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## Tips for collaborating with scientists, from a philosopher

Make language inclusive and agree on your aims in advance.

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The Isle Royale study of wolves and elk (moose) is a collaborative project involving philosophers, humanities scholars and natural scientists. Credit: Rolf O. Peterson

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In my experience as a philosopher working primarily within science, I've found that my collaborations with scientists can suffer when the cultural differences between disciplines are not acknowledged and tended.

One example, is differences of opinion arising between individuals from different disciplines who are involved in managing wolf populations: one focus of my work. Some wildlife managers think that allowing people to hunt and kill wolves will create positive sentiment toward these animals and secure their overall recovery. For a social scientist, however, the hypothesis that “blood buys goodwill” requires rigorous, systematic and empirical demonstration that the killing of wolves actually leads to an increase in positive attitudes towards them. An ethicist, on the other hand, is interested in the ethics of killing sentient beings. Do wolves have rights, including the right to life? Do the ends justify the means, and how does this relate to manifest virtues such as respect, humility, compassion and empathy?

A failure to realize that what counts as ‘evidence’ can vary across disciplines could easily create challenges and conflict. To foster better and deeper collaborations, cultural differences and power asymmetries between disciplines need to be recognized.

## Watch your language

Scientists often discuss ‘language differences’ that exist between their fields. A physicist and a biologist, for example, might not understand each other's jargon. The same would be true of a scientist, a humanities scholar or an artist: any interdisciplinary collaborations require us to mind our jargon. But there are language changes that scientists can make to be inclusive of others.

For example, I am the lead principal investigator for a [long-term ecological research programme](#) to study a 500-year-old forest in Oregon's Cascade Mountains. In this interdisciplinary programme, involving various biophysical scientists, social scientists, humanists and artists, we describe our work broadly as ‘enquiry’ rather than

science or ecology. We also use ‘research’ instead of ‘science’, when possible, to describe our efforts. ‘Enquiry’ and ‘research’ are inclusive terms because they apply to the arts and humanities as well as to science, and they acknowledge that there are other ways to know and experience the forest. We also try to avoid pejorative phrases like “social stuff”, previously used sloppily in conversation to describe everything that is not biophysical science.

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In an effort to create a graduate programme in the environmental arts and humanities, a colleague of mine sought approval from the relevant deans at their institution. One dean thought the proposal was redundant because an existing environmental programme on campus included social science: they were, in effect, confusing social science with the arts and humanities. Another dean revealed a bias against anything other than science, insisting that the entire university was interdisciplinary because we had different sciences working together.

Think carefully and thoughtfully about your use of language when creating interdisciplinary collaborations.

## **Jokes, arguments and friendly disagreements**

Empathy can aid interdisciplinary collaborations. It goes without saying that all participants in interdisciplinary groups should be mindful to avoid overtly denigrating other disciplines. “I hate how philosophers write,” “what does that even mean, to be an environmental philosopher?” and “you don’t really know anything about science” are a few things that have been said to my face by colleagues in the sciences. I often deflect their sentiments with a joke (“yeah, they’re all terrible writers – we should get rid of them”, “I sometimes wonder about that, too”, “maybe a few things – enough to write a haiku”).

Sometimes, I remind colleagues of our shared enterprise and its many dimensions; or the fact that my work and discipline are clearly valued, otherwise I would not be part of the group to begin with; or the fact that, while we can all take some good-natured ribbing, these kinds of comments could feel exclusionary to those of us from less-empowered disciplines, and can undermine otherwise powerful collaborations.

I appreciate collaborators who seek to understand my work in the arts and humanities, rather than demanding that I get on to their level by learning about the science. I'm currently collaborating with ecologist John Vucetich at Michigan Technology University in Houghton on the [Isle Royale Wolf–Moose Project](#), a predator–prey study focused on an island in Lake Superior. Early on, we introduced a portable whiteboard on which he would explain how to read a graph and what a  $p$ -value was, and I would explain [trolley problems](#) (thought experiments about killing one entity as opposed to another) and [Kant's categorical imperative](#) (the idea of a supreme principle of morality). He would read philosophy and my work, and I would read animal ecology papers.

## Agree on outputs

The pursuit of money, in the form of grants especially, is a huge part of modern science. This is not the case for researchers in the arts and humanities, who do not typically have grants (and if we do, they are relatively small). This means we cannot afford to pay publication fees to scientific journals, we cannot attend the more expensive science conferences (often, in my experience, scientific conferences charge much more than those in the humanities), and we cannot pay to join professional science societies. A genuine interdisciplinary relationship, however, might require these.

Artists and humanities scholars have different 'units of work' on which they are judged. Artists aim to put on shows and performances; philosophers and historians tend to think in units of books, in addition to research articles and chapters. Humanists tend to not publish as much as scientists, in part because we tend to do solo work, we teach a

lot more, and we typically do not encourage our students to publish as much as in the sciences.

Before working with artists and humanities scholars, have conversations about what the output of your collaboration should be. Be frank and direct about what you expect from the project, invite them to express their desired outcomes also, and try to accommodate each other with the understanding that the collaborators might produce disparate outputs that reflect their individual disciplines. Given the tendency for artists and humanists to work independently, scientists might need to lead the collaboration at first. Explicitly including a budget for interdisciplinary collaborations in your grant proposals would be one way to address associated costs that artists and humanists often cannot cover. I would also encourage collaborators to speak to their supervisors to make them aware of, and get them on board with, the novel outputs you are pursuing.

Our collective imaginations and expertise – not just those from science – are necessary to tackle some of the world's challenges and crises: climate change, biodiversity loss, achieving justice. Being mindful of the cultures of different disciplines can only benefit these vital interdisciplinary collaborations.

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