Interdisciplinary Entanglements: A review of *Rethinking Interdisciplinarity across the Social Sciences and Neurosciences*, by Felicity Callard and Des Fitzgerald (2015): Palgrave Macmillan

By Rachel Irwin

In the 1987 cult classic film, *The Princess Bride*, Vizzini repeatedly uses the word "inconceivable" until finally Inigo Montoya says to him 'You keep using that word. I do not think it means what you think it means.' In very much the same way, stakeholders in the research process—funders, researchers, supervisors, university rectors—keep using the term "interdisciplinary", seemingly without quite understanding what it means.

The ambiguity in the implementation of the term "interdisciplinary" is the starting point of *Rethinking Interdisciplinarity across the social sciences and neurosciences* by Felicity Callard and Des Fitzgerald. The book is largely auto-ethnographic, as the authors reflect upon their personal experiences in the field of neuroscience. They describe their involvement in a number of specific interdisciplinary collaborations, including the Hubbub project which explored 'the dynamics of rest, noise, tumult, activity and work, as they operate in mental health, the neurosciences, the arts and the everyday (Hubbub, n.d.).'

Callard and Fitzgerald discuss how the research environment for neuroscience is unique. The terrain of neuroscience deals with 'minds, brain, and their environments' and addresses 'many of the most pressing societal questions of our age.' Neuroscience also lies at the nexus of classic debates on nature versus nurture, thus benefitting from interdisciplinary perspectives. Practically, the authors discuss that in the late 2000s and early 2010s, there was a confluence of interest in interdisciplinary research in neuroscience, and they highlight the role of funders such as the Volkswagen Foundation and the Wellcome Trust, amongst others. Yet, despite situating this book in a particular social field in a particular time and place, insights on interdisciplinary research apply to medical and public health research more broadly; and the book is written in a way that is applicable to any type of interdisciplinary collaboration.

In discussing their experiences of interdisciplinary research, several key points emerge:

1. Too often, interdisciplinary research is, in fact, multidisciplinary. That is, in a given umbrella project, neuroscientists and social scientists may tackle a research problem from their own epistemological and methodological starting points, and then come together and share insights in a final conference or workshop. Alternatively, social scientists and humanities researchers may be called upon to give context to quantitative research. Instead, the authors call for a 'more fractious kind of interdisciplinarity' that 'brings together epistemological and ontological domains—within and across the life sciences, interpretive social sciences and the humanities.' Certainly, the authors are not suggesting that a social scientist with no clinical research experience start reading MRIs and that a lab scientist do ethnography. But they do call for interdisciplinary research groups to 'entangle' themselves in the 'methods, logics and principles' of each other's disciplines (115).

2. The space of interdisciplinary research is a significant problem in its own right (28-29). Interdisciplinary research is a social field and the authors suggest viewing this space as a legitimate research object (62). For instance, the authors reflect upon the very modes and means of working, focusing on the range of apps and platforms used to communicate, store and share material amongst researchers. (228). Here a strength of the book is its thick description. Callard and Fitzgerald's accounts of their experiences are very detailed—leaving no social interaction unanalysed. Furthermore, the authors invite the reader to analyse and to learn from the emotions of the field, particularly the unease and 'unsettledness' that one may feel during interactions with colleagues from other disciplines (see point 4).

3. **There are practical challenges to interdisciplinary research—but the risks may be exaggerated.** A key challenge is for researchers to gain an in-depth understanding of the literature in multiple fields. This extends to the 'publish or perish' culture of academia, and the authors note that many journals are hesitant to publish interdisciplinary work (Byrne, 2014 as discussed in Callard and Fitzgerald, 2015). Similarly, funding schemes are often targeted towards single disciplines. The authors describe the challenges they have faced with reviewers of journals and funding applications—if a biologist and a social scientist are asked to review the same application, the two reviews may come to vastly different conclusions. Callard and Fitzgerald also recognise that these challenges disproportionally affect early-career researchers who are struggling to find permanent positions (Byrne, 2014, as discussed in Callard and Fitzgerald, 2015).

