overtaken by an economy of money, and with this has come a culture of accountability. While this may not explain everything that has happened in universities, it raises the worrying conclusion that the road back to the non-economic values associated with knowledge production may be long and hard.

Chapter 8, 'Knowledge factories', is appropriately titled as it deals with the contested nature of intellectual property in universities. Forsyth uses a long-running intellectual property dispute between the University of Western Australia and a former professor and medical researcher at the university, Bruce Gray, as a framework for this chapter. This chapter is one of the relatively few instances where Forsyth draws lightly on the ideas of Foucault and Barthes to show how a political issue (such as intellectual property rights) can be understood in the context of seeing the university as more like an industry than an institution that fosters knowledge. Chapter 9, 'Knowledge in the age of digital reproduction', reviews how teaching and learning have been transformed in Australian universities in the face of technological and market changes. Forsyth draws on the work of communications scholar Walter Benjamin to reflect on the pros and cons of new ways of delivering education. Forsyth's ability to apply cultural theory to a complex issue comes to the fore in this chapter. 'Winners and losers in Australian universities' is the final substantive chapter in the book, reflecting on who has benefitted from the changes that have occurred in the Australian university system – who gets to go to university and who controls access to the professions.

In an Afterword, Forsyth asks one of the most pertinent questions of all: 'What sort of university do we want?'. Her response is succinct and carries conviction. Forsyth is not prescriptive at this point and rightly prefers to leave the answer to the question to others. The challenge is for everyone to reflect on this history and then enter into a debate of what the future of universities should look like. This is no cop-out, but rather a scholar placing a boundary on her work.

The value of a book like this lies in Forsyth's ability to assemble the fragments (namely the particularised and disparate impressions we now have of universities) and present these as a whole which has overall meaning. She is to be congratulated for her contribution.

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**Routledge international handbook of ignorance studies**, edited by Matthias Gross and Linsey McGoey, London, Routledge, 408 pp., £125 (hardback), ISBN-978-0-415-71896-7

We live in societies in which it is common to witness the considerable attention, appreciation and reverence dedicated to the notion of knowledge. Knowledge management has become a very popular and prominent sub-discipline in its own right in the field of management and organization. There is less interest in ignorance. In fact, admitting to ignorance may appear unwise, a weakness that the prudent should

try to avoid. It is easy to suspect that this tendency is not exclusive to management and organization, and Matthias Gross and Linsey McGoey's edited volume confirms the suspicion. Their *Routledge International Handbook of Ignorance Studies* is a massive treatise (40 chapters and 51 contributors) on the importance of ignorance for contemporary societies. I organize this review around half a dozen points that emerge from this book.

**'Not ignorance, but ignorance of ignorance is the death of knowledge'**

The quotation, attributed to Alfred North Whitehead (1929), emblazons the cover of this book and sends an explicit message which runs through the whole volume. Ignorance is inevitable; ignorance of ignorance is the real killer of knowledge. Ignorance exists in multiple forms. Sometimes it is involuntary, at other times it is actively constructed. Sometimes it is fought against, and at other times protected. The way companies often treat their whistleblowers offers a case in point: it suggests they sometimes prefer to remain ignorant than to receive warnings (*Economist*, 2015). The message, overall, is clear: to counter ignorance of ignorance, scholars have to address explicitly the topic of ignorance. Ignoring ignorance is unwise.

**On the importance of cultivating ignorance to become wiser**

Several chapters in the volume read as manifestos in favor of embracing ignorance as the way to gain wisdom. Karl Weick, an influential organizational theorist, notes that exploring one's ignorance is critical to building wisdom. Appreciating knowledge in the absence of recognizing ignorance can lead to hubris. On the contrary, the acceptance of our condition of ignorance – genuine ignorance, as Dewey (1930) puts it – is humbling. The feeling of humility is a stimulus to maintaining a curious stance about the world – and to learning from it (Colville *et al.*, 2016). Feeling humbled about the world provides a powerful trigger for motivating oneself to learn. Being mindful of one's ignorance is key to protecting personal humility. This is an important lesson for policy makers, business managers and scientists alike, though humility is a little appreciated virtue in the real world (Pfeffer, 2015). The succession of scandals in science, business, sports and politics shows that the desire to win at all costs is a bad recipe for virtuous action. Balancing the desire to be powerful, knowledgeable and successful with the realization that one's condition is ignorance and that failure can be more productive than assuming triumphant knowledge/success/power are all that matters.

