

Research team, previous output, and student training

A. Research team

Our research team comprises three Canadian philosophy professors: Benj Hellie (Professor of philosophy at the University of Toronto), Adam Russell Murray (Assistant Professor of philosophy at the University of Manitoba), and Jessica M. Wilson (Professor of philosophy at the University of Toronto). Hellie is grant applicant and primary investigator; Murray and Wilson are each co-applicants. It is anticipated that each member of the research team will contribute a roughly equal proportion of the proposed research.

The RMM program in modal metaphysics has since its inception been a primarily collaborative endeavour. The program's founding article ('Relativized Metaphysical Modality'; Murray and Wilson 2012) developed out of a graduate seminar taught by Wilson and attended by Murray. Wilson and Hellie would subsequently supervise Murray's 2017 doctoral dissertation on RMM at the University of Toronto (*Perspectives on Modal Metaphysics*). More recently, Hellie was the primary drafter of a 2020 article, co-authored with Murray and Wilson, further elaborating upon applications of RMM ('Relativized metaphysical modality: index and context'). In light of these collaborative interactions a team approach to the proposed research is very natural.

As primary investigator, Hellie will dedicate As co-applicant, Murray will dedicate 80% of his research time to this project. Murray will contribute to the authoring or co-authoring of several papers in metaphysics and philosophical logic relevant to the project's main themes, and to the anticipated monograph, as detailed in the Knowledge Mobilization Plan. As co-applicant, Wilson will dedicate

B. Description of previous and ongoing research results

Hellie's previous and ongoing research results....

Murray's previous and ongoing research is mainly centered on developing applications of RMM, primarily in metaphysics and in associated areas of philosophical logic. In connection with the RMM program, Murray's previous research outputs include the initial 2012 article co-authored with Wilson ('Relativized Metaphysical Modality'), the more recent 2020 article co-authored with Hellie and Wilson ('Relativized metaphysical modality: index and context'), of which Hellie was the primary drafter, and the 2022 article 'Propositional dependence and perspectival shift'. The 2012 article develops the founding insight of the RMM program in modal metaphysics in service of a novel solution to 'Chisholm's Paradox' of material origins essentialism, and a related 'undermining' puzzle arising for a necessitarian theory of laws. The 2020 article further develops RMM in connection with a cluster of modal puzzles, concerning material origins, natural laws, and ontology, respectively, each arising against the backdrop of a particular sub-fragment of a quantified modal language (the language of quantified S5 with identity). Finally, the 2022 article elaborates upon the significance of RMM for debates in 'higher-order' modal metaphysics, concerning the existence and nonexistence of singular ('object-involving') properties and propositions, and sketches a possible worlds semantics for higher-order modal logic capable of accomodating the core doctrines of RMM.

A secondary project in the philosophy of language, recently completed, was the joint preparation (with Chris Tillman of the University of Manitoba) of the *Routledge Handbook of Propositions* (Routledge UK; forthcoming 2022). The volume comprises 33 original articles by an international team of scholars, and a substantial introductory chapter and overview by Murray and Tillman. The volume's focus is on both historical and contemporary theories of propositions, and on associated topics in logic, philosophy of language, and philosophy of mind.

Murray's primary ongoing research extends the applications of RMM to issues in modal ontology: 'Existence and nonexistence in modal perspectivism' develops the RMM solution to the first-order 'Bar-

canite' puzzle discussed in the project description, while 'Higher-order dependence' extends that solution to analogous, property-theoretic, Barcanite puzzles. A third ongoing RMM-related project, 'Further considerations on Chisholm's Paradox', extends the RMM treatment of 'tolerance' puzzles to a modal-soritical paradox of material origins, and to the 'Four-worlds Paradox' (due to Nathan Salmón), each currently receiving renewed attention in the literature.

Wilson's previous and ongoing research results

C. Description of proposed student training strategies

Our project will provide a wide range of training opportunities for graduate students at two Canadian institutions, at both the PhD and Master's level.

The proposed budget contains funds that will enable us to hire two doctoral students at the University of Toronto, and two MA students at the University of Manitoba, as research assistants. There are a number of very capable graduate students in both programs who are interested in metaphysics, philosophy of language, philosophical logic, and history of analytic philosophy and who would be well-suited to work on this sort of project. At Toronto, Hellie and Wilson intend to hire one research assistant working primarily in logic and language, and one working primarily in metaphysics, each for the duration of the project term. At Manitoba, Murray intends to hire two MA students each year, with research interests primarily in language and metaphysics.

Our research assistants will work closely with us in surveying and analyzing literature in each of the above areas of philosophy. This work will involve following up on references and composing detailed reviews of significant papers. Since many of these papers will be technical in nature, over the course of the project our students will develop the ability to make complex ideas easily accessible, and to draw connections between ideas developed in various sub-literatures. Our research assistants will also compile master bibliographic files for relevant sources identified in the course of their investigations, and will be responsible for communicating the results of their work not only to us, but also to each other (hence we envisage there being a collaborative aspect to the student training component of our project as well).

Our research assistants will also work closely with us in preparing articles for submission to journals, and in the preparation of the anticipated book manuscript. Additionally, we have budgeted a large amount of money for each research assistant to travel with us to at least one professional conference during every year of the project. These activities will provide our students with opportunities to practice presenting their own work on topics related to the proposed project. Accordingly, over the project term our research assistants will receive important hands-on training in various research methods (including data management and analysis), in research collaboration, and in knowledge mobilization. These skills are essential to success in graduate school, but they are also widely transferrable, and applicable outside of academia.

Finally, given the collaborative nature of our project, we hope that through such joint research various joint papers will emerge: the RMM program already has a strong track record of faculty-student collaboration (Murray was the doctoral student of Wilson and Hellie; and the founding publication came out of Wilson's seminar, attended by Murray). Co-authoring would provide an excellent way of helping our graduate students learn how to craft a publishable piece of research. It would also help our students learn how to navigate the publishing process. It is now almost required that a graduate student have some publications in order to be successful in applying for tenure-track jobs. Serving as a research assistant for this project would help in developing the skills required for successfully publishing work during graduate school.