Losing faith in the classification and evaluation of research

A meta-metrics approach to research on religion in Australia

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This article uses a meta-metrics approach to research the research in Religion and Religious Studies (Field of Research (FoR) Code 2204) in Australia. Comparing and contrasting various results from the data provided by the Australian Research Council (ARC) on its Excellence in Research for Australia (ERA) process, as well as global rankings data, the findings point to a reported drop of quality of research in this field. In this article we argue that this loss of quality could be due to the way this FoR Code is constructed and we call for its revision. This research also points to a considerable disparity between peer review disciplines such as FoR Code 2204 and citation disciplines.

Keywords: ERA, religion, metrics, citations, FoR Codes

Introduction

This article is a response to the call from Wilsdon *et al.* (2015) recommending more research on research. To enact this, it re-appropriates the metrics system in a meta-metric approach to shed light on the work that academics are undertaking in Australia in the field of religion and religious studies. As such, it is not aimed at comparing and measuring individuals and/or organisations, but at allowing academics in this field to understand the impact on their work of metrics, peer assessment, and processes, and, hopefully, give them an understanding of their alienation from the products of their labour. The aim of this research is to provide tangible evidence, for the first time, concerning the academic success of the broad field of religion and religious studies as categorised and assessed by official government channels in Australia. The field of study under research here is categorised as 2204

Religion and Religious Studies and is one of the 157 FoR codes used to classify research activities in Australia and New Zealand. It is a code that includes a topic of research (religion as researched by, for example, anthropologists and historians) and a specific discipline (religious studies including, in this classification, theology).

The use of metrics for research is not a new process. Renn*et al.* (2016) trace it back to 350 years ago when bibliometrics were used to statistically analyse publications. The first citation analysis was used in 1927 to produce a ranking of chemistry journals, and when the impact factor of journals was created as an indicator in the 1960s by the Institute for Scientific Information, it was meant to provide librarians with information to help them decide which journals to subscribe to. It was only later that this metric led to the ranking of journals to evaluate the performance of researchers and institutions. However, this article is not a discussion on the validity and social use of the research metrics currently

available. This has been done quite extensively elsewhere. Findings can be supportive of the status quo such as the work of Terämä *et al.* (2016) on the metrics used by the Research Excellence Framework (REF) system in the UK. They found that measurement of research quality and research impact from institutions are aligned, and that there is little evidence that the current pursuit of impact detracts from the quality of research. Other more critical research can vary from proposing the notion of responsible metrics to deal with the unintended consequences of this system (Wilsdon *et al.*, 2015), to a policy critic (Woelert, 2015), to a Marxist observation that academics are losing control of their surplus time (Hall, 2018). There are other types of critiques of the way quality is measured; these are on how citations and journal ranking can lead to ‘journal list fetishism’ (Gruber, 2014), on how citation behaviours can be linked to external pressures and personal motives (Aksnes *et al.*, 2019), on how citations affect ranking in problematic ways, or on how they lead to perverse effects such as those of ‘gaming’ with quantitative indicators (Wilsdon, 2015). These metrics are not just simply demanded by universities to build their prestige and gain resources, and as the 2015 Wilsdon report stated for the UK system, there are also demands from the government and policymakers to be able to access ‘big data’ on research at a fast pace.

The method of using metrics to analyse metrics for this article requires some justification. Statistically speaking, it is not methodologically grounded enough to justify the comparison between data on ERA results, and global rankings outcome. But metrics are not always scientifically valid statistical instruments. Wilsdon *et al.* (2015) make reference to the 2013 San Francisco Declaration on Research Assessment with more than 570 organisations and 12,000 individuals who have signed expressing their scepticism regarding the practice of using metrics in research management. For example, they argue that measuring the quality of one’s work according to citations or the impact factor of a journal has many deficiencies as a tool for research assessment.

The perspective of this article is that research metrics are tools of social construction aligned with a neoliberal paradigm and are thus more related to biopolitics than to (supposedly neutral) statistics. Indeed, in a classical Foucauldian approach, governments use statistics and other types of demographic assessment to measure and forecast populations. This allows a government to predict population change and unrest and if it is not possible to modify undesirable trends, at least to compensate for their effects. Cheney-Lippold (2011) has adapted these theories to digital capitalism, discussing

the practice of various private and governmental agencies collecting statistics over the Internet as ‘soft biopower’ and ‘soft biopolitics’. These data help to categorise Internet users’ activities at both local and global levels. In today’s world, the population is managed not only in the offline realm but in the online one as well. Although the conceptual image of the panopticon would be useful in this case, it needs to be updated with the concerns of the time. New expressions such as ‘pan-optic surveillance’, ‘panspectric veillance’, ‘synoptic veillance’ and ‘überveillance’ are used to describe these changes in security and control processes (Lupton, 2015, pp 36-37).

