

How Science Is Making Me a Better Philosopher

Michael Paul Nelson explains how collaborating with ecologists and conservation social scientists has made him a better philosopher

In a recent issue of *Nature*, scientist Rasha Shraim argued that her study of philosophy as an undergraduate is making her a better scientist. As a philosopher who leads a science program, I wondered how science positively influences me as a philosopher.

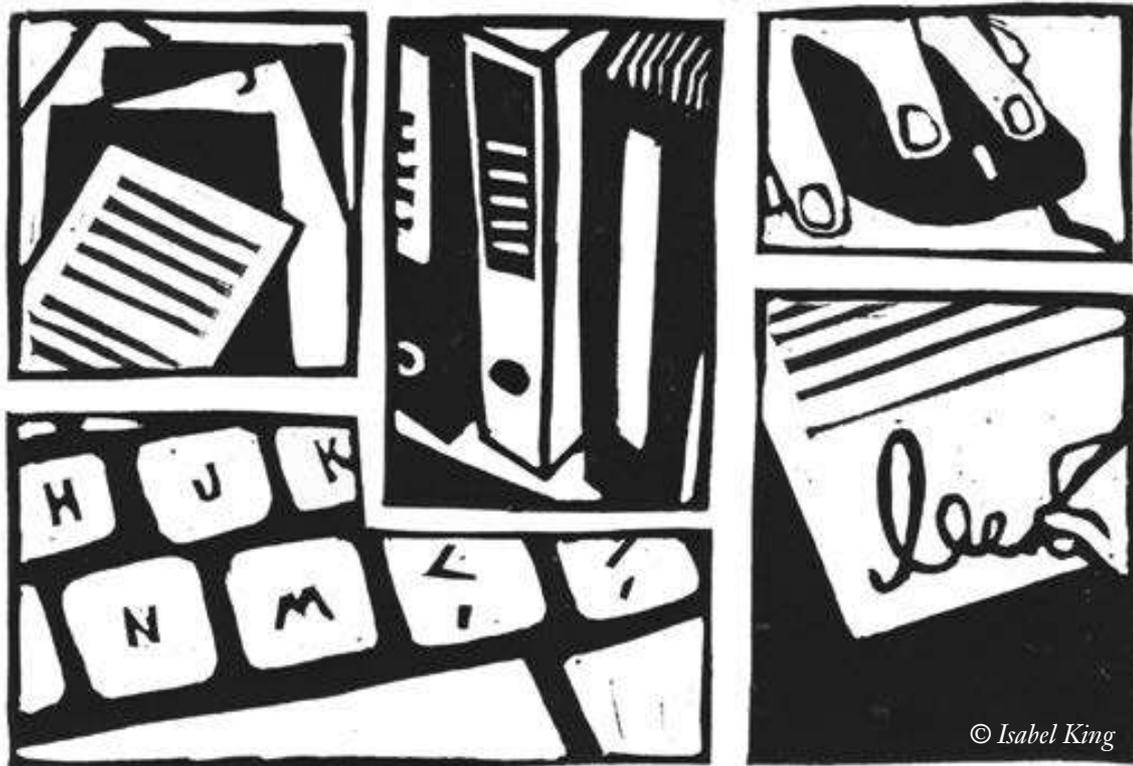
Maybe it should not be surprising that both scientists and philosophers are made better when they walk in both worlds, simultaneously. After all, before there was what Western civilization calls “science” or scientists, there were simply people who sought truths through systematic observation and reason. To seek truth or to love wisdom is to be a philosopher (from the Greek *Sophos* meaning “to love” and *Phil-ic* meaning “wisdom”). These early philosophers (*circa* 500 BCE) were primarily interested in two kinds of questions. First, they wanted to know what is the underlying substance of the universe; what is it that everything else is made from? Second, how ought we behave; what does it mean to live a good life, a life worth living? The former question is one we now would consider within the realm of science, and the latter a question of ethics. Science and ethics have a common origin: an attempt to understand

the world and how best to navigate it.

