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## **Organization as a Nexus of Rules: Emergence in the Evolution of Systems of Exchange\*\***

This paper seeks to explain the evolution of human systems of exchange through the *emergence* of both fundamental forms of organization (such as firms and markets) and specific instances of organization (such as individual firms and other economic or social entities) for engaging in exchange. We develop a combined systems, evolutionary, cognitive, and game-theoretic perspective on organizing that broadly represents organizations as *systems of exchange* founded on *rules and routines* for ordering exchange (broadly construed) between agents. We characterize the evolution of systems of exchange as an *evolutionary cognitive process* in which agents learn from their exchange experiences to adapt and improve rules and routines that improve the systems of exchange in which they participate. An evolutionarily stable form or instance of organization is achieved when a nexus of rules and routines emerges that offers a Pareto preferable system of exchange that attracts agents to its way of organizing exchange. We identify key aspects of rules that determine their relative attractiveness and thus their potential to be perceived as Pareto preferable by agents. We describe how trial-and-error learning by agents as they apply and seek to improve rules and routines in processes of exchange leads to the emergence of innovative forms of organizing (distinguished by their distinctive new nexus of rules) and to their dissemination, further evolution, and perhaps eventual extinction within a population of agents. We also distinguish the nexus-of-rules perspective on organization developed here from the nexus of contracts perspective common in the economic view of organization.

Key words: **systems of exchange, organization, emergence,  
evolutionary theory, cognitive processes**

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\*\* Article received: September 22, 2009  
Revised version accepted after double blind review: October 15, 2010.