RETHINKING THE TAXONOMY OF PSYCHOLOGY WORKSHOP
Rotman Institute of Philosophy Annual Conference
April 15 – 17, 2016
London, Ontario
#RTPWorkshop

FRIDAY, APRIL 15

9:30 a.m. – 10:15 a.m.– coffee

10:15 a.m. -10:45 a.m. – Michael Anderson (Franklin and Marshall College), *"Introduction and welcome: Why Rethink the Taxonomy of Psychology?"*

> In this talk, I summarize an emerging debate in the cognitive sciences over the right taxonomy for understanding cognition -- the right theory of and vocabulary for describing the structure of the mind -- and the proper role of neuroscientific evidence in specifying this taxonomy. I review the methods being used to mine neuroimaging data (in particular) to both evaluate the validity of the existing psychological taxonomy, and in some cases to bootstrap new psychological categories. I also briefly outline some of the theoretical positions being advocated, and reflect on some of the possible implications of this work both for scientific and folk psychology.

10:45 a.m. – 11:00 a.m. - Coffee break

11:00 a.m.-12:00 p.m. – Kristin Lindquist (University of North Carolina at Chapel Hill), *"A constructionist functional ontology of mind-brain correspondence."*

> I'll discuss a "constructionist" functional ontology of mind-brain correspondence and its implications for how mental state categories map on to brain structure and function. In particular, I'll draw from neuroimaging research spanning cognitive, social, and affective neuroscience to conclude that myriad mental state categories such as memory, theory of mind and emotion all emerge from the combination of the same domain-general distributed brain networks.

12 p.m. – 1 p.m. – Lunch

1:15 p.m. – 2:15 p.m.– Adina Roskies (Dartmouth College), *"Predictive coding and psychological taxonomy"*

> I will address the way in which predictive coding theories of brain function might bear on the question of what our cognitive ontologies (or psychological taxonomies) are. To what extent does this theory force us to reevaluate our conceptions of the joints of nature with respect to concepts of the world and concepts of the mind? Is the theory consistent with more traditional ways of assigning function, or does it challenge them?

 2:15 p.m. -2:30 p.m. - Coffee Break

2:30 p.m.-3:30 p.m. - Randy McIntosh (University of Toronto), *"Moving from mental states to mental processes via connectome-based brain simulation"*

> This talk will present an overview of the use of the human connectome---detailed maps of the brain's internal wiring patterns---to simulate brain dynamics. This process can help us move away from static models of mental states and toward more temporally realistic models of brain activity, and can also help constrain the psychological interpretations of the processes we observe.

3:30 p.m.-4:30 p.m. – Robyn Bluhm (Michigan State University), *"Content and process in cognitive ontologies"*

> Intuitively, it seems obvious that some studies in cognitive neuroscience focus on the content of mental states (e.g., studies of emotion processing that distinguish among different emotions), while other examine kinds of mental processes regardless of content (e.g., studies that examine working memory use different kinds of tasks). In this talk, I will examine various ways in which the distinction between content and process can be understood, and will also consider the implications of dual-process theories for our understanding of both contents and processes.

4:30 p.m. – 6:00 p.m. – Reception

SATURDAY, APRIL 16

9:30 a.m. -10 a.m. coffee

10:00 a.m. – 11:00 a.m. – Russ Poldrack (Stanford University), *"Ontology-based decoding of neuroimaging data"*

> I will discuss ongoing work that is using ontologies to better decode psychological functions from neuroimaging data. I will also discuss how we are using Deep Dive to automatically extract knowledge from the cognitive neuroscience literature. The ultimate goal of the work is to use neuroimaging data to assess the validity of current psychological ontologies.

11:00 a.m. – 12:00 p.m. – Lisa Saksida (Western University), *"Cognition and the ventral visual-perirhinal-hippocampal stream: thinking outside of the boxes"*

> The prevailing view in cognitive and behavioural neuroscience is that the brain is composed of a number of different modules, each of which is responsible for a different cognitive function, including different types of memory. An emerging alternative view, however, suggests that the brain may more usefully be thought of as being organised not in terms of modules which mediate different high-level cognitive functions such as memory, perception, and so forth, but in terms of the representations which these regions support, organised in a hierarchical system of increasing complexity. According

to this view, a given representation—and thus brain region—could be useful for myriad different functions. In my talk I will describe this representational view and how it explains phenomena following brain injury, including false recognition and alterations in pattern separation.

12:00 p.m. – 1 p.m. – Lunch

1:15 p.m. – 2:15 p.m. – Muhammad Ali Khalidi (York University), *"Crosscutting Psychoneural Kinds: Some Lessons from Episodic Memory"*

I will begin by proposing a taxonomy of taxonomic positions regarding the mind-brain: localism, wholism, revisionism, and contextualism, and will go on to focus on the last position. Although some versions of contextualism have been defended by various writers in neuroscience, psychology, and philosophy, these researchers largely limit themselves to a version of neural contextualism: different brain regions perform different functions in different neural contexts. Other versions of contextualism have not been given their due, namely environmental, developmental, and evolutionary contextualism. According to environmental contextualism, for example, the psychological functions carried out by various neural regions can only be identified and individuated against a backdrop of synchronic and diachronic environmental circumstances. While this idea may seem innocuous enough, it implies that the same neural regions can subserve different psychological functions relative to different environmental contexts, leading to crosscutting psycho-neural mappings. I will try to illustrate how this can occur with reference to recent research on episodic memory, including work on pattern separation and completion, reconsolidation, and constructivism.

2:15 p.m. -2:30 p.m. – Coffee Break

2:30 p.m. –3:30 p.m. - Paul Thagard (University of Waterloo), *"Conceptual Change in the Brain Revolution"*

All scientific revolutions involve substantial conceptual change, including dramatic changes in taxonomies (Thagard 1992, 2014). The accumulating evidence that mental processes are brain processes is also revolutionary, and this talk will discuss the attendant conceptual changes.

3:30 p.m. – 4:30 p.m. – Owen Whooley (The University of New Mexico), *"Taxonomy, through a Glass Darkly: A Sociological Reflection on Psychiatric Nosology"*

Drawing on my historical sociological research on American psychiatry, this talk uses recent developments in psychiatric nosology -- the contentious DSM-5 revision process and the emergence of the Research Domain Criteria (RDoC) -- as an occasion to explore longstanding difficulties in categorizing mental distress. Faced with a stubborn, enduring ignorance of the underlying mechanisms of mental disorders, psychiatry has proffered radically different ways of understanding mental distress over the last 150 years, regularly revising its ontological conceptualizations in response to professional crises.

Examining the emergence of RDoC and the "neuro turn" in light of this history, this talk articulates a critical sociological perspective on psychiatric nosology, one that expresses concern about the decontextualization of mental distress and insists on a place for the "social" in the neurosciences, not as an add-on, but as a fundamental dimension in our thinking about mental distress.

4:40 p.m. – 5:00 p.m. – Poster Blitz

5:00 p.m. – 6:30 p.m. – Poster Session

SUNDAY, APRIL 17, 2016

9:30 a.m.-10:00 a.m.- Coffee

10 a.m.-11:15 a.m. – Break-out sessions

11:15 a.m. -12:00 p.m. – Plenary session

12:00-1:00 p.m. - Lunch and departures