

Explanation Across the Disciplines

Description:

Explanations are ubiquitous. Scientists reveal nature and society's workings with them; mathematicians construct proofs with them; historians reconstruct the past with them; even philosophers use them to articulate our reasons for belief, action, and moral decision-making. Explanation is equally important as a form of communication; as teachers, it is indispensable for educating our students.

Despite the central role that explanation plays in our lives and in our classrooms, there is little consensus on what an explanation actually is. Perhaps explanations are just inferences, where what is being explained is logically deduced from previous events. Or maybe they are descriptions of causal interactions. Or possibly they are just sets of apparently unconnected ideas that when synthesized make what was originally less familiar to us more familiar. For each of these interpretations, there seem to be strong examples which provide support for them, across academic disciplines, from physics to philosophy. But for each there are also strong counterexamples. So what are we to think about explanation?

At least part of the confusion about explanations, we believe, arises from the lack of organized discussion between academic disciplines about the subject. Different vocabularies, methods, foci—not to mention the much-maligned "silo thinking" of disciplines and departments—thwart fruitful interdisciplinary discussions regarding the nature and structure of explanation. In fact, even members within a single discipline—e.g. philosophers of science and theorists of knowledge—rarely talk to each other about their highly divergent approaches to explaining explanation.

During this workshop, we begin to remedy this situation by bringing together scientists (broadly construed) and philosophers from AALAC institutions to discuss connections between their disciplines and sub-disciplines, using explanation as our focus. Workshop themes include: Are there significant differences or similarities in how explanations work across various sciences? How do these common or differing themes transform as we move to look at explanations in the humanities? What case studies illustrate these differences or similarities? How can we use what we learn about different types of explanations to enhance our understanding through different disciplines? Given that we do not want merely our students to know and describe, but also to understand and explain, how can deeper reflection on explanation improve our pedagogy?

The workshop has three desired outcomes: (1) to generate a variety of models for scholarly and pedagogical collaboration between philosophers and non-philosophers on topics that concern the methodology of different fields; (2) to provide a richer array of examples from the sciences and humanities that will be of use to philosophers when educating undergraduates about explanation; (3) to provide philosophical frameworks that will be of use to scientists and other non-philosophers when educating undergraduates about explanation.

We will assess our success in achieving these outcomes through two email questionnaires: one immediately after the workshop, and a follow-up email several months later. Should there be sufficient interest, we will use funds from Rhodes or Middlebury to create a website as a public

repository for these ideas, and to organize differently themed but similarly structured workshops.

Scheduled for the spring of 2018, the workshop will be organized as follows:

DAY ONE

1. Short presentation by organizers: "Philosophy of Explanation: A Guide for the Perplexed"
2. Keynote: invited philosopher to discuss explanation
3. Short presentations by AALAC scientists on their research
4. Short presentations by AALAC philosophers on the nature of explanation
5. Small group (AALAC scientist-philosopher pairs?) workshop session on particular scientific case where interesting affinities and tensions between scientific practice and philosophical accounts of explanation arise.
6. Concurrent group discussions of common explanatory structures and differences between cases identified. Each group has a note-taker who summarizes discussion.

DAY TWO

7. Keynote: invited scientist to discuss explanation.
8. Group reports from Step 6 shared with all participants. Open discussion of common structures of explanation, and differences, based on earlier talks.
9. Open discussion about: (a) how work done on explanation (steps 1-8) can improve liberal arts pedagogy across different disciplines; and (b) different models of scientist-philosopher collaboration at liberal arts colleges.

Workshop Leaders:

Mark Newman, Rhodes, Philosophy

Kareem Khalifa, Middlebury, Philosophy (designated liaison: kkhalifa@middlebury.edu)

Collin Rice, Bryn Mawr, Philosophy

Potential Participants:

Alan Baker	Swarthmore, Philosophy
Peter Baumann	Swarthmore, Philosophy
Nalini Bhushan	Smith, Philosophy
David Bickar	Smith, Chemistry
Seth Chin-Parker	Denison, Psychology
Piper Coutinho-Sledge	Bryn Mawr, Sociology
Sam Cowling	Denison, Philosophy
Gregory Davis	Bryn Mawr, Biology
James Doyle	Macalester, Physics
Janet Folina	Macalaster, Philosophy
Noah Graham	Middlebury, Physics
Marion Hordequin	Colorado, Philosophy
TammyNyden	Grinnell, Philosophy
Jeffry Ramsey	Smith, Philosophy
David Rupke	Rhodes, Physics

Pat Shade
Tristan Smith
Susan Stratton
Bill Waldron
Don Wyatt

Rhodes, Philosophy
Swarthmore, Physics
Smith, Economics/Environmental Science & Policy
Middlebury, Religion
Middlebury, History