Brivot and Gendron (2011) have demonstrated that new technologies have increased the capacity for surveillance. It is now possible to keep track of everyone’s data, not just those of deviant populations as in the eighteenth and nineteenth centuries. Everyone is now being monitored and providing data. According to Brivot and Gendron (2011), Reigeluth (2014), and Stiegler (2015), this leads to a predictive, algorithmic governmentality: ‘a form of power-knowledge predicated on profiling practices and concerns with the prevention of certain types of behaviour’ (Brivot & Gendron, 2011, p.139). When someone surfs the net, buys commodities online, downloads files, ‘likes’, ‘tags’ or ‘tweets’, this information is stored and used to analyse and anticipate trends for similar users. These trends are calculated by algorithms used as a form of governmentality. This form of governmentality is no longer based on the statistics or demographic assessments developed by social scientists, but on data collected, through people’s use of the Internet, by web analytics firms trying to fine-tune computer algorithms to provide the best possible (market) knowledge.

This practice is mainly aimed not at finding abnormalities in the present (as it is in classical governmentality), but at predicting future (consumer) behaviour. This same practice is now adopted in the higher education sector with these research metrics to track the performance of institutions and staff and measure the return for research investment from government. In these types of methods, any measurement that allows a form of control is thus a good measurement. Paradoxically, one goal of this article is to use these metric systems against each other to shed light, not necessarily on the performance of a specific field of research, but on how this field is evaluated and impacted.

This research is aligned with other types of work which have used ERA results to assess the strength of a discipline at the international level such as the research paper from McKenna *et al.* (2017) on nursing, and Crowe and Watt (2016) on psychology. This article also adds another source

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of knowledge, or of metrics, for this analysis by exploring relevant global rankings (see below).

Peer review vs citation discipline comparison

The first round of ERA happened in 2010 to evaluate the quality of universities' output for the six-year period from 2003 to 2008. The second one took place in 2012 (for 2005 to 2010), the third in 2015 (for 2008 to 2013) and the fourth one in 2018 (for 2011 to 2016).

Overall, there were 7,117 Units of evaluation (UoE) at the 4-digit Field of Research (FoR) level for the combined ERA 2010, ERA 2012, ERA 2015 and ERA 2018. One UoE makes reference to one university being assessed for one FoR code. This excludes FoRs that were not rated. Of these, 5,879 UoEs (i.e. 83 per cent) were rated at world standard or better (3, 4 or 5). A score of 3 signifies a research quality on par with world standard, with 4 and 5 above and leading. Any score below 3 represents an outcome below world standard.

These UoEs can be broadly categorised into those that were assessed primarily on the citations of publications, and those that were based on peer review. In fields of research dominated by the output of journal articles, the process involves the calculation of citations per article as provided by world databases such as Web of Science or Scopus. In the fields of research that still contribute to the publication of journal articles, but also book chapters and monographs, the quality of these publications is judged by a panel of assessors (peer review) rather than by the number of citations. Thirty per cent of all publications in these disciplines is selected by each university and then distributed to these peer reviewers for assessment. Between these two categories, the spread of disciplines is fairly equal: 46.5 per cent were based on peer review, with 53.4 per cent based on citation analysis. However, the ratings produced by these two methods differs significantly.

Ninety-two per cent of the citation disciplines were rated at world standard or better (3, 4 or 5) while only 71 per cent of the peer review disciplines were rated at world standard or better (3, 4 or 5). This begs the questions of whether science discipline ratings are inflated, whether peer review scores are suppressed, or whether the assessment is correct. FoR Code 2204 Religion and Religious Studies is one of the peer review disciplines. We are guessing that the pool of academics used to assess its performance comes from religious studies and cultural studies academics, theologians, sociologists, anthropologists, psychologists, etc., and mainly from Australia. These would come from a broad mix of Humanities and Social Sciences disciplines.

We come now to the question of assessing peer disciplines broadly. Some disciplines have a small number of UoEs. We

have used a threshold of 30 UoEs across these periods, to generate more robust results. This has narrowed down the number of peer reviewed disciplines to 38. Of these, 26 peer reviewed disciplines have less than the 83 per cent national average that are rated 3, 4 or 5. See Table 1.

On the other hand, there are 54 citation disciplines that have at least 30 UoEs. Of these, only five citation-based disciplines, as listed in Table 2, have less than the 83% national average that are rated at 3, 4 or 5.

