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Book of Abstracts

Jaana Eigi & Katrin Velbaum Endla Lõhkivi, Edit Talpsepp Randla (all University of Tartu) “Plurality of self-perceptions among interdisciplinary researchers and its implications for taxonomies of interdisciplinarity”

Inkeri Koskinen (University of Helsinki) “Epistemic success and societal impact in extra-academic collaboration”

Endla Lõhkivi (University of Tartu) “Metaphors, analogies and figurative speech in the studies of interdisciplinary research”

Julie Mennes & Erik Weber (University of Ghent) “Analyzing the evaluation of ‘interdisciplinarity’ by research funders: A case study for Flanders, Belgium”

Michiru Nagatsu (University of Helsinki) & Miles MacLeod (University of Twente) “What does successful ID research look like? understanding ID research from a methodological perspective”

Hauke Riesch (Brunel University London) „Inter-Discipline and Punish“

Edit Talpsepp-Randla (University of Tartu) „Looking for essentialist thinking in interdisciplinary research“

Henrik Thorén (University of Helsinki) “Interdisciplinarity as assessment: ‘interdisciplinarity as validity check’ revisited”

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Plurality of self-perceptions among interdisciplinary researchers and its implications for taxonomies of interdisciplinarity

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The aim of the paper is to show that there may exist a plurality of understandings of interdisciplinarity within a field and to discuss its implications for developing taxonomies of interdisciplinarity and philosophy of interdisciplinarity more generally. By developing a detail-rich case study, we aim to contribute to addressing issues in philosophy of interdisciplinarity in a way consistent with the vision of the field – empirically informed and interested in normative questions – outlined by Uskali Mäki and Miles MacLeod (2016).

We analyse a series of interviews with researchers working in language technology and computer linguistics, which we take to be an example of institutionally established and productive interdisciplinary field. In our qualitative analysis, we combine two approaches – the positioning theory (Langenhove & Harre 1999) and the method of culture contrast (Hasse & Trentemøller 2009) – that are specifically suited for studying dynamic social processes.

Frequently, taxonomies of interdisciplinarity presuppose that one interdisciplinary field represents one particular type of interdisciplinarity, so that one can say, for example, that electromagnetism is an example of methodological interdisciplinarity (see Klein 2010 for more examples). Contrary to this assumption, we show that in our interview material there may be identified five different understandings of what makes the interviewees’ work in language technology and computer linguistics interdisciplinary. At the core of the interviewees’ understanding there may be the commitment to a specific disciplinary or interdisciplinary method; a certain way of seeing and thinking that may be developed in one field and then applied in a different one; the perception of one’s field as by its nature interdisciplinary; the experience of receiving interdisciplinary education; and the perception of oneself and one’s colleagues as researchers with interdisciplinary interests.

Our analysis shows that the assumption “one field – one type of interdisciplinarity” may not hold if we focus on the perceptions of interdisciplinary researchers. These perceptions, in turn, may be connected to the issues of evaluating research and identifying one’s peers. Moreover, uncovering this plurality of understandings has implications for the common assumption that well-integrated interdisciplinarity is uniquely desirable. Our research thus has potential to contribute to the analysis of some of the central questions in philosophy of interdisciplinarity.

References


Epistemic success and societal impact in extra-academic collaboration

Inkeri Koskinen
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Collaboration with extra-academic agents is nowadays fairly common in science. Participatory practices and various forms of extra-academic collaboration are being developed in fields as diverse as engineering science, development studies, and archaeology, and in transdisciplinary research researchers from diverse disciplines collaborate with extra-academic agents in order to create solutions to complex real-life problems. In science policy such collaborations are seen as a means of creating practically relevant knowledge and increasing the societal impact of science.

Extra-academic collaboration faces similar problems as interdisciplinary collaborations do, as well as problems of its own. Philosophers, historians and sociologists of science have examined cases of successful collaborations in order to understand how such success is achieved. But this literature usually presupposes that success in extra-academic collaboration in science depends on whether the collaboration succeeds epistemically: whether there is epistemic exchange between the partners, whether new findings are made, methods developed, etc. In science policy, and on the administrative level in research organisations, however, success in extra-academic collaboration is often taken to mean success in creating societal impact: solutions to practical problems, commercializable products, policy-relevant results.

