

### Modeling and Aiding Intuitions in Organizational Decision Making

Special Issue of the

### Journal of Applied Research in Memory and Cognition

Guest editors:

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The *Journal of Applied Research in Memory and Cognition* (JARMAC) will publish a special issue on “Modeling and Aiding Intuitions in Organizational Decision Making”, edited by Julian N. Marewski and Ulrich Hoffrage. Interested contributors are referred to a detailed outline of the intended contents below.

How do managers, civil servants, politicians, and other administrators make decisions? An avalanche of studies suggests that not only careful rational analyses, but also intuitions, gut feelings, and heuristics play an extremely important role in professional decision making—for the better or for the worse.

According to **dual-process** theories (e.g., Sloman, 1996), for instance, decision making stems from two cognitive systems; one which is rational, rule-based and one which is intuitive. Similarly, following the **heuristics-and-biases** program (e.g., Kahneman, Slovic, & Tversky, 1982), decisions are prone to a set of biases and irrational fallacies that are often attributed to the intuitive system. The **fast-and-frugal heuristics** framework (e.g., Gigerenzer, Todd, & the ABC Research Group, 1999), in contrast, stresses also what might be conceived of as the positive side of intuitions: According to this framework, successful decision makers smartly choose from an adaptive toolbox of efficient rules of thumb, labeled fast-and-frugal heuristics. Intuitions reflect the workings of these heuristics.

The different, partially segregated, theoretical approaches not only offer contradictory conclusions about the role of intuitions in organizational decision making, but also differ in the methodologies they rely upon. Dual-process theories and the heuristics-and-biases program often invoke verbal, informal accounts of decision making whereas the fast-and-frugal heuristics and other frameworks strive to formulate computational, algorithmic models of the underlying cognitive processes. For example, **cognitive architectures** (e.g., Anderson, 2007) and **connectionist** theories (e.g., Rumelhart, McClelland, & the PDP Research Group, 1986), potentially allow understanding decision processes in terms of very detailed formal models. The approaches also differ in terms of the benchmarks they use to assess the success of heuristic, intuitive decision processes. The heuristics-and-biases program, for instance, typically invokes the **laws of logic** and models that come from the **subjective expected utility maximization** tradition as normative yardsticks for successful decision making and human **rationality**. The fast-and-frugal heuristics framework, in turn, aims at assessing

how well decision processes are adapted to the statistical structure of the environment in which they operate—an **ecological view of rationality** that is rooted in Herbert Simon’s work (e.g., 1956). Finally, the various approaches differ in terms of how much emphasis they place on actually examining professional decision making in the real-world—as opposed to in the lab—with the **naturalistic decision making** community (e.g., Klein, 2004), making the study of intuitions in the wild one of its methodological priorities.

This rich but partially segregated literature does not offer a consensus as to (i) **how intuitive organizational decision making processes should be modeled** and (ii) **how organizational decision makers can be aided to make better decisions**. Yet, especially the latter question is of great importance to practitioners—such as managers, politicians, or civil servants—who strive to improve decision making processes in institutions.

This special issue intends to contribute to establishing such a consensus, helping practitioners and theorists alike in their endeavor to both understand and aid intuitive organizational decision making. In line with this goal, the special issue will not only present cutting-edge research in this domain, but also offer a synopsis of the various theoretical and methodological approaches in one volume. To further foster exchanges among these approaches, authors of accepted papers will be invited to publish a commentary on the contributions of the other authors (in the same volume).

Submitted articles should make a new theoretical, methodological, or empirical contribution, for example, by presenting theoretical arguments, experimental or observational findings, simulation results, and mathematical analyses. Articles that are explicitly written for practitioners are also solicited.

