

***Sustainable Knowledge: An Exchange***

**William Davis, Virginia Tech; Susan Dieleman, Dalhousie University; Robert Frodeman, University of North Texas; Francis Remedios, Independent Researcher; Adam Riggio, McMaster University; Elisabeth Simbürger, Universidad Valparaíso; Todd Suomela, University of Tennessee**

**Adam Riggio (AR):** Universities have too much institutional inertia to become academically sustainable; true reform will only come from without. How?

**Robert Frodeman (RF):** Your claim is distressingly close to the truth. Universities are the second oldest institution in the West (after the Catholic Church). The institutional conservatism of our purportedly radical colleagues is striking: their radicalism is limited within disciplinary bounds. Professors are hidebound in terms of institutional matters — too often, the result of tenure. Stray outside disciplinary conventions and you are quickly labelled ‘not serious’.

So what to do? Critique, organize, and institutionalize. Get clear on the exploitative aspects of the academy — on matters such as, in the case of my department, graduate students teach the same load as tenured professors for 1/10th the income, with no real job prospects to boot. Indeed, graduate programs such as ours are created not in order to place people in jobs but rather to keep tuition low and populate graduate courses. Do research on these points: write dissertations on the institutional expressions of knowledge, on who is served (and not) by the status quo; critique the institutional aspects of fields such as philosophy and STS [Science and Technology Studies] (e.g. how conferences, journals, PhD programs, jobs, and P&T [promotion and tenure] standards operate). And bring these points into departments and into the curriculum, as part of syllabus and class discussions, and take these arguments into the institutional organs of our disciplines such as the APA [American Philosophical Association] and 4S [Society for the Social Studies of Science].

**AR, in reply:** Here’s a few more ideas for research critiquing the modern structure of universities. Corporate capital investment, the collateralization of student tuition, the shouldering of excessive debt on student populations, the wild overproduction of academic labour relative to the job market size. As well, I think it’s likely that the next generation of genuinely progressive works in philosophy will come from the underemployed. Those who devote themselves entirely to the conservative aspects of institutions may not ever produce anything but what, in Kuhnian language, would be safe, normal work. Trying to survive rough economic times in institutions encourages keeping your head down, and most of those who have achieved prestigious places in conservative institutions tend to rest on their laurels instead of using their security to produce challenging work at last. If Chomsky’s late-career political boisterousness is no longer the model, it seems the abuses of power in the cases of Colin McGinn and Peter Ludlow constitute the new paradigm of academic decadence. But the work that’s actually remembered is the work that tries to shift problems and frameworks of thinking and disciplinary engagement. So it’s more likely that genuinely inventive work will come not from those who have achieved it all, but those who don’t have much to lose.

Because I'm writing after your replies to Elisabeth [Simbürger, see below] and to my reply to my second question (not a difficult timeline to trace in this document if you've had practice with timey-wimey interactions; just watch more *Doctor Who*), I can say that I've gained some more optimism in the days since that more pessimistic paragraph. This new arrangement of a progressive, revolutionary, or otherwise more creative intellectual underclass pushing against a moribund institutionalized decadence at the top can be more productive than slow reform within the institutions themselves.

**RF:** Neat points.



**AR:** Frodeman discusses the 'broader impacts' criterion for scientific research projects in terms of the ethical, legal, and political implications of knowledge production otherwise characterized in disciplinary frameworks. Those who oppose 'broader impact' describe it as a gateway to illegitimate political interference in research. But he implies that philosophers are best suited for this role. How realistic is it that philosophers can become the judges of 'broader impact' of research, ethical, legal, and political issues?

**RF:** It strikes me as fairly realistic. There are already a number of philosophers — even if only 5%, that would be some hundreds of philosophers — who have sufficient experience with scientists, engineers and policy makers to make useful suggestions. Their comments would be far from perfect, of course, but should be enough to partially address or ameliorate the situation. (Amelioration, rather than perfection, should be our goal.) And if we systematically shift the training of philosophers (and STS types more generally) in the ways that I suggest the number will go up.

**AR, in reply:** I never doubted that there would be some philosophers who had that kind of expertise already. I actually think more than just 5% of philosophers do; any amount of reasonable political knowledge, the type of knowledge a professional philosopher would acquire collaborating with scientists on the wider impacts of their works, would supplement the specific knowledge of most philosophers with training in ethics, politics, and the relevant areas of philosophy of science. Really, only those philosophers who specialize in logic, or specific figures and periods in the history of philosophy would shut themselves out of this work.

