanced between immediate and the longer term, the two foci help us see what to do to avoid too much attention on catastrophe or potential catastrophe. We have, for example, seen six years go by with a target to lift research and development expenditure substantially to 2% of GDP – yet within major research institutions there has been little sense of growth at all. Efforts so far to address the different forms of precarity in universities and Crown Research Institutes appear to provide more funding to institutions than researchers and do not address the scale of the problem. From this, we learn that the full-blown crisis in universities and for early career researchers can only be addressed by focussing on the aspects of careers and capability deemed widely worth supporting.

In the brief period since we prepared the BIM, I’ve turned once again to try to understand why we go in great loops of change that seem not to lead to a better RSI system. I’m most intrigued that the development of sharply worded missions became the focus of National Research Priorities. For government to take on such missions would be highly valuable, but they cannot principally be owned by our RSI system’s many institutions and complex governance and accountability structures. I began wondering if my disagreement is with Mariana Mazzucato’s work, including her book *Mission Economy*, that is the most compelling case for missions in RSI? This line of inquiry proved useful.

We would do well to consider the full sequence of [Mazzucato’s books](#), in which *Mission Economy* is third. It is arguably the weakest, yet still compelling as part of the sequence where RSI is only one component. Mazuccato’s first book argues that the Entrepreneurial State can be rebuilt to do big strategic things, and the second aids this process by understanding and connecting value in ways that can work better for everyone in societies. These set the frame for missions that can succeed, and the 2023 addition, *The Big Con*, allows us to understand what goes wrong. In short, the consultancy industry has, since the 1990s, infantilised governments and removed the capacity to do big things reliably and well. We should be concerned because our public research institutions have become dependent on their role in consultancy for half their revenue, yet bringing the expertise they contain closer to government could solve many problems.

Great danger and great hope both lie in considering how to reconnect our disparate research providers, rebuild universities, and align them with the big things the government and the public want done. The benefits seem worth the trouble if we get, for example, better systems to

support health and well being, as well as real solutions to the challenges posed by climate change. Although these are very big visions, they give me hope that they may provide a direction for many and make the most of what the people in our RSI system have to offer, broadly in the directions Te Ara Paerangi has heard and proposed.