To further this comparison, and this time with a focus on ERA 2018 only as found in Figure 1, the average rating for all peer review UoEs was 3.1 while the average rating for citation

Table 1: Peer Review FoR Code below average performers

FoR Code	No. of UoEs*	% 3, 4, 5
2001 – Communication & Media Studies	73	82%
2002 – Cultural Studies	94	79%
1201 – Architecture	60	78%
1901 – Art Theory and Criticism	32	78%
1904 – Performing Arts & Creative Writing	109	78%
0803 – Computer Software	35	77%
1401 – Economic Theory	34	76%
1602 – Criminology	54	76%
1608 – Sociology	118	74%
1801 – Law	127	72%
0806 – Information Systems	80	71%
2204 – Religion and Religious Studies	51	69%
1607 – Social Work	62	68%
1502 – Banking, Finance and Investment	76	67%
1606 – Political Science	93	65%
1303 – Specialist Studies In Education	140	63%
1905 – Visual Arts and Crafts	68	63%
1506 – Tourism	69	62%
1202 – Building	41	61%
1505 – Marketing	99	61%
1605 – Policy and Administration	78	56%
1302 – Curriculum and Pedagogy	131	53%
1402 – Applied Economics	123	53%
1501 – Accounting, Auditing & Accountability	88	53%
1301 – Education Systems	103	49%
1503 – Business and Management	143	45%

One UoE in this analysis refers to one university being assessed in one FoR code as part of one of the ERA assessments.

Table 2: Citation below average performers

FoR Code	No. of UoEs*	% 3,4,5
1114 – Paediatrics and Reproductive Medicine	51	82%
0202 – Atomic, Molecular, Nuclear, Particle and Plasma Physics	35	80%
1702 – Cognitive Sciences	32	78%
1701 – Psychology	121	71%
1117 – Public Health and Health Services	127	67%

* One UoE in this analysis refers to one university being assessed in one FoR code as part of one of the ERA assessments.

UoEs was 4.0. While citation disciplines make up 58 per cent of all disciplines assessed, they make up 85 per cent of the UoEs rated 5 and only 16 per cent of the UoEs rated 2.

Citation-based disciplines are assessed using metrics based on world benchmarks. Peer review disciplines, on the other hand, are based on more subjective analysis. This difference of outcome seems disproportionate to say the least, and puts in question either the process of peer review disciplines, or the quality of the work performed by academics in these disciplines, compared with their peers who are judged mainly on their citations. That said, the report by Wilsdon *et al.* (2015) on the research metric system as used in the UK and recommends quite explicitly to continue supporting the peer review process, as metrics, even if imperfect, should help rather than replace the judgement of experts. This also raises the issue of whether peer review disciplines are ranked at the correct level, while the citations ones are inflated due to the metric system.

Nevertheless, either the ERA process disadvantages peer review disciplines which includes FoR Code 2204 Religion and Religious Studies or reflects the weaker performance of these disciplines.

ERA, religion and Australian universities

This section comes back to the focus of this article on 2204 Religion and Religious Studies, examining the Australian universities that participated in any of the three ERA processes for FoR code 2204. Table 3 shows only the universities that scored a result for 2204. The others did not reach a volume of publication high enough to be assessed. Indeed, if a university's output is below a specific publication threshold, it is not assessed as part of the ERA process. Eleven universities participated in this process for this FoR code. The leading institution (with an average of 3.75) across these four assessments was the Australian Catholic University. Monash University and the University of Queensland followed with an average of 3.5. As expected, universities from the Group
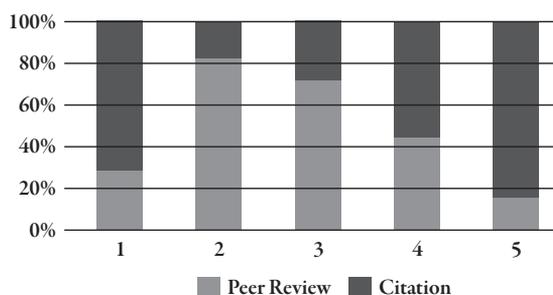
Figure 1: 2018 ERA Rating Distribution by percentage

of Eight tended to score higher (average of 3.4) followed by the Unaligned Universities (2.8) and the Innovative Research Universities (2.4). Perhaps unsurprising, none of the universities from the Australian Technology Network published enough work in religion for its FoR code to be assessed.

