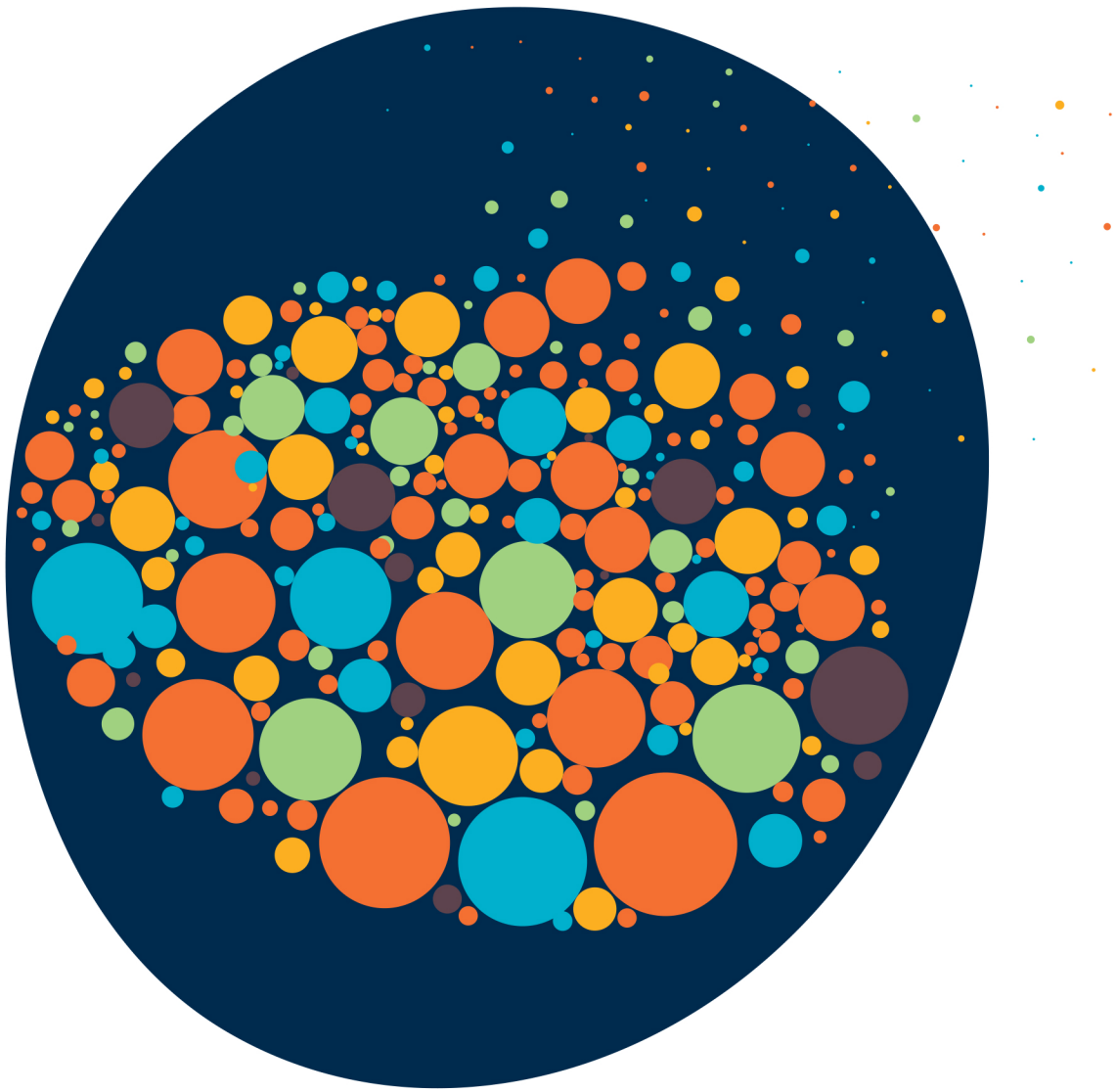
New Learning about Learning

Jonathan Grant

# The New Power University

The social purpose of higher education in the 21st century



Every generation is faced with its own big challenges. The 21st century has been shaped by globalisation, climate change, rising inequities, the move towards digital, and a devastating global pandemic, all of which highlight the necessity for change.

The future can go one of two ways: down a negative and destructive path, or towards a more humanitarian and sustainable system.