My question of how realistic such collaborations would be lies in whether philosophy as a discipline has enough credibility outside its own realms to make these claims. My own research has discovered some sociological work by Michele Lamont whose book *How Professors Think* was very enlightening in regard to the uphill battles our discipline faces. Too many of the discussions philosophers have among each other, even in the fields with broad application like ethics, feature technical language that has drifted so far from those of other disciplines that it makes dialogue difficult. So even communicating with other disciplines in the humanities can be tough. I'm also considering the long history of philosophers of science (and philosophical historians of science, along with all the other self-identifications in philosophy of science proliferating faster than genres of techno) trying and failing to start dialogues with scientists about the nature science itself.

So at heart, after all that elaboration, my question is really more about the political problems philosophers face in returning their discipline to the level of public and interdisciplinary respectability required to fulfill the role you'd like us to have. Seriously: I genuinely want to achieve this, and think it would be excellent for the discipline. I just have no idea how to do it.

**RF:** Well, that's why I put the number at more like 5%. I agree with you that a much higher percentage have useful knowledge; the problem lies in the disciplinary assumptions that they hold, leading to the 'technical language' you mentioned as well as a disdain for the purported lack of rigor involved in communicating with the unwashed. And you are also right in saying that we have a long hill to climb given our reputation. That would take some decades to fix.

But I actually do have some ideas about how to do it. (I thought I put some of them in the book! :-)) For instance: place philosophers in other departments; have philosophy grad students work with people in other departments on specific projects (see Erik Fisher's work, for instance); train grad students in writing NSF grants; have grad students write one chapter of their dissertation on the practical uses of their theory for a particular non-philosophical audience; require philosophy grad students to take a course in policy studies (not political science). I could go on (e.g. internships, co-authoring, multi-media opportunities, community projects), but you too can generate such possibilities.



**Susan Dieleman (SD):** Frodeman presents an ecological account of sustainable knowledge, but sustainability is also an irreducibly economic concept, bound up with production and consumption. What are the risks of thinking of knowledge in economic terms?

**RF:** Sustainability seems pretty clearly an interdisciplinary concept — economic, surely, but also cultural and ecological in nature. I want to add a 4<sup>th</sup> element to the mix — epistemic or academic sustainability, i.e. that we also need to think about the overproduction of knowledge. To think about knowledge production in terms of sustainability does not strike me as framing it in terms of economics — except in the extended sense of the next paragraph.

Now, 'economic' can mean at least two things. It can be taken to mean that knowledge must 'cash out' in one way or another. While I am not opposed to such talk this is not what I am particularly concerned about. 'Economics' can also be taken to mean to apply to anything there is a scarcity of, or circulates, or lives within conditions of limits. This is the sense of economics that I am concerned with.

When we end disciplinary knowledge production (i.e. endless production mainly for our peers, with no real limits besides how much effort we decide to put into it) to enter an era of interdisciplinary knowledge production, we step into an economic world in the wider sense that I just described. But this is not particularly about economics in the sense of

money (though that will be part of it). The economic (or limiting) element may be time, or patience, or simply the particular needs of a particular ‘user’. And so I do not see any particular risks in thinking about knowledge in economic terms.



**SD:** The history of philosophy is not monolithic — throughout, there have been philosophers who have engaged the metaphilosophical questions Frodeman suggests have been overlooked, and who are concerned not with making philosophy more disciplinary, but with making philosophy more relevant. Why not look to the history of philosophy rather than starting from scratch in the project of developing “sustainable knowledge”?

**RF:** I did not realize that I was starting from scratch! I thought the story I told was one of a 20th century aberration — that philosophy went off the rails by becoming disciplinary in the 20th and now into the 21<sup>st</sup> century. I perhaps should have talked more of predecessors. I particularly think Marx should have been discussed more. I have been looking at the German ideology and was reminded how much I have taken from that. But I believe that the positive references to the history of philosophy were quite common, beginning with Socrates, up through Hegel, and again with Nietzsche and Heidegger. It is Kant who I paint as the *bête noire* of my story.

**SD:** Frodeman lays much of the blame for society’s ills at the feet of what he calls “laissez faire knowledge production.” But how much of the problem of unsustainable knowledge production is due to politics and power rather than disciplinary insularity?

**AR:** An addendum to SD — To what degree have politics and power conditioned the drive to disciplinary insularity?

**RF:** I see laissez faire knowledge production is intimately tied to what we could call (with perhaps a degree of hyperbole) laissez faire material production and consumption. This is why I view this as ultimately a book in environmental philosophy. There are two problems with infinite material production/consumption: the avalanche of stuff is bad for our souls, distracting us from the more central things of life, and it’s destructive to the environment.

