Thinking Nature v. 1

/6/ - Six Myths of Interdiscipinarity
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Interdisciplinarity is a lot like biodiversity—everyone sings its praises, but no one really knows how to define it, how to measure it, or how to assess its actual value. There is, of course, a growing body of literature discussing interdisciplinarity from a theoretical perspective. It is not my aim here to analyze or contribute to those discussions, but rather to speak to the practical issues that emerge in the everyday contexts of academic collaboration. Specifically, I am interested in the role that the humanities play within the context of "broad interdisciplinarity" in environmental studies. By "broad" interdisciplinarity, I mean a conversation between disciplines that range across the spectrum from the natural sciences to the humanities. Interdisciplinary collaborations at finer scales—such as between biologists and landscape architects, or between painters and literary critics—often occur, of course. But "broad" interdisciplinarity poses a much greater challenge precisely because of the significant divergence, perhaps even incommensurability, between the ways that humanists and scientists define their problems and their methods. What interests me are the assumptions and narratives about interdisciplinarity that shape the academic context, including the development of curricula, the training of graduate students, the articulation of program goals, evaluations of research, and so on. In my view, these assumptions and narratives often constrain the contributions that humanists can make and limit the possibilities for genuine dialogue across disciplines. Here, my aim is to identify a few of these limiting assumptions, what I am calling "myths of interdisciplinarity," in the hopes that doing so will encourage my humanist colleagues, first, to reflect more deeply on what our specific methods bring to the study of the environment and, second, to develop richer narratives about what broad interdisciplinarity might look like.

The first myth is that interdisciplinarity can be achieved by focusing on problem-solving. The usual understanding is that some environmental problem – e.g., water resource allocation, biodiversity loss, energy production, and most commonly today, climate change – is taken as the focal

point of a discussion to which the different disciplines add their unique "perspective." We each have our own toolkit or skill-sets, and genuinely interdisciplinary collaboration happens when we bring our distinct tools to bear on a common problem. This interpretation of interdisciplinarity is common in the theoretical and pedagogical literature and is mirrored by environmental studies mission statements and curricula across the country. Thus understood, humanists are expected to contribute their own useful perspective to solving specific environmental problems: the Pacific Salmon crisis, or the siting of toxic waste dumps, or fuel efficiency. And what will the contribution of literary critics, painters, philosophers, and poets be to solving such problems?

Of course, there are ways to imagine humanists making themselves useful in this context. They might add some historical or ethical perspectives to the toolbox, although we shouldn't be too surprised if these get less use than the ecological screwdriver or the cost-benefit hammer. The suggestion that I hear most often, however, is the second myth on my list: that humanists should handle public relations. Scientists are busy finding out the facts about how the world works, but they are not especially good at communicating their findings to policy makers and to the public, so this narrative goes. Humanists could play their part by crafting compelling metaphors, by writing music and plays and poems that get people in touch with nature again and that communicate what scientists have learned about it. The distribution of labor here is clear: the real work of understanding reality belongs to empirical research, but humanists can handle the public relations work of spreading the message. My third myth also makes an appearance here, which is that interdisciplinarity can be a one-way street. If humanists are good for PR, then it is obvious that they will need to learn a lot about the science that their new novels and paintings are meant to disseminate. But there is no need for scientists to learn anything new from humanists, since they are doing their task just fine on their own.

So, I've put three myths on the table, once again:

1) that interdisciplinarity is achieved through joint problem-solving

2) that humanists should be PR specialists for scientists; and

3) that interdisciplinarity can operate in just one direction

So, why are these myths? Because they all rest on two mistaken assumptions: first, that environmental "problems" are just given, independently of any context or values, and independently of any disciplinary assumptions. And, second, that the methods specific to the humanities, which I call "hermeneutic" methods in contrast to the empirical methods of the sciences, have no significant role to play of their own outside of a problem-solving context. Now, let me explain what I mean by both of these points.

The first point is that identifying anything as a "problem" inescapably involves adopting a normative perspective and a defining context, which I will collectively label a "frame." We don't just stumble over environmental problems like objective things lying around in the world. Problems are only problems for someone, from some perspective, and in relation to certain values. When problems are framed in empirical terms, then empirical approaches to solving them will seem more appropriate; when they are framed politically, they call for political resolution, and so on. The first limitation of the problem-solving definition of environmental interdisciplinarity, then, is that it fails to problematize the way that our problems are identified and framed at the outset. Robin Grove-White has made this point very nicely:

> environmental issues are more than simply physical. They are also inescapably philosophical, ethical, political and cultural. The particular 'objective' environmental problems and issues which society recognizes at any one moment are shaped and determined by processes of human judgment and social negotiation, *even in their very definitions*. (1997, 109; cited in Foster 1999, 361)

Our wider culture has tended to frame environmental problems in empirical terms—as limitations of natural resources, for example, or as a physical change in the atmosphere. Such ways of framing environmental problems makes them seem more tractable to technological, economic, and managerial responses. In other words, the obvious "environmental problems" that interdisciplinary

investigation is to take as its starting point are defined from the outset in ethically charged and politically motivated ways. If our typical way of framing environmental problems privileges the kinds of "solutions" that empirical approaches will provide, it does so precisely by occluding other ways of framing the problems, say, in terms of justice or value or freedom or self-identity.

This brings us to the second point, which concerns the specific contributions that the methods of the humanities bring to environmental interdisciplinarity. If environmental "problems" always assume a philosophical, ethical, cultural, and political frame; if every concrete problem exists only as defined in terms of such a frame; and if more than one way of framing any particular environmental problem is possible, then the primary task of the humanities is not to contribute tools to the problem-solving toolbox, but instead to provide an entirely distinct perspective by which the construction of problems is itself interrogated. In contrast with the empirical method of the natural sciences, the method of the humanities is hermeneutical; the concern here is not with the gathering of facts, but rather with the assumptions that frame what counts as a fact and the broader context that determines which facts are gathered and how they are to be put to use. In short, the humanities are concerned with meanings and values, of which facts are only one subset, and which require the specific skills of interpretation, clarification, evaluation, and judgment that the humanities develop across all of their range.

If I am correct in this description, then it follows that the humanities and sciences have distinctive but complementary roles to play in interdisciplinary inquiry. Empirical research is needed to establish facts, while hermeneutical research interprets the broader implications of those facts for the meaning and value of our lives. Of course, both approaches must serve a critical role with respect to the other. Based on this account, we can now debunk myth number four, which claims that genuine interdisciplinarity leads to the weakening or elimination of disciplinary boundaries. If the humanities and the empirical sciences have distinctive methods and distinctive contributions to play in the interdisciplinary setting, then their distinctiveness as disciplines should be maintained. It is essential that researchers be trained in each of these general areas, not to mention their many and diverse

subfields, and that they develop the particular hermeneutical or empirical techniques relevant to that specific area. We need specialists in every discipline precisely because these disciplines define their own problems differently rather than addressing pre-given and universally defined "problems." Good interdisciplinarians, therefore, will be strong disciplinarians first. They must be able to do what they do well. Of course, they must also be reflective about the limits of their own disciplinary approach and interested in how it is complemented by other approaches. But the foundation in a particular method of asking questions is essential.

But if we bring together a group of strong disciplinary scholars for interdisciplinary collaboration, what guarantees that they will be able to communicate across the boundaries of their disciplines? What guarantees that the distinctive ways of framing problems and pursuing answers are translatable into a common language or are even commensurable? Despite the good intentions of those involved, I would say: nothing guarantees this. In fact, it is unlikely. This eliminates a fifth myth about interdisciplinarity, which is that it can happen without any re-education on the part of those involved. In the spring of 2010, I participated in an NSF-funded interdisciplinary gathering at the H. J. Andrews Experimental Forest focused around the theme of imagining the future. The participants, who represented a wide range of specializations — poets, artists, journalists, natural scientists, social scientists, philosophers, educators, and others— were eager to learn from each other and enthusiastic about collaborating. This was a great idea and a fantastic learning experience for everyone involved. But this workshop was for a single weekend. Can a biologist learn to think like a poet, or vice-versa, in a weekend? I don't think so. If we don't learn at least enough about each other's disciplines to become aware of the blind-spots and assumptions of our own, then we simply talk past each other. In my view, it is precisely this re-education that is pre-requisite for productive collaboration, whether in teaching, research, or just in the mundane committee work that an interdisciplinary program requires. The fifth myth says that we can all show up around the table and start doing something interdisciplinary together. This is what I'm denying. We can start the long process of beginning to teach each other to see and

think through different lenses, but that process must come first and be ongoing if our collaboration is to lead to worthwhile results. My experience at the Andrews set me thinking about what a genuine re-education scenario would look like. Imagine a three-week, intensive summer workshop in which biologists are taught to write poetry in the mornings and poets are taught to design and carry out scientific research in the afternoons. Now, that would be a good setting for genuine interdisciplinary exchange, in my opinion.

So, I'm claiming that genuine interdisciplinarity requires not only strong disciplinarity but also a re-education into the disciplines of others. And this must be a two-way (or, actually, a many-way) street. But if this is true, how could anyone possibly manage to achieve this? I seem to have set the bar impossibly high, not only in terms of what we should all be expected to know, but also in terms of the time we would need to invest to learn it all. But this worry exposes the sixth and last myth about interdisciplinarity, which is that it is some state to be reached. On this view, we aspire to "be" interdisciplinary, to "have" interdisciplinary programs, to train interdisciplinary students, and so on. But this ideal of "being" interdisciplinary is positively misleading. Having all of the knowledge of different disciplines around one table or even in one brain would not be enough. This is because interdisciplinarity is inherently a conversation, a process of difficult translation, an effort to create dialogue between languages and perspectives that are not just variants of each other. And it isn't as if any of the disciplines on its own has reached a steady state either. In other words, interdisciplinarity is a process composed entirely of moving parts, and there is no imaginable end-state for it to achieve. Those who claim to *be* interdisciplinary, in other words, never really are. Claiming to be interdisciplinary is a bit like claiming to have mastered freshwater ecology. Okay, but let's wait a few minutes and see if you still have. Mastering the differences and relations between innumerable disciplines that are themselves in constant flux complicates the problem by orders of magnitude. The opinion I have come to over years of negotiating such conversations is that true interdisciplinarity is the conversation itself, the two-way process of re-education itself. Being interdisciplinary involves, in no small part, the constant struggle to

understand what being interdisciplinary can and should mean. Interdisciplinarity cannot afford to move beyond the stage of being a constant site of negotiation and re-negotiation. It is inherently and ineliminably problematic and unfinished. But, in my view, this is not a weakness. This is precisely what makes it a site for the production of novel and hybrid ideas that can change the world.