*The New Power University* puts forward a philosophy for the future of higher education. Universities must respond to societal trends, through an active commitment to social responsibility, or lose their relevance to the students and communities they serve.

# Praise for *The New Power University*

'*The New Power University* offers a practical and inspiring blueprint to transform higher education. It makes a compelling case for a university of clear purpose, broad participation and greater impact. A must-read for educators and students.'

*Jeremy Heimans and Henry Timms, co-authors of* New Power

'The world demands new models for higher education that are relevant in the face of seismic societal change and take on the moral and practical requirement for inclusivity. Jonathan Grant shows us a path for getting there, leveraging the New Power of collective participation, distributed and networked governance, and radical transparency to build the New Power University. Critically, Grant puts a stake in the ground with social responsibility inherent in the mission of every university and universities as active advocates for social good. Grant is masterful in bringing the reader from the hallowed history to the essential transformation, writing with clarity and insight, provoking us to both think and act.'

*Susan Marquis, Frank and Marcia Carlucci Dean, Pardee RAND Graduate School; Vice-President, Innovation, RAND Corporation*

'There can be no doubt – the university needs to be rethought, and urgently, or it will lose the confidence of the governments and the public. Jonathan Grant knows this problem intimately. With *The New Power University*, he has made an enormous contribution to pushing the debate forward. He has done it with elegance, and most important, a highly persuasive argument. Those who don't agree about the need for change really need to read this book.'

*John Ralston Saul, author of* The Collapse of Globalism

'*The New Power University* is a compelling vision statement on the role of the university in 21st-century society, *and* a blueprint for universities of the future that must respond to the demands of a new generation of learners and academics.'

*'Funmi Olonisakin, Vice-President and Vice-Principal International, King's College London*

'Jonathan Grant transformed innovation, engagement and impact for King's College London. Now in *The New Power University* he poses a challenge for every tertiary institution – what is the public purpose of your university, and how can it accept social responsibility as a core part of its mission? This is an important and provocative contribution to new thinking and new practices.'

*Glyn Davis, former Vice-Chancellor, University of Melbourne*

Chapter 4

# The impact of new power research

## *New power research will address the most pressing challenges people face today, in an open, transparent and involved way, improving the lives of communities everywhere*

At the end of the Second World War, US President Roosevelt asked the director of the Office of Scientific Research, Vannevar Bush, to make recommendations for how the scientific and technological progress during the conflict could be applied in peace time. The Office of Scientific Research and Development was seen as a major contributor to winning the war effort, having overseen the Manhattan project and supported the development of the mass production of penicillin.

Bush published his report – *Science: The Endless Frontier* – in July 1945, presenting it to President Truman, who succeeded Roosevelt following his death in office earlier that year. The report set out a blueprint for how the US Government could support and fund research and, in particular, scientific research, which led to the establishment of the National Science Foundation

in 1950. Bush believed that universities should be places where research occurs for research's sake and, because of this, researchers should decide on what to research:

> **The publicly and privately supported colleges, universities, and research institutes are the centers of basic research. They are the wellsprings of knowledge and understanding. As long as they are vigorous and healthy and their scientists are free to pursue the truth wherever it may lead, there will be a flow of new scientific knowledge to those who can apply it to practical problems in Government, in industry, or elsewhere.**[87]

It is easy to underestimate the impact that this recommendation has had on science and research policy worldwide. I have been fortunate enough to be involved in a number of projects for research funders from different regions of the world and there is a widely held view that the US National Science Foundation, designed by Bush, is the gold standard when it comes to government funding and support for science.

The trouble is, this 'gold-standard' model is now failing. If I told you that over 85% of the estimated US$120 billion[88] a year that is invested by governments and foundations on biomedical and health research around the world is wasted, you would rightly be shocked. Well, this was the finding that *The Lancet* published in an important 2009 paper by Iain Chalmers and Paul Glasziou. Their compelling data showed that about half of public investments in research are wasted at each of four sequential stages during the research process (see Figure 4.1): whether the research question is relevant; whether the design and methods are appropriate; whether the research papers are accessible; and, whether the report of the research is complete and done in a way that makes it possible to replicate the study. The accumulated waste over these four stages adds up to 85%.

This analysis focused on biomedical research but there is no convincing reason to assume the same is not the case for other disciplines. Scholars from the humanities and social sciences are less likely to publish in open access

[87] Bush (1945), Chapter 1.