Also in Table 3, a comparison has been attempted with global rankings. For this assessment, we followed the results of Vernon *et al.* (2018) in their systematic review of university rankings, which recommends using global rankings in tandem rather than one at a time. Unfortunately, the only global ranking system close to the ARC's FoR Code 2204 is the Quacquarelli Symonds (QS) World Rankings for the discipline 'Theology, Divinity & Religious Studies'. The Times Higher Education's closest subject is 'History, Philosophy & Theology' and would involve three different Australian FoR Codes whereas the former ranking only deals with one. Out of the 11 universities having a result for ERA 2018, only 4 make the top 100 in the world that are listed. Of these four universities, apart from one which did not reach the threshold for ERA 2018, the ERA 2018 average result is 3. None of the Australian universities with a score of 2 in 2018 were among the top 100.

We note that there has been a drop from 6 (in 2018) to 4 (in 2019) of Australian universities in the top 100 in QS ranking, and a drop in average ERA from 3.4 in 2015 to 2.6 in 2018. This seems to indicate an overall drop in the quality in Australian universities in the field of religion studies, as assessed by two metrics; or a move away from publishing in this category (e.g. moving historical pieces on religion from religious studies publications to historical publications).

To test how FoR Code 2204 would rate as a citation discipline, we used the information provided by SciVal and InCites (see Table 4). We checked the articles published in religious studies during the period covered by ERA 2018 for each of the universities ranked for the last ERA, even though only 44 per cent of the publications were journal articles. These should be regarded as affiliated articles whereas ERA includes staff back catalogue based on who is recognised as a contributor on an ARC defined census date. Potentially

Table 3: Institutional Network

Network	Universities+	ERA Scores					QS Theology, Divinity, and Religious Studies (World Ranking from 1 to 100)	
		2010	*2012*	*2015*	*2018*	*Average ERA Score per Round*	*2018*	*2019*
Group of Eight (Go8)	University of Melbourne	4	3	3	N.A.	3.3	51-100	51-100
	University of Sydney	3	3	4	3	3.25	37	51-100
	University of Queensland	4	3	4	3	3.5	51-100	N.A.
	Monash University	3	4	4	3	3.5	34	43
Average ERA Score per Round: Go8		**3.5**	**3.25**	**3.75**	**3**	**3.4**		
Innovative Research Universities (IRU)	Murdoch University	2	3	4	2	2.75	N.A.	N.A.
	Flinders University	3	2	3	N.A.	2.6	N.A.	N.A.
	La Trobe University	N.A.	2	N.A.	N.A.	2	N.A.	N.A.
	Western Sydney University	2	3	3	2	2.5	N.A.	N.A.
Average ERA Score per Round: IRU		**2.3**	**2.5**	**3.3**	**2**	**2.4**		
Australian Technology Network (ATN)	N.A.							
Regional Universities Network (RUN)	University of New England	2	N.A.	N.A.	N.A.	2	N.A.	N.A.
Average ERA Score per Round: RUN		**2**				**2**		
Unaligned	Australian Catholic University	4	3	4	4	3.75	51-100	N.A.
	Charles Sturt University	2	2	3	2	2.25	N.A.	N.A.
	Deakin University	2	N.A.	N.A.	3	2.5	45	51-100
	Edith Cowan University	2	N.A.	N.A	N.A.	2	N.A.	N.A.
	Macquarie University	3	N.A.	N.A.	N.A.	3	N.A.	N.A.
	University of Divinity	3	3	3	3	3	N.A.	N.A.
	University of Newcastle	4	3	4	2	3.25	N.A	N.A.
	University of Notre Dame	N.A.	1	2	2	1.6	N.A.	N.A.
Average ERA Score per Round: Unaligned		**2.8**	**2.25**	**3**	**2.6**	**2.8**		
Total Average Score per Round		**2.6**	**2.7**	**3.4**	**2.6**	**3.0**		

+ Only those universities with a result for FoR code 2204 have been included in this table.

these articles do not reflect the 30 per cent nominated for the ERA peer review. On top of this, while 1,019.2 articles were included in ERA 2018, only 462 were reported in SciVal, and 303 in InCites. These publications refer only to articles published in journals in religious studies and theology (as listed in these databases), and not for example, in psychology or anthropology journals that have included an article on religion. They do not represent all the articles submitted for

Table 4: Testing 2204 as a Citation Discipline*

Institution	SciVal ERA 2018 Rating	InCites Scholarly Output	Field-Weighted Citation Impact	Web of Science Documents	Category Normalised Citation Impact
Australian Catholic University	4	112	1.58	90	1.02
Deakin University	3	42	0.77	32	0.54
Monash University	3	70	0.92	47	0.88
University of Queensland	3	30	1.17	20	0.82
University of Sydney	3	86	1.29	42	1.22
Charles Sturt University	2	36	0.82	16	0.26
Murdoch University	2	15	0.98	14	0.63
University of Newcastle	2	35	0.48	24	0.54
University of Notre Dame Australia	2	6	1.49	5	0.28
Western Sydney University	2	30	1.24	13	1.63
Average	2.6				
Total Articles		**462**		**303**	
University of Divinity	3	Not found			