**Ignorance is the natural state**

The book makes clear that ignorance is our natural state. As the editors explain, 'new knowledge always leads to new horizons of what is unknown' (p.1). One of the curious aspects of the book, given its breadth, is that it teaches the reader in an indirect but powerful way that we are all ignorant. We are 'fellow *ignorami*' (p.109). Among many other topics, the volume discusses white ignorance, sexual violence, biomedical knowledge production, agrichemicals and the death of the

honey bee, genetic counseling, and doubt-mongering. There is even a fascinating chapter on the state-led obliteration of Buddhist elements and traditions in the socialist Republic of Mongolia.

Even the most omnivorous of readers cannot possibly dive into every chapter with equal enthusiasm. The decision to pay more attention to some chapters than to others offers a nice, practical lesson on how we are all condemned to ignorance. This broad conceptual landscape is simultaneously a major strength and an inevitable weakness of the volume. It is a strength because it positions the book as a multidisciplinary source for those interested in ignorance studies, no matter what their background. It is a weakness in that it reduces coherence and creates uneven interest. No reader can have equal interest in chapters on journalism, music, linguistics, industry, the brain and social movements. But such scope turns the book into an intellectual *tour de force*. If the death of knowledge is not ignorance, but rather ignorance of ignorance, the book actively reinvigorates knowledge by keeping the reader alert to the impossibility of non-ignorance.

## Forbidden knowledge: forbidden to forbid

One chapter is dedicated to forbidden knowledge. Forbidden knowledge refers to knowledge that is sensitive, dangerous, taboo. The world around us is redolent with forbidden knowledge. Politicians in totalitarian systems see the need for it everywhere. Even in democracies, the fight against terrorism and the enemies of open societies may seem to legitimize the view that some topics are forbidden. The book warns us, in my interpretation, that the university and the scholarly quest are social forces against forbidden forms of knowledge. The progressive industrialization of the university may lead to new understanding of what is intellectually acceptable and what is not. The authors in this volume remind us that polyphony is the antidote to totalitarian temptations and knowledge taboos. It is forbidden to forbid the pursuit of knowledge.

## Ignorance abounds, yet we prefer to ignore it

Roy and Zeckhauser note that 'Ignorance abounds, yet it often goes unrecognized' (p.71). Deliberately confronting ignorance can be as fruitful an exercise as accumulating knowledge. We live in an era of unprecedented access to knowledge, yet we are less and less aware of what knowledge justifies our beliefs. In the era of the Internet, an abundance of information may contribute to informed ignorance. We all possess knowledge that is invalidated by other knowledge. Science coexists with pseudo-science (Marçal, 2014). Deep knowledge coexists with 'pseudo-profound bullshit' (Pennycook *et al.*, 2015). Abundant information neutralizes relevant knowledge. The message is clear: science should be about not only the accumulation of knowledge; it should also be about removing the wrong beliefs and generating doubt (Weick, 2001).

Overall, the book's contributors seem to consider that ignorance is inevitable in decision-making. This being the case, scholars should help to: (1) avoid making risky decisions in the absence of clear probabilities or outcomes; and (2) counter efforts to create ignorance around unsettling facts. After reading this book, many readers will never again see ignorance in the same way. From *terra incognita,*

ignorance will evolve into a huge continent waiting to be explored. Ignorance studies can help shed light on areas as diverse and important as the ethical limits to medical research, the quality of political decision-making, the deliberate use by firms (big tobacco firms, for instance) of not knowing, and the erasing of the past by totalitarian regimes. In the land of *Ignorantia,* knowledge of ignorance 'perturbs more than it settles' (p.1).