During the 17th century, the notion that living a good life and learning about the world around us was one unified pursuit began to disintegrate into distinct strands of “natural philosophy” and “moral philosophy.” By the early 20th century, “natural philosophers” had become “scientists” and their practices were viewed as completely distinct from those of their moral philosopher cousins.

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I am a philosopher and ethicist by training. However, I collaborate almost entirely with ecologists and conservation social scientists, am housed in a college of forestry, lead one of the US’s Long-Term Ecological Research programs, collaborate with the Isle Royale Wolf-Moose Project in Lake Superior, and write and speak primarily to



scientific audiences. While I have certainly learned a lot about science because of these realities, I also believe science has made me a better philosopher. Here's how.

1. Clarity of perception

To be a good philosopher is, at least in part, to be seeking clarity of perception. I perceive problems in different, and I think better, ways because of my interactions with science and scientists. For example, for perhaps the first two decades of my career, I believed that the reason we in the Western world had created and were living with so many environmental problems was because we had reduced the value of nature to a means to an end, mainly our own. That is, we did not attribute intrinsic value to nature itself, we were anthropocentric. In 2015, ecologist John Vucetich, social sci-

entist Jeremy Bruskotter, and I published a paper in *Conservation Biology* sharing the results of a social scientific survey demonstrating that more than 80% of the general public attributed intrinsic value to nature, and that attribution was largely even across all demographics. This led me to the realization that perhaps our problem is not that we are unwilling to attribute intrinsic value to nature, but that we are somehow unable to manifest that attribution of intrinsic value in the world. That is, our problem is not one of value attribution, but of integrity, of matching what we know and what we value with how we live. Science allowed me a way to test and falsify an assumed empirical truth, in turn changing my sense of the environmental problems confronting us.

In 2016, colleagues and I performed a content analysis on a set of public com-

ments collected by the National Park Service (NPS) of the United States. When NPS asked members of the public whether the NPS ought genetically rescue the disappearing wolf population on Isle Royale in Lake Superior, US by introducing more wolves, we discovered that not only did people's policy preference differ, but their moral reasoning differed as well. Of course, policy preference variation and group level difference in moral reasoning have long been known to be pluralistic. But what we discovered when using typologies of moral reasoning from ethics but examining positions through social scientific research was that ethical pluralism (the employment of more than one line of moral reasoning) was a dominate mode of moral reasoning for individuals as well. Many individuals believed, for example, that we ought to rescue this population of wolves because it would protect the health of the island ecosystem, *and* because restorative justice demanded it, *and* because it led to less overall suffering, all at the same time. This is not typically how philosophers speak of the moral compass of individuals. We tend to think that individuals consistently apply more monistic moral frames: that a person is a utilitarian, or a person is a deontologist, or a person is a virtue theorist. I have a clearer sense of how people morally reason because of my work with scientists.

Philosopher Bertrand Russell once characterized philosophy as focused on the problems that science could not solve. Science itself, however, is always developing: an old problem dissolves and a new problem emerges in its place. Being actively engaged with science is an important way for a philosopher to have a clearer perception of which problems need solving.

