

Abductive Theory for Thought-Ecologies:  
Depicting Systems of Conceptions

William Joseph Varey

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I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary education institution.

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William Joseph Varey

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## Abstract

The discipline of sustainability theory now represents a mature and established discourse. Significant sustainability discussions will be occurring at this moment in many locations. These discussions may potentially enact decisions impacting on our local and collective futures. This dissertation is prompted by observations, over many years and in diverse forums, of how the quality of collective thought in such discussions sets the potential for societal developments. This research responds to the specific situation where in intelligent, informed, significant, well-planned and representative sustainability forums the complexity of questions faced may exceed our collective capacity to discover viable sustainability solutions.

The initiating question of this research was: *What is a means by which to disclose the capacity for thought in human social systems?* This dissertation examines the parameters for the depiction of the dynamic capacity of thought-ecologies. The proposition developed is for the use of 'conceptions' as a unit of observation. The approach operates much like the use of the organism in the study of complex ecologies in ecological systems theory. A novel contribution is in the discovery of how an ecology of thought requires from us some distinctly different assumptions. This research extends knowledge from the fields of psychology, sociology, ecology and systems theory by a structured multi-disciplinary approach.

An abductive method grounded in Peircean pragmatism is used and a methodological framework is developed from existing research theory specifically for the study of thought-ecologies. The framework comprises nine inquiry phases that build sequentially toward a hypothesis. This sequence of abductive inquiries provides a discrete structure to and methodological rigor for each inquiry phase. The relevant theory, method design, emphasis selection, and research outcomes are set out for each inquiry in separate chapters, with each chapter using a consistent structure.

In summary, the appropriate location for observation is selected using the example of sustainability theory (Chapter One). Conceptual feasibility is established by detecting phenomena from conceptions of health (Chapter Two). Primary propositions are developed from an analogical isomorph in neurobiological autopoiesis theory (Chapter Three). Three inter-related hypotheses are proposed for systems of conceptions (Chapter Four). The viability of the hypotheses is confirmed using five criteria from a panarchy analysis (Chapter Five). Definitions are formulated for the key dimensions proposed (Chapter Six). A comparison of existing measurement modalities provides the criteria for a measurement system (Chapter Seven). The approach to modeling  $n$ -dimensional hypervolumes for systems of conceptions is demonstrated (Chapter Eight). The proposed hypothesis is appraised on principles of explanatory coherence and pragmatism (Chapter Nine). This dissertation concludes with an integrative reflection (Chapter Ten).

The result of this research is to provide a theoretical basis for the depiction of systems of conceptions. The practical outcome achieved is the ability to observe the capacities of thought-ecologies by their depiction in three-dimensions. The significance of the research is to enable forms of social learning to enhance present and future capacities for sustainability thinking.

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## List of Publications

*Sections of this dissertation have already been presented as conference papers or prepared for publication as peer-reviewed journal articles:*

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Varey, W. (2010) Psychological Panarchy: Steps to an Ecology of Thought, Proceedings of the 54<sup>th</sup> Meeting of the International Society for the Systems Sciences (18-23 July 2010). Waterloo, Canada.

Varey, W. (2010) Psychoservices in Sustainable Psychosystems: The Role of Strategic Sustainability Assessment in a Healthy Society, Paper presented at the 2<sup>nd</sup> Sustainability Assessment Symposium (25-26 May 2010). Integral Sustainability: Fremantle, Australia.

Varey, W. (2010) Health in, of and for: The ethics of delineating 'health' and 'unhealth', Proceedings of the 2<sup>nd</sup> Biennial Integral Theory Conference, (29-31 July 2010). San Francisco, CA.

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## **Glossary of Acronyms**

ATOM	Abductive Theory of Method
CFA	Confirmatory Factor Analysis
ECLET	Emergent Cyclical Levels of Existence Theory
EFA	Exploratory Factor Analysis
GRR	Generalized Resistance Resources
HCS	Health Conception Score
LHCS	Laffrey Health Conception Scale
LOE	Levels of Existence
RLHCS	Reduced Laffrey Health Conception Scale
SOC	Sense of Coherence
SOCS	Sense of Coherence Scale
TEC	Theory of Explanatory Coherence

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# Introduction

## Preamble

This dissertation began in the context of my professional practice in sustainability facilitation. For over a decade I had the great privilege to work with many individuals, communities and remarkable organizations on their enactment of sustainability. By enabling the formation of new understandings I watched sustainability ideals move from vague concepts to concrete applications. This process of emergent sense-making holds, for me, a continual and life-long fascination. It reflects a belief I hold in the willingness of people to engage with their future as a reflection of their present capacity for caring.

Over time, I began to notice different patterns and some recurring anomalies. For example, in open processes collective solutions might be arrived at that were satisfying to no one individual personally. In contrast, I saw instances where clearly agreed outcomes failed in the absence of missed fundamentals. In intelligent, significant, well-planned, representative forums, such results were, based on my experience, perplexing. The commonality from within these occasions was when the complexity of the questions exceeded the capacity for the solutions. In the face of recurrent failures of our best collective efforts our belief in our abilities to enact complex sustainable change can become seriously challenged. I recognized at that time there were humanity-level impacts to these situations.<sup>1</sup>

The various frameworks, learning theories, systems models and philosophical premises I had acquired in practice did not provide, at least for me, adequate explanations for what I was observing. This placed me in a position of general unknowing in relation to fields that I was intimate with in terms of know-how, experience and praxis. The sentiment of this dilemma has been clearly expressed by French philosopher, Edgar Morin (2001) who observes: