MONASH University

SCHOOL OF PHILOSOPHICAL, HISTORICAL AND INTERNATIONAL STUDIES PRESENTS

CHILDHOOD AS SIMULATED ANNEALING: WHEN (AND WHY) CHILDREN ARE SMARTER THAN ADULTS

PROFESSOR ALISON GOPNIK

ABSTRACT

I will present several studies showing a surprising pattern. Not only can preschoolers learn abstract higher-order principles from data, but younger learners are actually better at inferring unusual or unlikely principles than older learners and adults. I relate this pattern to computational ideas about search and sampling, to evolutionary ideas about human life history, and to neuroscience findings about the negative effects of frontal control on wide exploration. My hypothesis is that the evolution of our distinctively long, protected human childhood allows an early period of broad hypothesis search, exploration and creativity, before the demands of goal-directed action set in. This evolutionary solution to the search problem may have implications for Artificial Intelligence.

Professor Alison Gopnik is the author or coauthor of over 100 journal articles and several books including *Words, Thoughts, and Theories* and the bestselling and critically acclaimed popular books *The Scientist in the Crib*, *The Philosophical Baby* and *The Gardener and the Carpenter*. She has also written widely about cognitive science and psychology for *Science*, *The New York Times*, *Scientific American*, *The Atlantic*, *The New Yorker*, *The Times Literary Supplement*, *The New York Review of Books*, *New Scientist*, and *Slate*, among others. Since 2013 she has written the *Mind and Matter* column for *The Wall Street Journal*.

Alison Gopnik is a professor of psychology and affiliate professor of philosophy at the University of California at Berkeley. She received her BA from McGill University and her PhD from Oxford University. She is an internationally recognized leader in the study of children's learning and development and was one of the founders of the field of "theory of Mind", an originator of the "theory theory" of children's development, and more recently introduced the idea that probabilistic models and Bayesian inference could be applied to children's learning.

For more information please contact:

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Free event. No registration required.

DATE: 19 SEPTEMBER 2019

TIME: 3.30 PM – 5.00 PM (followed by reception)

VENUE: Monash Club,
Monash University (Clayton Campus)

Organised by Professor Tim Bayne, Dept of Philosophy, Monash University. Sponsored by the *Australian Research Council*, *Monash Neuroscience of Consciousness*, and the *Consciousness Research Network* between the University of Melbourne and Monash University.

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