

***A Reply to Katri Huutoniemi’s “Interdisciplinarity as Academic Accountability.”***  
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In the contemporary university, knowledge is typically organized along disciplinary lines, and so interdisciplinarity represents a challenge to “prevailing epistemological structures” (Huutoniemi 2015, 10). As such, interdisciplinarity as a mode of research has both its supporters and its detractors. Supporters often defend interdisciplinarity as necessary to address complex, real-world problems such as climate change and educational inequality.

In “Interdisciplinarity as Academic Accountability: Prospects for Quality Control Across Disciplinary Boundaries,” Katri Huutoniemi offers another way to defend interdisciplinarity, viz., as a “mode of epistemic accountability across disciplinary boundaries” (1). That is, it supplies a context in which the epistemic connections and dependencies among disciplines can be revealed, offering a “higher level” of academic quality control that “renders disciplinary communities more broadly responsive for their epistemic goals and procedures” (18). Intermediate between endogenous, inward looking disciplinary accountability that emphasizes autonomy and exogenous, outward looking social accountability that emphasizes “problem solving and public accountability”, this mode of accountability “promises to increase the scientific community’s capacity to assess the robustness, reliability and relevance of academic knowledge beyond the self-contained bubble of any one specialty” (18) while remaining within the domain of academic research.

In developing this idea, Huutoniemi claims that “... interdisciplinarity may itself be used as a criterion for academic knowledge” in the sense that it serves as a proving ground for disciplines to “convey their message” (16; see Strathern 2004, 79). Here and elsewhere (e.g., Huutoniemi 2014), Huutoniemi imports the concept of *ecology* into her thinking, arguing that the quality or reliability of research depends on how well it fits with a particular context. Although it might seem that disciplines operate as if they are independent of one another, they actually operate in a complex knowledge ecology, influencing one another socially and epistemically in ways that create functional and strategic dependencies (7). In fact, their complex, entangled relationships influence what facts they sanction and what goals they pursue, motivating the need for a “lateral control mechanism between disciplines” that acknowledges their essentially connected natures (17).

Interdisciplinarity, understood as “a nexus of interacting disciplinary values and forces”, supplies the requisite lateral accountability in the form of “monitoring and responsibility across disciplinary contexts” (17). Interdisciplinarity, then, serves as a “criterion for academic knowledge” by highlighting the degree to which disciplines can give an account of themselves as “social, epistemic systems” that must be transparent in their activity, responsible for the knowledge they produce, and responsive to the impact of that knowledge on other such systems.

This is a rich and interesting article. I am intrigued by the idea that interdisciplinarity could be used to evaluate disciplines and disciplinary knowledge production, putting pressure on disciplines to refrain from being exclusively concerned with epistemic issues

in their insular neighborhoods. Huutoniemi's appreciation for the coupled ethical-epistemic character of normative issues in interdisciplinary research also stands out, highlighted by her emphasis on *epistemic accountability* understood as a "value embedded in the ethics of science" (17; cf. Tuana 2013). Even so, there are questions about the proposal that should be answered before it is promulgated as an additional reason for endorsing interdisciplinarity. She acknowledges that there remain open questions about the proposal (19), but the questions that interest me here were all adumbrated in the paper: (a) For what does interdisciplinarity provide accountability? (b) To whom does interdisciplinarity provide accountability? (c) Must we not account for interdisciplinarity first, before taking it to be a source of accountability? In what follows, I consider these in turn.

### **Accountability for What?**

In developing her titular proposal, Huutoniemi takes accountability to be "at once a moral stance toward the wider world and a set of procedures for verification" (7), where the moral stance requires "being transparent, taking responsibility for one's actions, and subjecting oneself to scrutiny, control, and guidance" (17; cf. Dubnick and Frederickson 2011). Following the literature (e.g., Kearns 2011), she develops her proposal by addressing three questions: "accountability *to whom*, accountability *for what*, and accountability through *which mechanisms*" (9). Working with empirical results from a study of the Academy of Finland's "Academy Projects" funding mechanism, Huutoniemi develops responses to these questions on two levels: the level of the proposal, and the level of the peer evaluation process.

My interest in this section is in the second question, pitched at the level of the proposal. In particular, *for what* does interdisciplinarity account when it functions as a mode of accountability across disciplinary boundaries? She responds to this question by emphasizing the goals and procedures of interdisciplinarity, both of which must "live up to the expectations of ... multiple disciplinary stakeholders" (12). Accountability across disciplinary boundaries is secured in interdisciplinary contexts through "critical reflection" on research topics, in the case of goals, and on integrative methodologies and methods, in the case of procedures (12-13). In supporting "epistemic answerability that transcend[s] disciplinary regimes of knowledge production", interdisciplinarity provides a context within which disciplines can account for themselves in terms of their ability to contribute to "more profound understanding or more comprehensive explanations" (12).

