

Co-evolution of Mind and Society: Institutional Economics of Cognition and Emergence

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ABSTRACT

Theories of institutions can be classified into two broad approaches: institutions-as-rules and institutions-as-equilibria. According to institutions-as-rules approach, institutions are conceived as rules or constraints that guide the actions of individuals engaged in social interactions. On the other hand, the institutions-as-equilibria approach views institutions as behavioral patterns or regularities. In order to have a complete picture of institutions in interactions between mind and society, we need to take both approaches into consideration. The main purpose of this paper is to develop a general framework within which it is possible to analyze a relationship between the sensory order and the social order.

The mind is itself a complex adaptive system. In *The Sensory Order* (1952), F. A. Hayek provided a theory of the process by which the mind perceives the world around it. The sensory order is a classification that takes place via a network of impulse connections. The subjectivity of individual knowledge finds its foundation in the construction of the mind. The mind is an adaptive system interacting with and adapting to its environment by performing a multi-level classification on the stimuli it receives from the environment.

A society is also a complex adaptive system; it is composed of a set of agents that are related to one another in a particular way. The dissemination of knowledge is crucial in society. People live in a world of expectations about interactions with others' actions. People follow rules of behavior in society. Relying on rules is a device we have learned to use because our reason is insufficient to master the detail of complex reality. If rules are recognized as recurrent patterns of behavior, individuals act according to rules of conduct. The diffusion of shared behavioral patterns is necessary to obtain the social order. Shared rules facilitate the decision-making in complex situations by limiting the range of circumstances to which individuals have to pay attention.

Institutions are both the rules that underlie individual behavior and patterns of behavior. The concept of institutions has two dimensions of cognition and emergence. Institutions are shared sets of rules that allow individuals to coordinate their behavior. In the dimension of cognition, institutions guide individual behavior and thought. Individual agents have not only expectations, but also shared mental models. Institutions can be viewed as cognitive media embedded solely in individual agents. Institutions also depend on the individuals who reproduce, transform, or create them. In the dimension of emergence, the equilibrium state is generated as the result of actions chosen by individual agents. If equilibrium (as a relation between actions) exists at a point in time, individuals' plans are consistent with each other and are completely coordinated. An equilibrating tendency can be a tendency of institutions to coordinate individuals' actions. The mind is endogenous to the individual's environment, which implies that expectations are also endogenous to the individual's environment. Shifts in mental models change individuals' plans and actions, which in turn leads to institutional evolution. Thus, the paper shows that institutional structures and individual actions co-evolve.