At the end, the book reaches its destination successfully. It contributes with bravura to the rehabilitation of the field of ignorance studies, and it helps to respond to Karl Weick's (1998) suggestion to organizations and their administrators: 'in lieu of seeking more knowledge, organizations should be defined by what they ignore'. The challenge will be difficult to embrace, however: the 'predisposition to avoid association with ignorance is a powerful driver of action' (p.376). Studying ignorance and assuming it, however, are not the same as expressing ignorance. The book's contributors and their readers will know this important truth, but they should expect obstacles in the process of liberating ignorance studies from the hijacking of the knowledge era. As Stewart observes, 'no one said this was going to be easy' (p.376).

Staying alert to ignorance is an unnatural skill. However, as Weick (2007) notes, if wisdom refers to the balancing of knowledge and ignorance, cultivating this unnatural skill should become normal practice. Doing research about ignorance is an unnatural choice, but it should be as important as the study of wisdom. Ignorance will always be with us, but mapping this territory in the company of Plato, Popper and Pasternak is an intellectual feast. More recent illustrations, however, are also featured, including Donald Rumsfeld, 'who had not previously been noticed as having philosophical interests'. It may be that even the most omnivorous of readers will find it impossible to digest every chapter with the same energy, but recent research indicates that the culturally omnivorous may have an advantage (Koppman, 2016). No omnivorous reader, I suspect, will refuse the banquet served by Professors Gross and McGoey.

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**A woman of influence: science, men and history**, by Ann Moyal, Crawley, Western Australia, UWA Publishing, 2014, xi + 201 pp., A$34.99 (paperback), ISBN 9781742585970

In *A Woman of Influence*, Ann Moyal, the successful and well-known Australian historian and independent scholar, presents a revealing collection of personal reflections on members of her family, friends and the colleagues she has met over a long life. Moyal has deservedly earned the status of elder in the Australian scholarly community. She has made significant contributions to many aspects of Australian history, specifically to the history of science in nineteenth century Australia. Moyal's work covers a wide historical scope. She has written on topics as diverse as the history of telecommunications in Australia and the scientific controversy over the classification of the platypus. In fact, a page at the beginning of this volume lists an impressive 11 books by Moyal, all single authored.

Of specific interest to *Prometheus* readers is the fact that in the early 1980s, Moyal was influential in the foundation of the journal with the late Don Lamberton, Stuart Macdonald (currently the general editor) and Tom Mandeville. With hindsight, it can be seen that Moyal's interest in history was a welcome addition to the broad range of disciplinary inquiry favoured by the founding general editor, Don Lamberton. In 2007, Moyal was awarded an honorary DLitt by the University of Sydney for her contributions to history (60 years after graduating with an Arts degree from that institution). Moyal has made her mark on the Australian scholarly landscape and *A Woman of Influence* provides a reflective insight into how this contribution was shaped. This latest work can be read in conjunction with an earlier auto-biographical effort, *Breakfast with Beaverbrook*, in which she explores her relationship with Lord Beaverbrook (Max Aitken, the Canadian media magnate, UK Cabinet Minister and historian) during the 1950s, when she worked as his research assistant (Moyal, 1995).

For anyone interested in what it takes to be a truly independent thinker and public intellectual in a male-dominated world, Moyal's reflective stance is a good place to start. Moyal does a marvellous job in exploring themes that are fundamental to human relationships and meaning: love, work, the search of knowledge and the search for a sense of meaning from life. 'Historian' is only one of the labels that can be comfortably placed on Moyal. The term 'independent scholar' appears equally appropriate. Her relationship with universities and with some academics has been strained, which makes her life story and reflections all the more interesting. She has a passion for ideas as well as a desire to criticise and undermine the barriers created by gender inequality and 'mini men' as she calls them. Moyal is an