The implicit assumption seems to be that a collaboration that fails from an epistemic point of view cannot succeed in creating beneficial societal impact. I question this assumption, and present a case study in which the created societal impact of an extra-academic collaboration did not depend on the epistemic success of the collaboration. I then examine the possibility of situations in which a collaborative project produces epistemically dubious results, but succeeds in creating the wanted societal impact. If such situations are possible, it is particularly important to recognise the looseness of the link between epistemic success and societal impact."
Metaphors, analogies and figurative speech in the studies of interdisciplinary research

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“Common language” has often been used as a metaphor to signify the aim or the result of the process of creating mutual understanding and fruitful interaction between different disciplinary parties in interdisciplinary research.

Holbrook (2013) shows that communication in interdisciplinary research should not be construed as consensus-oriented language learning, since in some cases the disciplinary paradigms may be incommensurable. Or the discourse researchers are engaged in may not be accessible for every participating person because of their idiosyncratic linguistic features. Overcoming the incommensurability would mean obtaining “the second first language”.

In the presentation, I aim to show that it is not correct to interpret the interdisciplinary interaction in terms of incommensurable conceptual schemes for several reasons. To mention only two, 1) the interaction includes much more than just language or conceptual scheme - values, practices, instruments, patterns, etc. need to be taken into account; 2) Kuhn’s account of disciplinary practice is misrepresented.

Applying Kuhn’s approach to disciplinary practices to interdisciplinary research enables one to identify their similarities and differences. For instance, epistemic dependence in interdisciplinary research is indicating one kind of the difference.

Metaphors necessarily include simplification and one may agree with O’Rourke and Crowley (2013) that the roots of the lack of “common language” are much deeper - in different landscapes, perspectives and worldviews. They underlie research practices, methodologies and values. These require fine-tuned empirical case studies. As Mäki and MacLeod put it: „Interdisciplinary interactions and influences are likely to be complex engagements involving a varied range of interpretation and instigation, negotiating and decision-making, as well as frequent misunderstandings, miscommunications and disputes, in which conceptual and methodological challenges are entangled with institutional and emotional issues that lead to great variety in the manners through which interdisciplinary interactions make (or fail to make) a difference. “ (2016: 324)

Metaphors cannot be excluded from the discussion of interdisciplinary (or any) research practice; the fine-tuned case studies would help to analyse their meaning and evaluate the adequacy of their use in a particular context.

References:

Holbrook, J. B. 2013 „What is interdisciplinary communication? Reflections on the very idea of disciplinary integration.“ Synthese 190, 1865-1879.


“Analyzing the evaluation of ‘interdisciplinarity’ by research funders: A case study for Flanders, Belgium”

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‘Enabling cross-fertilization between disciplines’ has become part of the mission of many universities and public research councils. One form of enablement consists in dedicating funds for projects that cross disciplinary boundaries. In Flanders (Belgium) three of the six main research funding bodies have such dedicated funds. In my talk, I take a closer look at how the distribution of these funds is organised, and argue that there is room for improvement. First, I show that the name of these funds, i.e. “for interdisciplinary research”, fails to clarify the target audience as it does not specify what (mutually exclusive) type(s) of collaboration across disciplinary boundaries the funds are meant to support. Secondly, I demonstrate that the criteria used by Flemish funding bodies to determine whether a project is eligible for “interdisciplinary” funding are confused and (i) result in a bias for projects that integrate elements from different disciplines and (ii) lead to the discrimination of other types of collaboration across disciplines.
What does successful ID research look like? Understanding interdisciplinary research from a methodological perspective

