Second order systems:
cybernetic foundations for the social sciences

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Abstract
This paper presents a theory of second order systems with a view to showing how it may serve as foundations for the social sciences. Currently, with rare exceptions, penetrations of cybernetic and systems theoretic concepts into the social sciences have been sporadic and, arguably, conceptually confused. The aim of the theory is to mitigate this lack and these confusions by providing a coherent conceptual framework that can bring order and transdisciplinary unity. I provide examples of the theory's relevance for key topics in the disciplines of psychology, sociology and cultural anthropology (consciousness, communication, observation and reflexivity). I also review some examples of existing applications of cybernetics and systems theory in the social sciences and indicate their shortcomings. I show how the conceptual framework can ameliorate them. My critiques and proposals are intended to serve the transdisciplinary and metadisciplinary aims of cybernetics and the systems sciences of bringing order and unity to other disciplines. I believe my proposals are helpful also in understanding the relations between theories and concepts in cybernetics and the systems sciences. I briefly provide some justifications for this view. Topics covered include: the emergence and ontogeny of second order systems, the dynamics of second order systems, the interaction of second order systems and second order systems theory applied recursively to individual social actors, families, organisations, cultures and social systems.

Key words
systems sciences, social sciences, second order cybernetics, second order systems

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