Proximally, this is a matter of politics — if we understand the term as expansive enough to include the ideology of capitalism, that to be is to produce/consume, as well as the madness of the infinite pursuit of money. There is also the point that disciplinary insularity is itself political, in that it allows academics as well as the larger world to pretend that knowledge production is politically neutral. Knowledge always puts its thumb on one or another scale.



**Todd Suomela (TS):** Frodeman returns a number of times to the concept of “audience”. In his discussion of disciplines he argues that disciplines teach people to research and present findings to peers who are within an academic discipline. Transdisciplinary

programs, by definition, call for academics to reach beyond the academy and engage with external audiences. Who is the audience for arguments about disciplines? Do many academics even care about these issues? What are the implications if the audience is outside the academy (such as policy makers)?

**RF:** Neat point. You are correct: there is a contradiction here, or at least a tension, in that this is an argument for disciplinarians asking them to stop being (so) disciplinary. But who else would I make the argument to? The wide world outside of the academy?

There are at least two other things to say about this, however. First, I am not calling for the end of disciplinary knowledge, but rather only the end of disciplinarity, where disciplinary knowledge is the end (or sole goal) of knowledge producers. Mine is a pluralist approach: to take the example of philosophy, I think that perhaps half of the professors within a philosophy department can remain focused on disciplinary knowledge production, with the other half being integrators and translators.

Second, I have tried to show that the call to become more-than-disciplinary should be attractive for three reasons: self-preservation, theoretical interest, and moral responsibility. If we do not get better at the more-than-disciplinary our field is endangered. And there are also interesting theoretical aspects within such work. Finally, as employees of the state it is our moral responsibility. I would hope that these points would gain some traction.



**TS:** “Skill at interdisciplinary work thus becomes a matter of character rather than methodology” (Frodeman 2013, 48). Procedures and methods are one of the key parts of disciplinarity. The scientific method is one of the more powerful epistemic justifications used in contemporary society. How will education change if we are headed toward an age of interdisciplinary and transdisciplinary research demands? What does a turn from method to character entail?

**RF:** The scientific method is one of the most powerful political justifications used in contemporary society. There are any number of scientific procedures and methods, e.g. lab techniques or statistical methods used by scientists. But there is no scientific method writ large. Appealing to ‘the’ scientific method (rather than to a specific argument in support of a specific position) is a rhetorical device to shut down conversation.

Improving education in the future will in part turn on recognizing that education is not only technical in nature. It also involves becoming more open-minded, patient, and even humble. I’m struck by the fact that thinking involves a complicated mix of audaciousness and humility — e.g., daring to challenge conventions matched with the recognition of the fallibility of all of our thinking — that what seems correct today may be revealed as nonsense tomorrow.

**TS:** One of the best arguments for sustainable knowledge is that current practices of knowledge production move so quickly that no time is left for making connections

between fields, even among the public knowledge that is already available (Frodeman 2013, 66). Is there a name for such an activity? Could synthesizers obtain institutional support in the current academy where novelty is so respected?

**RF:** I don't know of one — but here's betting that Steve Fuller could think of one!

The point, of course, is not only that we do not have the time to make connections between fields. It is also that we suffer from what Al Lingis calls 'adject communication': we treat concepts as ready-made tools or black boxes, not taking the time to open them up to see what is rattling around inside. This is a point that Heidegger is good on — on the need for living within a question, tarrying with it, and resisting the urge to turn too quickly to an answer. All of this, however, is defined as 'inefficiency' today.



**William Davis (WD):** Frodeman links field philosophy to Mode 2 knowledge production, and this resembles the type of work done by certain sectors of STS scholars (108-9; further explanation extends through page 111). Should we view field philosophy, or trans-disciplinary philosophy, as one aspect of STS scholarship? Or, should field philosophy somehow transcend the discipline of STS and aim for something else?

**RF:** Good question. I view philosophy and STS as twinned: if philosophy had not been so inadequate in its account of the philosophy of science over the last 70 years there would not have been nearly as much need for the discipline of STS. (This sets aside, of course, the valuable empiricism contained within STS, a point that I have tried to emphasize in my calls for a field philosophy approach.) There are signs that the philosophy of science is coming around, e.g. the founding of SPSP — the Society for the Philosophy of Science in Practice. But the approach remains way too disciplinary in nature, too focused on meeting the standards of other academics. Distressingly, there are also signs of the growing disciplining of STS: I attended last year's 4S meeting and was struck by how inbred the conversation had become.