#### Specific topics of full articles include but are by no means limited to:

- (a) How do intuitions guide managers, civil servants, politicians, and other administrators, for instance, when making high-stake and low-stake decisions?
- (b) How can managers, civil servants, politicians, and other administrators avoid falling prey to cognitive biases by training their intuitions?
- (c) How can heuristics and intuitions be systematically used to aid (rational) decision analysis, for instance, by guiding the construction of complex decision trees and by informing simulations of business scenarios?
- (d) How can heuristics be implemented as decision aids in organizations?
- (e) How can simple heuristic principles contribute to the robustness of organizations, institutions, or even society (cf. Taleb, 2010)?
- (f) Why are there comparatively few detailed computational models of the cognitive processes associated with intuitive organizational decision making?

- (g) How can cognitive architectures, connectionist models, and other computational theories of cognition aid the study of intuitive organizational decision making?
- (h) How can the rational analysis approach from the cognitive and decision sciences (e.g., Anderson, 1991; Oaksford & Chater, 1998) be useful for studying intuitive decision making in organizations?
- (i) When should correspondence criteria and when should coherence criteria (e.g., Hammond, 1996) come into play as normative yardsticks for assessing the success of intuitive decisions in organizations?
- (j) How do intuitive decision making processes differ depending on whether they are studied in the wild or in the lab?
- (k) How can the Brunswikian methodological imperative of representative experimental design (e.g., Brunswik, 1955) be applied in the study of intuitive organizational decision making?
- (l) How can the different theoretical and methodological approaches to intuitive organizational decision making be integrated into an overarching framework?

Interested contributors are requested to contact Julian Marewski and Ulrich Hoffrage (by e mail: julian.marewski@unil.ch, ulrich.hoffrage@unil.ch; for more information about the guest editors, see www.modeling-adaptive-cognition.org) and to submit, as a preliminary step, a summary of the intended contribution (about 200 words). Each summary will be evaluated by the guest editors in terms of the intended contribution's scope and suitability for the special issue. Summaries that are submitted prior to December 31<sup>st</sup> will be given full consideration for the special issue; summaries that are submitted on a later date will also be considered; however, full consideration of late summaries will only be guaranteed as long as projected number of intended contributions does not exceed the available journal space. The deadline for submitting full papers is October 15<sup>th</sup>, 2013. Submitted papers will be reviewed within 4 weeks after their reception.

All submissions will be subject to the journal's regular peer review process under the direction of the guest editors and Ronald Fisher, the journal's editor-in-chief. The final version of accepted articles must adhere to the journal's author guidelines.

One goal of the *Journal of Applied Research in Memory and Cognition* is to reach not only scientists but also professionals and practitioners who seek to understand, apply, and benefit from research on memory and cognition. Editorial board members are JR. Belli, R. Bjork, N. Brewer, S. Charman, J. Dunlosky, R. Engle, B. Fischhoff, M. Garry, S. Gathercole, M. Goldsmith, P.A. Granhag, A. Healy, P. Hertel, S. Kassin, G. Keren, J. Marewski, M. McDaniel, C. Meissner, J. Metcalfe, K. Pezdek, D. Poole, H. Roediger III, B. Schwartz, N. Schwarz, D. Simon, B. Spellman, A. Vrij, G. Wells, C. Wickens, J. Wixted, and D. Wright. The journal is owned by the Society for Applied Research in Memory and Cognition, and published by Elsevier.

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## Philosophical Approaches to Social Neuroscience

### Special Issue of Cognitive Systems Research

Edited by

Leslie Marsh (Medical School, University of British Columbia) and Philip Robbins (Department of Philosophy, University of Missouri)

### Confluence of Interest

It's been twenty-five years or so since Gazzaniga's (1985) empirically motivated work that understood the brain as a kind of hermeneutic device or "interpreter" that evolved in response to social forces. This work could be considered a landmark in the nascent field of social neuroscience (SN). From a philosophical perspective it's also been some twenty-five years since Churchland (1986) broke ranks with the priorism characteristic of the prevailing philosophy of mind by taking heed of developments within neuroscience.

Social neuroscience, by definition, is an acknowledgement that the nervous system cannot be considered in isolation from the social environments in which humans have evolved. By the same token, the non-Cartesian wing of cognitive science is also a de facto acknowledgement that ubiquitous sociality must be factored into philosophy of mind. This said, there is still a very limited literature dealing with this clear