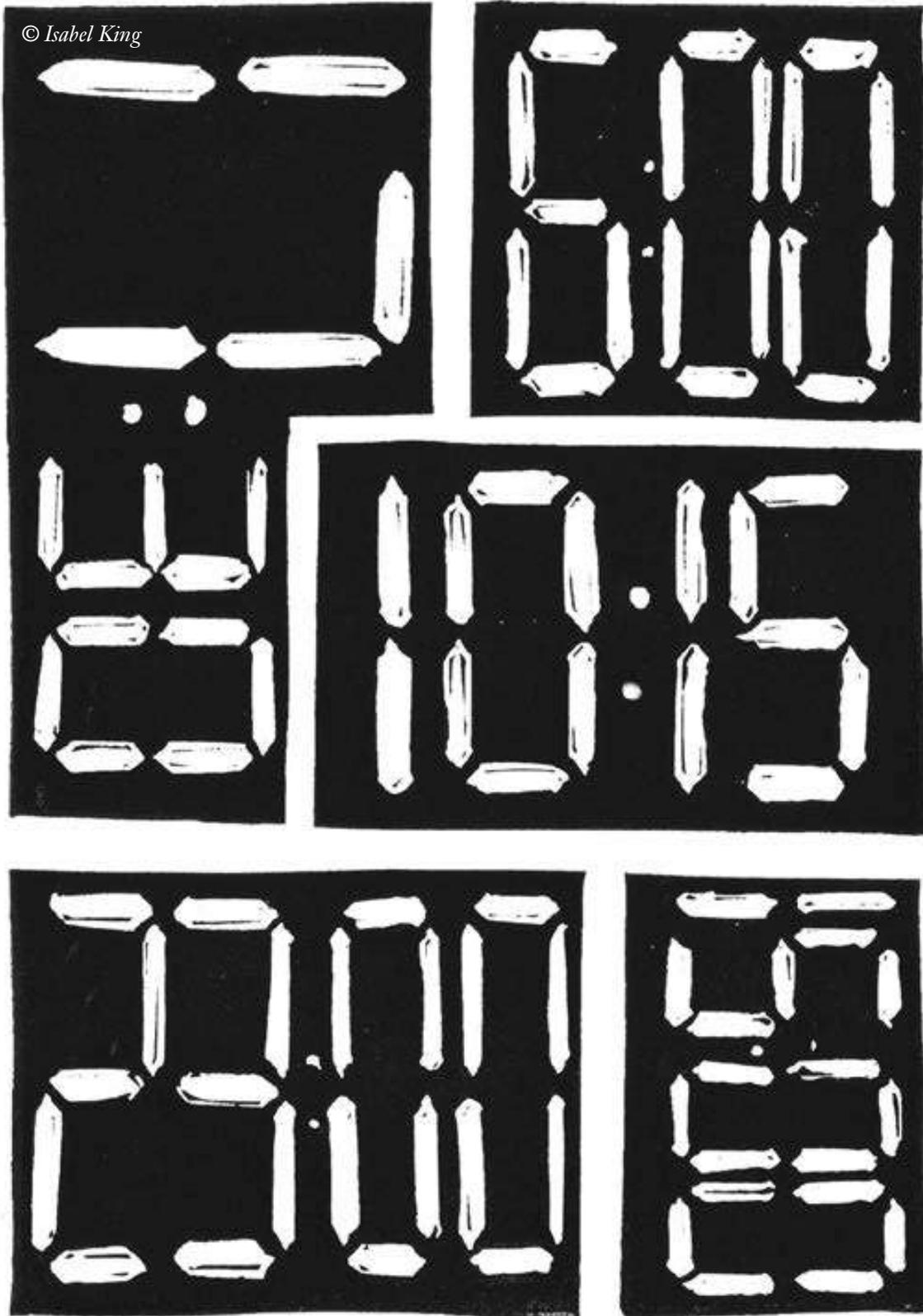
2. Enhanced impact

Like many of my philosopher colleagues, I want philosophy to matter. We evaluate our success, in part, on how we infuse thoughtful and rigorous discussion and critical-self-examination into the parts of the world with which we interact. Because of the authority carried by science in the Western world, aligning myself with science and scientists allows me to be more impactful. I can use the tools of philosophy to be more relevant and helpful, which is part of how I measure my success as a philosopher. Colleagues and I have used the philosophical tool of argument analysis, for example, to examine such questions as "should scientists be advocates?", "should we kill cormorants to save fish?", and "should we eradicate the tsetse fly?"; ethical problems that exist within the realm of conservation science.

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One way to define philosophy is to say that it is the study of concepts, especially those that are abstract, controversial, and vital. While a scientist might ask "do wolves cause a decline in moose abundance in a given population over a given period of time?", a philosopher would ask "what does it mean for one thing to cause another?". What is free will?, what is a person?, what

Thoughts



kinds of value ought we attribute to the more-than-human world?, are examples of philosophical questions. I better understand the nature of a philosophical question that might underpin or serve science because I do my philosophical work within science. In part, this is because I am at the table, so to speak, but it's also because I am held to task as I publish in their journals and they are my audience. I have to get my questions or concepts right. I vividly and painfully recall a presentation by a philosopher that offered a philosophical critique of ecological modelling. After 50 minutes of sharp critique, a quantitative ecologist in the audience gently pointed out that the critique depended upon a premise about what modelers believe about what models do that was factually inaccurate. Familiarity with and access to science and scientists helps prevent such missteps, allowing philosophical commentary to more squarely hit the mark.

