In recent years, both researchers and policymakers have shown increasing interest in research that seeks to address grand challenges of society – such as health, security, and, especially, sustainability – by crossing boundaries between disciplines and between academia and society. Collaborations that carry out such transdisciplinary (TD) research seek to maintain a high scientific quality. However, our conceptions of scientific quality are traditionally informed by the same academic disciplinary structures TD seeks to transcend. Thus, collaborators will sometimes have substantially different conceptions of what constitutes 'good science'. When the quality and belonging of contributions to TD collaborations are to be recognized based on peer-review, these collaborators must form collective judgments of quality despite these different conceptions. What makes it possible for TD collaborations to end up with such common judgments?

In this thesis, I investigate this problem of epistemic peerage in TD through two theoretical and two empirical studies. I synthesize common themes and problems in these four studies in a middle-level theoretical framework. I use this framework to discuss two overarching theoretical issues. The first is the coordination of demarcation and boundary-crossing collaboration. Those within a TD collaboration cannot have world-views that are so different as to prevent them from recognizing each other as epistemic peers, while also not so similar that there can be no substantial exchanges across borders. The second is the dynamics of the opening and closing of issues for deliberation. The aims of TD require an openness to discuss matters that would in other circumstances be considered closed facts. At the same time a certain amount of closedness is required to stabilize the collaboration. These two theoretical discussions bring insights that can be relevant to other cases of TD that involve peer-review.

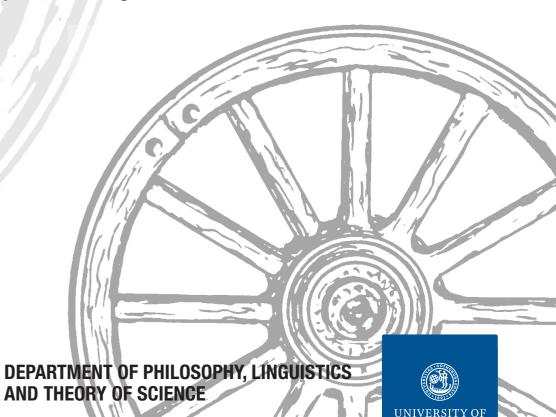
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## PEERAGE AND JUDGMENT

How transdisciplinary collaborations recognize contributions without a consensus of meaning

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