**WD:** As a graduate student, I am interested in how the kind of philosophy Frodeman recommends would be taught and brought into graduate programs. The epilogue describes his own program at UNT [University of North Texas] and some of the work needed to institutionalize an interdisciplinary program, but is the goal reforming philosophy departments (or some other department like STS) or creating new programs (like his Center for the Study of Interdisciplinarity)? Could the kind of philosophy Frodeman promotes be integrated into STS departments, making philosophy (of science, technology, something else?) more relevant for undergraduate and graduate students studying STS? What would such a shift entail in the teaching and training of future STS practitioners?

**RF:** Both. I am amazed that there are not multiple centers for the study of interdisciplinarity. But to the other point, it is not a particular kind of philosophy but rather a matter of how to approach philosophy. Every aspect of philosophy is relevant if

approached in the right way. This is why I would call myself more of an applied (or “field”) metaphysician than ethicist.

Take the example of metaphysics. Disciplinary approaches to metaphysics today mean discussions of qualia, universals and particulars, and freedom of the will. It rarely if ever means thinking about the possible reinvention of humanity through biotechnology — humanity 2.0. So we need two types of change: dealing with the metaphysical (and aesthetic, epistemic, ethical, etc.) questions that are all around us and part of our everyday lives; and rescuing the standard debates within metaphysics from their current irrelevance. (For instance, it’s not hard to imagine how questions of free will could have larger relevance, for instance in determining sentencing in criminal cases.)

Perhaps the place where this most gets done today is in STS programs. It rarely gets done in philosophy departments. But it needs to be done across the university. Again, biology is a clear example: biology departments can no longer ignore the larger societal questions involved in e.g., synthetic biology. That’s why I advocate philosophers being scattered across the university rather than simply being ghettoized in philosophy departments.



**Francis Remedios (FR):** For Frodeman, transdisciplinarity is co-production of knowledge from inside and outside the university. Will it be university researchers or clients who sets the agenda on which interdisciplinary problems to solve?

**RF:** It’ll vary, for community should involve a dialogue. But if you press me, I think it should be the clients. After all, we are state employees, the vast majority of us. We owe it to them to let them define the problems. (We will still have the disciplinary aspects of our lives, after all.)

But — not the answers. We must preserve our integrity and academic freedom by giving the answers we believe are the honest truth.

Now, that said, there is much to be added in terms of being rhetorical, or politic, in our answers. There are virtues to pissing people off, but in most cases I suspect we will want to insinuate our insights, not for craven reasons, but to be more successful.

Finally, I find that there is plenty of time left for independent, ‘blue-sky thinking’ within every task described by outsiders. Give me nearly any NSF RFP [Request for Proposal] and I will find a variety of cool metaphysical, ethical, and aesthetic issues in it.

**FR:** Modern universities are based on Humboldt's model of research and teaching. Research is the endless search for knowledge. By suggesting limits to research and to knowledge, Frodeman is in effect arguing that Humboldt's model is no longer viable. What will be the distinguishing features of future universities if they do not follow Humboldt's model?

**RF:** I am not sure that my argument implies the death of the Humboldtian model. It depends too on what counts as Humboldtian. Do we mean *Lehrfreiheit*, *Lernfreiheit*, and *Freiheit der Wissenschaft* — the right to teach, to study, and do research as we wish? Or, as Fuller argues, the dialectic of creative destruction of knowledge? All these are worth defending, and can be decoupled from the mad pursuit of a bad epistemic infinity.

In any case, I hope for a plurality of models and thus a lack of any one distinguishing feature. There should be room for a small number of Harvards, by which I mean universities that, however ‘interdisciplinary’ their work is, produced mainly for a disciplinary audience. But for the vast number of mid-rank public universities in the US, we should be looking at a transdisciplinary future where their research is much more closely tied to their local, state, and regional communities.

The real danger of such work is that universities become neoliberal shells for a corporate mentality. It thus becomes essential for academics generally but especially for the humanists and social scientists to preserve their critical edge. I imagine that this is possible if we offer something like the following bargain: we will work harder at being relevant to your specific needs; but this will come at the price of you living with what will sometimes be uncomfortable truths.



**Elisabeth Simbürger (ES):** Frodeman presents an ecological account of sustainability. Could such an approach end up simply as disguised liberalism rather than a fully realized, critical political project; especially, if we leave aside an analysis of the political economy of knowledge production?

Frodeman offers a thoroughly insightful book on inter- and transdisciplinarity. Yet, he could have done better by forwarding a more robust notion of sustainability, thus avoiding jumping on the ecologism bandwagon that, more often than not, is disguised liberalism rather than a full realized critical project. As Frodeman mentions: “... [K]nowledge production today has become pathological as well as unsustainable. Additional knowledge production will not end, but we do need to counterpose the desire for additional knowledge with a better recognition of the dangers of continued pell-mell knowledge production” (63). Frodeman suggests both that knowledge production can be framed in environmental terms, and that it has to become sustainable.