[88] Røttingen, *et al.* (2013) estimated that, in 2009, total investment in biomedical and health research globally was US$214 billion, 60% from the private sector and 40%, or US$100 billion, from the governments and not-for-profit foundations. If the US$100 billion is adjusted for inflation, the figure would be about US$120 million in today's money.

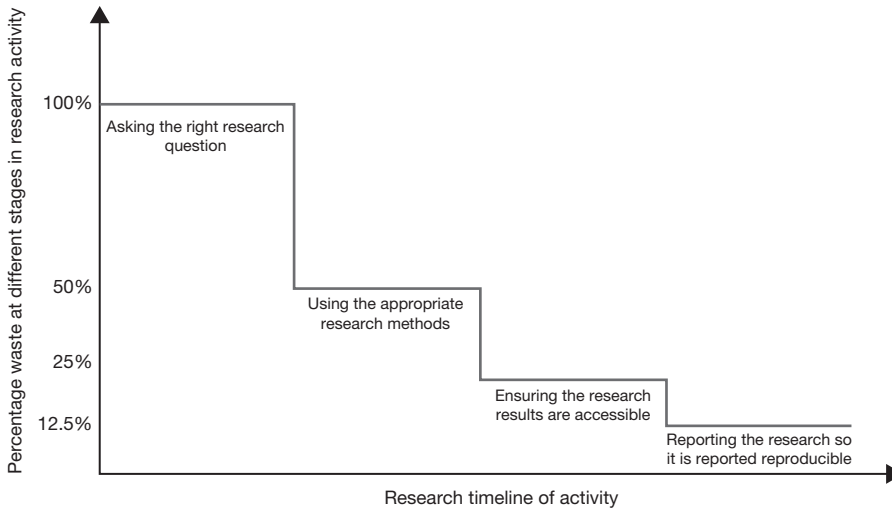



**Figure 4.1** Stages of research waste[89]

journals and books[90] (stage 3) and there is evidence of a reproducibility crisis in a range of disciplines, including economics[91] (stage 4).

This level of waste is unsustainable in a world where the competition for public funding grows ever more intense as governments strive to invest in modern infrastructure, pay for the effects of ageing populations and fund initiatives to fight the climate crisis. If seen to be wasteful, the pressure to cut research funding will grow and, with it, the threat to much of the mission and income of the modern university.

When you look at it, the current approach to research funding has come to be an archetype of an old power institution. Who holds the power? The research funding agencies modelled on the National Science Foundation are run by academic researchers for academic researchers. The chief executives of such agencies are usually drawn from the academic community, the strategies of such agencies are often determined by the academic community, the decision as what to fund and what not to fund is decided by the academic community, the research is done by the academic community, and the results

[89] Adapted from the figure in Chalmers and Glasziou (2009).

[90] In the UK's Research Excellence Framework in 2014, only 46 out of a total 12,701 titles submitted to panel C (social sciences) and panel D (arts and humanities) were available as open access – see Fund, *et al.* (2019) for details.

[91] Camerer, *et al.* (2016).

of that research are presented in a way that is accessible only by the academic community. It is an old power model and it is no longer fit for purpose.

The defenders of this system will retort with a number of counter arguments. They would say that you need experts to run these agencies as they are the only ones who have the deep knowledge to formulate appropriate scientific strategies and to judge what is suitable to fund. They would also go on to say that they have appropriately prosecuted a strategy that has supported basic or discovery research or 'knowledge for knowledge's sake'. They would argue that, at the time of commissioning the research, it's not possible to know what benefits will arise from scientific discoveries and that you can't predict the outcomes of scientific research due to serendipity.