4. While Callard and Fitzgerald are cognizant of these real concerns, they downplay them and ask the reader to fight against the sclerotic silos in academia. They also note here that there is a role for leaders in research—funders, journal editors and university administrators—to create an environment for interdisciplinary research; and a role for funders to learn from each other.

5. Related to points 2 and 3, **working in an interdisciplinary setting can be emotionally demanding.** Here the authors discuss the asymmetries of power, funding, and cultural capital that exist between different disciplines; related to this are struggles against assumed spatial and temporal relations—who does what, where and when in an interdisciplinary collaboration. The authors are very honest in their experiences, and also include quotes from reviews they have received. They ask 'how are we to make interdisciplinary research happen [when] we find ourselves surrounded by colleagues who variously understand our work to be garbage, or see us as ethically deformed bureaucrats?' (373). While the authors discuss their own emotional regulation—that is, how they deal with the emotionally demanding aspects of interdisciplinary research—they also conclude that unequal power relations may be useful in certain instances. In fact, they invoke Foucault to suggest that that a measure of sadomasochism may be desirable in an interdisciplinary collaboration (316), although they lost me a bit on this point. I am not convinced that everyone would like to have a submission/ domination dynamic in their research collaboration. The authors write about learning to live with unequal exchange, even learning from it (325); on one hand I see the value in this, but on the other hand I also see that these types of unequal relationships can be destructive, especially to early-career researchers.

7. Finally, **good interdisciplinary research requires the right people at the right time.** Not everyone will enjoy interdisciplinary research (178-179). The authors point out that social scientists who have spent their careers critiquing the reductionist views of quantitative research and quantitative researchers who do not respect social science and the humanities are not the right people to seek out for collaboration. Callard and Fitzgerald recognise here that there is no point in wasting time and energy on researchers who simply are not interested in interdisciplinary collaborations. Additionally, the success of interdisciplinary collaboration is also about being in the right place at the right time—in which funders and high-level interest converge to make opportunities happen.

At its best, the book is inspirational and encourages researchers to set aside some of the preconceptions and indoctrinations of our 'home' disciplines. It balances nicely between the practical challenges of interdisciplinary research and the more conceptual and theoretical aspects which underpin research as a social field. It is also fitting that the authors also have chosen to publish using the Palgrave Pivot format. This is a new format launched by Palgrave in 2012, which allows authors to publish research at its "natural length." (Palgrave, 2017). Volumes are between 25,000 and 50,000 words—longer than a journal article, but shorter than a typical book. For a book about unique research, it seems appropriate to choose a unique format.

However, there were two perspectives I would have liked to see further discussed in the book. Firstly, gender is alluded to throughout the text, but these insights could have been more explicitly discussed. The ways in which gender and sex are understood and used as concepts in research differ across neuroscientific disciplines (180–181); and different disciplines are also gendered in that hierarchies, harassment and discrimination vary across departments and disciplines. I would have liked to see more consideration of how gender affects interdisciplinary collaboration. Secondly, I would have liked to see a discussion of interdisciplinarity in teaching. How can we inspire interdisciplinary thinking in students? As in research, there are practical issues to consider—how do you design and run a course with lecturers from different methodological and epistemological backgrounds? What are the power dynamics affecting such a course?

In conclusion, if you find yourself in a research rut, and short of new ideas, then this book is for you. While focused on neuroscience, the book is applicable to all spheres of research. The authors ask us to 'think beyond the level of a discipline' and to consider 'other scales and logics at which something different might take place' (147). Here the key lesson of this book is two-fold: (1) we need to think more creatively about the forms and modes of interdisciplinary research and (2) that we need to embrace and learn from the barriers and challenges of interdisciplinary research, rather than allowing these to hinder collaboration. In 2018, the world is facing so many problems—melting glaciers, light pollution, the impacts of austerity, political chaos, amongst myriad others. Perhaps if more researchers took these lessons to heart, we could image a different kind of research which is suitable to tackling the contentious issues of our time.

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