Frodeman’s elaborations become a bit scarce when it comes to refining criteria for sustainable knowledge production. His analysis of the environment remains confined to a historical and cultural critique of the changing role of knowledge, arbitrarily leaving aside the role of political economy. In this respect, his understanding of environmental sustainability only captures the end product of the academic assembly line — the book, the article — but not its general environmental conditions or, put differently, academic working conditions. Reading, for example, has become a luxury. But what is more is that, using Frodeman’s terminology, reading has become a question of environmental belonging. This is even more the case with academics whose working conditions are so precarious that they don’t have time for reading. While Frodeman points out the

difficulties of keeping up with academic business, he does not dig deep enough to identify the actual problems of a lack of interdisciplinarity and transdisciplinarity. Instead of paying more attention to the commodification of higher education and its disciplinary tribes, Frodeman puts the blame on academics who finally get tenure and become lazy disciplinary producers (50).

But let's go back to the notion of sustainability. First of all, academics have to sustain themselves. The issue of precarious academic labour, an overflow of PhDs and less available academic work has become so traumatic over the last decade that it cannot be left aside any longer. Certain inroads have been made in this respect by authors who come from the field of labour studies such as Gigi Roggero in *The Production of Living Knowledge* (2011). For Roggero: "It is impossible to grasp the contemporary transformation of the university without considering the equally seismic shifts that are occurring in the condition of labor" (vii). An approach to knowledge production that leaves aside an essential part of what the academic environment is about — an analysis of labour relations in how social knowledge is produced — cannot be sustained.

One way out of the environmentalist dilemma is to implement the concept of sustainability in a more comprehensive manner. How about developing a fair-trade label for decent academic working conditions (Simbürger 2012)? Quality assurance could take a more critical turn by acknowledging, in each publication, the circumstances under which the work was produced. Of course, this acknowledgement likely has little effect on the kind of knowledge being produced. However, such measures may help to raise consciousness regarding the exploitative working conditions in which masses of academic articles and books are produced — sustainability for beginners, so to speak.



**RF:** I'm not sure that I'm adequately tracing Elisabeth's argument. But her criticism seems to turn on my lack of attentiveness to the academic underclass, or more generally to the Marxist element to what is now occurring. These are points that I often make, although perhaps not sufficiently in *Sustainable Knowledge*. Let me squarely state my position now in case it perhaps slipped from view in the book.

"Lambs being led to slaughter." A friend made that remark some 15 years ago, speaking of the situation of incoming graduate students in his physics department who assumed that a) in their careers they would be able to devote themselves to science, and b) they would be able to find positions like those of their professors. Neither point is likely to be true. The increasing dominance of neoliberal perspectives means that scientists are perforce interdisciplined: they will have to be savvy to the policy dimensions of science as well as be competent scientists if they expect to be funded. Moreover, their place on the exponential curve of academic hiring means that positions are declining even as their numbers are increasing (as I note in the book, now 75% of teaching positions across higher education are non-tenure track — tenure is being de facto eliminated without a fight).

There is a tragic element here: young people filled with the desire to pursue knowledge are destined to a series of low paying and abusive jobs. But more to the point is the need to recognize that we are at the end of a period that counts as a historical aberration. Idealists have never been adequately funded. As the saying goes, philosophy always walks in rags. And up through the 1930's a PhD in physics was as non-employable as a philosophy degree. This changed through a peculiar set of circumstances — the success of science in the war, the explosion of the knowledge economy post WWII, and liberal and conservative agreement about the need for public funding of higher education — all presuppositions that are now gone.

I wonder whether the conditions likely to force ourselves upon us might spark something like a Marxist renaissance, as the professoriate is squeezed and downsized. This is the point that was perhaps inadequately made on page 50 [in *Sustainable Knowledge*]: I am distressed by the implicit narcissism of tenured academics who somehow think that their own positions are not also on the line. For all their liberal (in the sense of lefty) pretense, professors are a conservative lot.

**Contact details: [widavis@vt.edu](mailto:widavis@vt.edu); [Susan.Dieleman@Dal.Ca](mailto:Susan.Dieleman@Dal.Ca); [frodeman@unt.edu](mailto:frodeman@unt.edu); [francisxr28@gmail.com](mailto:francisxr28@gmail.com); [adamriggio@gmail.com](mailto:adamriggio@gmail.com); [elisabeth.simbuerger@uv.cl](mailto:elisabeth.simbuerger@uv.cl); [tsuomela@utk.edu](mailto:tsuomela@utk.edu)**

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