These longstanding beliefs in the value of basic research partly stem from assertions made many years ago by two scientists, Julius Comroe and Robert Dripps, who claimed that 62% of all reports judged to be essential for subsequent clinical advances were the result of basic research.[92] However, the rigour and objectivity of their analysis was questioned[93] and, when I and others attempted to replicate the analysis, we concluded that it was 'not repeatable, reliable or valid', as well as demonstrating that only 2–21% of research underpinning clinical advances could be described as basic.[94] This confirmed an earlier study where we demonstrated that less than 10% of research underpinning clinical guidelines was basic,[95] while Contopoulos-Ioannidis showed that less than 1% of papers in basic science journals resulted in a clinical intervention some 20 years later.[96]

This is not just a problem for biomedical and health research. Ed Byrne and Charles Clarke, in their recent book, *The University Challenge* (which is published as part of this Pearson series), emphasise that a range of other disciplines can be critiqued for their over-focus on theory and discovery research. As they say, 'Impact on society is not yet at a sufficient level to meet national and global needs.' They go on to note: 'When Queen Elizabeth, in November 2008, asked economists at the London School of Economics, "Why did nobody notice it [the financial crisis]?" she was speaking with the grain of public sentiment. She got an answer when she visited the Bank of England in December 2012, which some might say is typical of the speed of response in the academic world.'[97]

---

[92] Comroe and Dripps (1976).

[93] Smith (1987).

[94] Grant, *et al.* (2003).

[95] Grant, *et al.* (2000).

[96] Contopoulos-Ioannidis, *et al.* (2003).

[97] Byrne and Clarke (2020), p. 14.

Thankfully, this old power, somewhat arrogant, and fundamentally incestuous, model of research funding is beginning to be challenged. To be fair, some of this change is coming from these old power institutions. For example, universities are slowly embracing the need to demonstrate the impact of their research and, along with research funders, beginning to engage with ideas such as the 'grand challenges' that research should address, with talk of 'moon shots' and an increased focus on mission-oriented research. A few universities are also embracing new approaches to how research is carried out and exploring new power approaches like 'open innovation'. Finally, the need to make sure research is not wasted means there is a growing movement to make research outputs more widely available through open access publication and similar initiatives. That said, many of the more transformative changes are being driven from outside the higher education sector, by imaginative new power leaders, entrepreneurial scientists and fresh thinking publishers exploring new platforms for disseminating research. The challenge for the New Power University is to move to the forefront of a transformation in the way that research is designed, delivered and disseminated.

## New power research will demonstrably contribute to improving lives and growing prosperity

In the face of so much wasted money on research, why continue to fund it? The answer is because it does pay back. Research gives us many of the advances needed to grapple with the big challenges in today's world and its impacts are directly traceable and quantifiable. Having been involved for more than 15 years in projects that try and assess both the value and impact of research, I have seen how the economic return from biomedical and health research is consistently estimated at around 25%. This is made up of a monetised value of living longer and better lives (c.10%) and the contribution to the gross domestic product (GDP) that is stimulated by undertaking research in a country – what economists call the 'spillover effect' (15%).[98] In layperson terms, that means that, for every £1 you invest, you will get 25p a year in perpetuity.

It is also possible to demonstrate the impact of other disciplines – ranging from theology to zoology – using narrative-based approaches. In the UK, the government runs an assessment of research excellence in universities every five to six years. In the most recent exercise undertaken in 2014, it asked every

[98] Grant and Buxton (2018).

discipline in every university to provide case studies of where research has had on impact in improving people's lives. Given the time it takes for some types of research to translate into demonstrable benefits to people, the original work could be up to 20 years old (although, in practice, it typically was 10 years). The 6,679 non-redacted case studies that were written for this exercise are publicly available and, for anyone who is sceptical about the value of research, they should spend some time reading them.[99] A couple of my favourite examples are provided in the following box and illustrate the diversity of both the underlying research and the nature of the impact that it has had.

## Examples of research making a difference

### Jesus was married[100]

On 18 September 2012, a newly discovered Coptic gospel fragment, purportedly dating from the 4th century, was announced in Rome. It generated worldwide publicity: for, in it, Jesus refers to 'my wife'. Three days later, Professor Francis Watson posted a short paper online, in which he used a form of compositional analysis which he had pioneered to argue that the fragment was, most probably, a recent forgery. Watson's paper was extensively read and reported, and widely regarded as conclusive. An imminent TV documentary on the fragment was promptly postponed indefinitely. Watson's research transformed the way that this fragment was perceived by an international public. As such, it prevented a serious scholarly error from becoming lodged in the public consciousness. It is an example of the power of a timely web-enabled intervention by a scholar in a fast-moving news story.

[99] https://impact.ref.ac.uk/casestudies/.

[100] 'The case of the forged gospel fragment', REF 2014 impact case study, see: http://impact.ref.ac.uk/CaseStudies/CaseStudy.aspx?Id=11837.