

**Andrea Sullivan-Clarke**  
**Research Statement**  
**2017-2018**

Today, as philosophers of science turn their attention to practice, they should reevaluate the constructive value of and the liabilities that come with relying on analogy in science. Analogy figures prominently not only in the development of research programs that rely solely on observable similarities, they also bear on higher-level abstractions as well. Metaphors and analogies communicate information, and sometimes, they may contain implicit biases and incorrect assumptions. Thus, there are reasons to treat analogical reasoning with suspicion. Previous philosophical analyses have focused on the internal structure of analogy, neglecting key normative issues, such as framing and implementing research programs. For example, 19th century research on human difference relied extensively on the *race as distinct species* metaphor, which directed the design of experiments and resulted in the interpretation of evidence we now take to be spurious. This problem, what I refer to as an ingrained analogy, occurs when the community takes the framework assumptions of the metaphor for granted, and its solution requires a more robust social epistemological approach.

In my dissertation, I address the social epistemology of scientific practice and the roles played by analogy in science. Drawing on the work of Helen Longino and Paul Bartha, I articulate strategies—ones valuing diverse standpoints—that if adopted, can enable communities to subject their ingrained analogies and framework assumptions to ongoing critical scrutiny. The long-running debate about Darwin's use of analogy highlights not only the constructive value of analogy, but also the role research communities can play in its critique. In my article, "On the Causal Efficacy of Natural Selection" I argue that Richard A. Richards' objection to the standard interpretation of Darwin's *Origin* turns on an impoverished understanding of analogy, causing him to overlook whether the similarities and differences between the source and target are relevant. Considerations of relevance are crucial for the critique of analogy, as is the appeal to the social context and resources on which Darwin and his interlocutors relied. The social epistemology of analogical reasoning that I am developing raises a number of key questions for future research—not just about analogical reasoning in science, but about the broader impact science has when it informs social policy.

As I actively engage the critique of analogy, I envision two lines of inquiry. The first addresses practical implications of my view—such as methods for teaching analogical reasoning and the role analogy plays in different disciplines/knowledge producing communities. The second addresses practical applications—such as the membership practices of Native American tribes. Some Native American tribal membership practices rely on ingrained analogies, like blood quantum and racial purity, which contribute to arbitrary determinations of who counts as native. Challenges to this type of thinking, like the *radical indigenism* proposed by Eva Garrouette, offer an alternative solution that emphasizes tribal sovereignty. Given the potential harms—both epistemic and political—posed by analogical reasoning, I believe that researching ways in which to limit those harms is not only valuable, but it is also socially responsible.