

Concepts Enacted: Confronting the Obstacles and
Paradoxes Inherent in Pursuing a Scientific Understanding
of the Building Blocks of Human Thought

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Declaration

I hereby declare that this thesis has not been and will not be submitted, in whole or in part, to this or any other University for the award of any other degree.

Signature: _____

Summary

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Concepts Enacted:

**Confronting the Obstacles and Paradoxes Inherent in Pursuing a Scientific Understanding
of the Building Blocks of Human Thought**

This thesis confronts a fundamental shortcoming in cognitive science research: a failure to be explicit about the theory of concepts underlying cognitive science research and a resulting failure to justify that theory philosophically or otherwise. It demonstrates how most contemporary debates over theories of concepts divide over whether concepts are best understood as (mental) representations or as non-representational abilities. It concludes that there can be no single correct ontology, and that both perspectives are logically necessary. It details three critical distinctions that are frequently neglected: between concepts as we possess and employ them non-reflectively, and concepts as we reflect upon them; between the private (subjective) and public (inter-subjective) aspects of concepts; and between concepts as approached from a realist versus anti-realist perspective. Metaphysical starting points fundamentally shape conclusions.

The main contribution of this thesis is a pragmatic, meticulously detailed, and distinctive account of concepts in terms of their essential nature, core properties, and context of application. This is done within the framework of Peter Gärdenfors' conceptual spaces theory of concepts, which is offered as a bridging account, best able to tie existing theories together into one framework. A set of extensions to conceptual spaces theory, called the unified conceptual space theory, are offered as a means of pushing Gärdenfors' theory in a more algorithmically amenable and empirically testable direction. The unified conceptual space theory describes how all of an agent's many different conceptual spaces, as described by Gärdenfors, are mapped together into one unified space of spaces, and how an analogous process happens at the societal level.

The unified conceptual space theory is put to work offering a distinctive account of the co-emergence of concepts and experience out of a circularly causal process. Finally, an experimental application of the theory is presented, in the form of a simple computer program.

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Preface

The bulk of chapters Six and Seven has been published in modified form in (Parthemore and Morse, 2010). That paper was produced as an integral part of the present thesis research. The content of these chapters is solely my own. Portions of chapters One and Five are part of another (single-author) paper that is being published as Parthemore (2011).

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