But two prior concerns remain unaddressed in this account. First, to what extent is it the *discipline* that is being held to account in these contexts? Taking interdisciplinarity to supply accountability across disciplinary boundaries requires that we have some way of identifying these boundaries in the interdisciplinary context. Huutoniemi helps this cause by providing a working conception of *disciplines* as social, epistemic systems that are "useful regimes for the acquirement and certification of knowledge" (12) and relate to one another primarily as "empirical and historical" structures (4). Further, she provides us with a detailed case study of this type of accountability in her discussion of the "Academy Projects" funding mechanism, a discussion that is focused on concrete proposals and so resides at the project level. Presumably, then, disciplines are held to

account in specific project circumstances, a point she endorses when she says that “[w]hat is or is not deemed accountable in each case is a local affair, as the specific meaning of accountability is construed and modified by the disciplinary encounter itself” (12).

But interdisciplinary research projects are not constituted in the first instance by disciplines but rather by researchers, and researchers are much more than just disciplinary vectors. It may be that individuals are invited to participate because of their expertise, but this is not always the case – often people collaborate because they have prior experience working together, or because they can function as integrators in the context of disciplinary heterogeneity (cf. NRC 2015). Further, the involvement in interdisciplinary projects of “multi-skilled, interactive generalists”, i.e., researchers who “usually accept and operate within multiple epistemic regimes” (15), makes it difficult to have researchers go proxy for disciplines.

Even if we restrict our attention to those who regard themselves as specialists, though, I have found in ten years of directing a project on interdisciplinary communication (viz., the Toolbox Project, <http://toolbox-project.org/>) that it is the rare interdisciplinary researcher who self-identifies with one and only one discipline. From the outside and at a level of abstraction, it may be possible to describe the disciplinary differences in an interdisciplinary project, but from the inside, the complex epistemic ecology will invariably make it difficult to tease out just what any particular discipline contributed, and so here again, researchers will not in general stand proxy for disciplines. Without clarity on this point, it will be difficult to individuate and locate the disciplinary boundaries in the context of concrete interdisciplinary projects.

Even if we are able to determine disciplinary boundaries in the context of an interdisciplinary project, what about the discipline is being evaluated across these boundaries? Huutoniemi contends that the goals and procedures of an interdisciplinary effort constitute the “contents of accountability” (12), which is to say that in accounting for an interdisciplinary research project to “multiple disciplinary stakeholders”, one must strive to convince these various stakeholders that one’s research objectives and research procedures are appropriate. These strike me more as sites of accountability than contents. If one is interested in using interdisciplinarity to highlight “the critical functions of intellectual exchange between disciplines” (17), then “the choice of research problems” (12) and methodical practice are sites within specific interdisciplinary project contexts where the interaction of disciplines can be evaluated, but to what end? What do we learn about disciplinary knowledge regimes on the basis of close attention to goals and procedures in specific interdisciplinary projects?

One possibility, articulated at the level of the peer evaluation process, is that disciplines are held to account for their “responsiveness” to other disciplines; another, related possibility is that they are evaluated for their ability to combine with other disciplines into more synoptic accounts of complex phenomena. But neither of these feels right, since whether or not a specific discipline is going to “play well with others” hardly seems a fixed characteristic of the discipline but rather a function of the complex

interdisciplinary context to which the discipline contributes.<sup>1</sup>

### **Accountability to Whom?**

Who is served by the epistemic accountability available in interdisciplinary contexts? As Huutoniemi argues, interdisciplinarity “operates in a contingent epistemological environment” in which researchers “face the challenge of multiple accountabilities” to epistemic stakeholders who bear responsibility for one another in specific interdisciplinary projects. The “contested and temporary nature of knowledge” produced in these environments induces the need for the aforementioned “lateral accountability”, which involves disciplines being “more accountable to each other for their goals and procedures” (11). Thus, one answer to this question is that this form of accountability serves each discipline itself and, by extension, the scientific community at large.

Keeping in mind that one motivation behind this argument is to supply a new reason to value interdisciplinarity, closer inspection of this answer is warranted. Who within the scientific community will be impressed by the how the disciplines fare in interdisciplinary contexts? Those who already support interdisciplinarity, of course, but they are not the target audience here. Old-guard disciplinarians are not likely to be impressed; in fact, they may see disciplinary participation in interdisciplinarity as a dangerous trend that threatens the diminution of both disciplinary quality and influence, undermining the ability of disciplines to pursue their goals. Perhaps those who are on the fence about interdisciplinarity might take this to be a valuable contribution, tipping them over to the side of the supporters; however, failure to be impressed by the epistemic contributions of interdisciplinarity to problem solving efforts makes this support peripheral and tenuous.

Outside of the community of researchers, it is unclear that this mode of accountability will gain any traction among those not antecedently impressed by the epistemic bona fides of interdisciplinary research. Extra-academic actors, such as policymakers who demand an account in order justify continued expenditures, won't be impressed by what from their perspective will still be an in-house evaluation. Academic administrators could avail themselves of this mode of accountability in making resource decisions, but there exist long-standing intra-disciplinary ways to evaluate disciplines that are traditionally associated with excellence. At best, this mode would augment these disciplinary mechanisms, perhaps functioning for them as a “residual category of evaluation” that can address “unorthodox research” (19). In sum, then, while interdisciplinarity may function as an intermediate mode of academic accountability, it is unclear how this strengthens its case among those who aren't already sold on it.

### **Accounting for Interdisciplinarity?**

So far, the issues I have raised concern the details of her proposal, but I also have two

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<sup>1</sup> Keep in mind that this paragraph presupposes that there is some way to move past people to disciplines when talking about the research dynamic in a particular project. In many cases, whether or not a discipline “plays well with others” is going to be more a reflection of the representative of that discipline in a project than it is of the discipline itself understood as a social-epistemic structure.

requests concerning more fundamental matters. Huutoniemi argues that interdisciplinarity as academic accountability subjects disciplinary research to “broader scrutiny,” and also makes interdisciplinary research “answerable to multiple disciplinary stakeholders” (19). To make sense of these functions, a clear distinction is required between *disciplinarity* and *interdisciplinarity*; further, if this is not to be mere “multidisciplinary accountability” (15), there must be a central role in the story for integration.

Huutoniemi’s position on these two requirements is unclear. With respect to the first, she claims that by “addressing the interdependencies that occur between disciplines in all forms of research”, she avoids the need to “distinguish interdisciplinary research from disciplinary research” (19). But she says this at the end of a paper in which a section is devoted to delineating disciplinary research and much is said to contrast interdisciplinarity and disciplinarity.

Further complicating the picture is her move to identify interdisciplinary research inputs in terms of *fields* rather than disciplines, thereby avoiding mixing the “intellectual or epistemic connotation” of *field* with “the more organizational connotation” of *discipline* (20; see also Huutoniemi et al. 2010). But the kind of accountability on offer in this article is *epistemic* accountability, and it is supposed to operate across *disciplinary* boundaries; given this, replacing *discipline* with *field* at the crucial moment when the contents of interdisciplinarity come under scrutiny has the feel of a bait-and-switch. At the very least, distinguishing and coordinating these three concepts—*interdisciplinarity*, *discipline*, and *field*—appears to be a required clarification.

With respect to the second requirement, Huutoniemi acknowledges that merely having multiple disciplines work on one common project is not sufficient to ensure that we are in an appropriately interdisciplinary context, since the disciplines might continue to operate in their own “separate areas of intellectual turf” (15). We can’t achieve the requisite type of accountability without interdisciplinarity, and that would appear to require integration of the disciplinary inputs. So much is admitted at the start of the article, where Huutoniemi recapitulates the standard rationale that integration is required for interdisciplinarity to address the “complexity of reality” (2).

So conceived, integration is primarily an epistemic variable; however, as she notes, it can also be understood as the “contingent outcome” of empirical, historical, and social “hybridization” (5). That is, she recognizes that integration is also a social variable in complex research projects (cf. O’Rourke et al. 2016). She emphasizes that the epistemic and the social can be integrated in “continued interdisciplinary communication”, and in particular, in dialogue that supports mutual regulation and calibration of perspectives (16).

This work on integration strikes me as spot on, but it leaves me wanting more. How does the epistemic integration that marks interdisciplinarity subject “disciplinary priorities and procedures” to broader scrutiny in the project context? How does it support account giving to the multiple disciplines that have a stake in such a project? One possibility is that interdisciplinary research is answerable to its epistemic stakeholders for taking seriously their contributions and *integrating* them into the output of the interdisciplinary

process. This sort of integration requires that disciplinary contributions to the process be evaluated exogenously in relation to one another and in light of project objectives. Thus, it could be that interdisciplinary research is accountable to its epistemic stakeholders for an integrated response to their inputs by procedures and methods, such as dialogue, that coordinate, integrate, and negotiate these inputs.

## Conclusion

In this article, we are invited to look on interdisciplinarity through the lenses of research evaluation and the governance of science, and what we see is characterized as an accountability environment for disciplinary goals and procedures. It is an exciting and provocative characterization, although I am still not sure if I am seeing what Huutoniemi is seeing. Of course, she allows that the proposal requires scrutiny and defense, and that important questions about it remain open. In the spirit of scrutiny, then, I have suggested that there are unclaritys at the heart of the proposal, and that two key aspects of accountability—*for what* and *to whom*—remain murky in important respects. I don't think of these issues as irremediable, however, and look forward to learning more about interdisciplinarity as academic accountability.

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