Michiru Nagatsu, University of Helsinki & Miles MacLeod, University of Twente

In this talk we take stock of our ongoing empirical study of current interdisciplinary modeling practices in the resource management and environmental sciences, and suggest that closer attention needs to be paid to the nature of scientific practices when investigating and planning interdisciplinarity. While interdisciplinarity is often portrayed as a medium of novel and transformative methodological work, current modeling strategies in the environmental sciences are conservative, avoiding methodological conflict, while confining interdisciplinary interactions to a relatively small set of pre-existing modeling frameworks and strategies (a process we call crystallization). We argue that such practices can be rationalized as responses in part to cognitive constraints which restrict interdisciplinary work. We identify four salient integrative modeling strategies in environmental sciences, and argue that this crystallization, while contradicting somewhat the novel goals many have for interdisciplinarity, makes sense when considered in the light of common disciplinary practices and cognitive constraints. These results provide cause to rethink in more concrete methodological terms what interdisciplinarity amounts to, and what kinds of interdisciplinarity are obtainable in the environmental sciences and elsewhere. We conclude by briefly discussing how cognitive and institutional dimensions of interdisciplinarity can be investigated.
Inter-Discipline and Punish

Hauke Riesch
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Interdisciplinarity is, like excellence (Moore et al. 2017), commonly acknowledged as a “good thing” in universities, but like many good things, a precise definition and a completely convincing argument for why it is a good thing has not yet been forthcoming (Jacobs and Frickel 2009). First, I will look at the potential dynamics of interdisciplinary groupings, identifying four types of interdisciplinarity based on the interactions of disciplines viewed as complex social identities (Riesch 2014). Second, I will argue that discourses on interdisciplinarity often presuppose rarely acknowledged assumptions about disciplines and their functions, and that interdisciplinary approaches need to take into consideration the various natures of the disciplines that are meant to combine: interdisciplinarity may have to be handled differently depending on the disciplines in question, and we may also need to consider what we might potentially lose through abandoning disciplines, or whether by combining them we don’t simply produce new disciplinary spaces that suffer from the same (possibly imagined) shortcomings as the previous divisions within the academy (Riesch, Emmerich and Wainwright, under review). Combining these perspectives, the discourse surrounding interdisciplinarity will be analysed as what Prainsack and I (2016) have called a “fantasy of redemption” - a useful rhetorical space in contrast to which any real or imagined failures of science and academic research can be packaged as in need of salvation. For these discursive purposes the vagueness of the concept is its strength: an intellectual Rorschach test that can be whatever is required to save science from its problems.


Looking for essentialist thinking in interdisciplinary research

Edit Talpsepp-Randla

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In my presentation, I will give an overview of how essentialist thinking might express itself in the context of interdisciplinary research.

Firstly, I will give an overview of what is (psychological) essentialism and how it is usually associated with stereotype formation.

Secondly, I will give an overview of which are the sorts stereotypes that one might potentially find/encounter in interdisciplinary research culture.

Thirdly, I will give an overview of the interview questions that we asked in order to discover traces of stereotypical/essentialist thinking in interdisciplinary research.

Fourthly, I will characterize methodological and conceptual challenges that we faced when looking for essentialist thinking in interdisciplinary research.
Interdisciplinarity as assessment: "interdisciplinarity as validity check" revisited
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Abstract: In recent years issues pertaining to evaluation and quality control has become a topic of concern in the context of interdisciplinary research. No doubt as a consequence of the latter being an increasingly important and highlighted value for many funding agencies. In some early contributions to the topic of interdisciplinarity, however, this question was sometimes turned on its head. Muzafer and Carolyn Sherif (1969) argues in the opening essay to their 1969 volume on interdisciplinarity in the social sciences that one of the main purposes of interdisciplinarity is to secure the predictive capacity of disciplinary generalisations and ensure the effectiveness in the real world of disciplinary interventions. For them it is not so much a matter of assessing interdisciplinary research itself as using, and perhaps establishing, interdisciplinary relationships between disciplines in order to adequately ground the latter. In this talk we will present some tentative work revisiting Sherif and Sherif’s idea of "interdisciplinarity as validity check" by exploring examples from economics and sustainability science. We outline some of the assumptions underpinning this idea as well as some of the challenges and pitfalls associated with relying on other disciplines in support of disciplinary generalisations.