In 2010, philosopher and writer Kathleen Dean Moore and I published a book entitled *Moral Ground: Ethical Action for a Planet in Peril*. The book was an effort to allow 100 of the world's moral leaders to articulate clearly, and variously, why it is wrong to leave a wrecked world to the future. Our direct interactions with climate scientists led us to see that they were trying to inspire climate change action by sharing information on how and why the climate was changing. But as philosophers we know that you cannot logically arrive at a conclusion about what we should do from statements of facts alone, that you must also articulate a premise that asserts the value of what is being harmed. In other words, because of our direct interactions with science and scientists we were able to see a philosophical

void that desperately needed filling. The book was successful enough to win some awards and earn a 10th anniversary edition, to be released in the autumn of 2021.

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3. Deeper understanding the importance of scale and context

To be a good philosopher is, at least in part, to rigorously examine your own beliefs even as you examine those of others. My work with ecologists has shown me the great depths of context and scale that I previously overlooked. Ecologists are often reproved for starting every answer to every question with "well, it depends." "Will this tree species survive a 2 degree C increase?" "Well, it depends on whether or not this neighbouring species survives, or whether this animal species moves to a higher elevation and no longer spreads its seeds." I've learned that making a philosophical case for something (trophy hunting lions in Africa, for example) is highly contingent upon the scientific realities on the ground, and that those realities can vary. What might be a good argument

to allow or forbid trophy hunting of lions in one area, might not be a good argument in another. That is, different philosophical arguments might apply at different scales. This is not typically how philosophers pose questions. Typically, we ask “is it ethical to trophy hunt lions in Africa?” or “is it ethical to hunt (period)?”. We often speak at only the most general and abstract levels, and ignore, or are unaware of, contingencies like scale and context. As a result, our analyses of ethical questions sometimes are not as meaningful and applicable as they could be.

4. Novel forms of moral expression

My work within science has shown me new and novel forms of moral expression. I have learned that over the past 50 years of scientific study, the HJ Andrews Experimental Forest in the Oregon Cascade mountains, where I work, has revealed many surprising results. I have learned that “dead” and decomposing trees actually contain more living cells than live trees because of the life forms that a dead tree supports. Through long-term observation, I have learned that the theory of “hydrologic recovery,” suggesting that the flow of water from a harvested forest will eventually return to its former state, is largely mistaken. I have learned that the assumption that old-growth forests are “decadent” because old trees grow more and more slowly, is exactly mistaken; these trees grow faster as they age. For me, the forest reveals what I’ve come to call “an ecology of surprise,” both showing us a vastly more complex forest world than we have ever imagined, but repeatedly showing that while theory suggest one thing, over time, and if you pay attention, the forest reveals quite another. And

this notion of surprise is interesting too, because while it is revealed by science, it is ethically loaded. Our reaction to surprise is often “wow, that’s amazing,” which is a positively value laden response. We generally appreciate that which surprises us. There is also a great humility in the repeated revealing of surprise. Humility is not only an important demeanour for philosophers, but also a critically missing element in a humility-limited world.

Here we come full circle, to the benefit of reuniting philosophy and science. If the science of ecology can be seen as revealer of surprises, and if surprise is ethically motivating, then perhaps there’s good reason to think that there’s not so much space between the two endeavours, as our Ancient Greek ancestors knew. If philosophy really can make us better scientists, as Rasha Shraim suggests, and if science really can make us better philosophers, efforts to reunify them might greatly benefit science, philosophy, and even society.

Michael Paul Nelson is an environmental scholar, writer, teacher, speaker, consultant, professor of environmental ethics and philosophy. He currently holds the Ruth H. Spaniol Endowed Chair of Renewable Resources, and serves as the Lead-Principal Investigator for the H.J. Andrews Experimental Forest Long-Term Ecological Research Program, at Oregon State University.