ERA. Were this not the case, few universities would meet the ERA threshold. Although the numbers are smaller, we expect the articles categorised in these two global systems to have been published in the major journals in religious studies and theology and thus have a higher probability of attracting citations. The data are thus not directly comparable but should be a reasonable indication. However, the data provided in Table 4 are those used for the various global ranking metrics. As an exercise, without speculating on the possible higher or lower score of Australian universities, we allocated a score for citation impact:

- 5 to any citation impact above 1.8,
- 4 to any above 1.4,
- 3 to any above 0.9,
- 2 to any that was lower than 0.89, and
- 1 for lower than 0.49.

We added all results from our reading of a Field-Weighted Citation Impact (FWCI) and a Category Normalised Citation Impact (CNCI) of the 20 results and averaged them. Note that an FWCI of 1.00 indicates that the publications have been cited at world average for similar publications (Curtin University, nd a), whereas the CNCI of a document is calculated by dividing the actual count of citing items by the expected citation rate for documents with the same document type, year of publication and subject area (Curtin University, nd b).

The result is an overall estimated ERA score of 2.5. Contrary to our primary assessment, the peer review process for FoR Code2204 gives a marginally higher average score

(2.6 for ERA 2018). It must be noted that even if this latter figure also reflects the fact that peer reviewers assess books and book chapters, not all of which are included in SciVal or InCites, and taking into account the high uncertainty in these measures, the peer review process could positively affect FoR Code 2204.

Discussion and Conclusions

The findings in this article do not question world rankings of Australian universities in this field as they are evidence of an alignment with the ERA process. Indeed, we have seen a drop in ERA results in 2018 which might reflect a trend in QS rankings. We thus noted a drop in the quality of the work in religious studies assessed in Australia as measured by these various processes. This could also signal a move away from this code by various researchers and Australian universities.

We also question the peer review process compared to the citation one, and after a test, assumed that although lower in outcome than citation disciplines, the peer review process could be appropriate if compared with other peer reviewed FoR codes.

This begs the question as to what could have caused this decline in quality in the recent ERA performance assessment. It might be because the overall performance of academics in religious studies has indeed gone down. It might be because FoR Code 2204 is exclusively housed in the Humanities and Creative Arts panel, and that the social scientific study

of religion (e.g. anthropology, human geography, political science and sociology) is not necessarily evaluated as part of the Education and Human Society Committee panel. Also, peer review assessors might not be able to judge the quality of each other's work, e.g. a theologian assessing a sociological piece, and vice versa. This could be a call to include a FoR code in the 16 on Religion and Society (e.g. 169906) and change the existing code 220405 from Religion and Society, to Religion and Culture. It might help to distinguish the social scientific approach to religion from the humanities approach. It is also possible that FoR Code 2204 assessors are especially hard on each other. As the FoR code includes experts in religious studies, theology, the social sciences, and the humanities, we would indeed expect a high divergence of criteria used by experts to assess work from other disciplines.

These findings will certainly encourage researchers who specialise in another FoR code such as anthropology, sociology or history to abandon the use of this 2204 FoR code in the way they categorise their output. This will certainly weaken the visibility of the research on religion in Australia, and its future overall in ERA and global rankings assessments. The likely outcome of the way FoR Code 2204 is assessed at the moment will certainly have an impact on the way research in religious studies, as represented in this Code, is portrayed in domestic and international rankings.

Woelert (2015) refers to the logic of escalation when it comes to ERA. When a system establishes a way to quantify its performance it must use an idiosyncratic and often inflexible way to reach that outcome. These measurements can become technically complex and even expensive to run. They can become abstraction of abstraction. Indeed, when we refer to the quality of journal articles, we often use citations as a form of abstraction, which is then used to provide another abstract concept, that is, the Relative Citation Index (RCI), which in turns provides the source for another abstract rating for ERA (e.g. a score of 3). In this article we have thus attempted to dig into this logic of escalation with regards to FoR Code 2204 Religion and Religious Studies and its success. A 'stigmatisation' of this Field as a low-performing discipline and field of research is likely to increase and will push away academics and universities from investing their resources in this FoR code. The most likely outcome will be for academics to lose faith in FoR Code 2204, because of the way religion is categorised in Australia, and because of this, the way it is assessed by peers.

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