

# A naturalistic approach to the theory of the firm: The role of cooperation and cultural evolution

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## Abstract

One reason why firms exist, this paper argues, is because they are suitable organizations within which cooperative production systems based on human social predispositions can evolve. In addition, we show how an entrepreneur, given these predispositions, can shape human behavior within a firm. To illustrate these processes, we will present a model that depicts how the biased transmission of cultural contents via social learning processes within the firm influence employees' behavior and the performance of the firm. These biases can be traced back to evolved social predispositions. Humans lived in tribal scale social systems based on significant amounts of intra- and even intergroup cooperation for tens if not a few hundred thousand years before the first complex societies arose. Firms rest upon the social psychology originally evolved for tribal life. We also relate our conclusions to empirical evidence on the performance and size of different kinds of organizations. Modern organizations have functions rather different from ancient tribes, leading to friction between our social predispositions and organization goals. Firms that manage to reduce this friction will tend to function better.

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## 1. Introduction

Many people exhibit loyalties to organizations that appear disproportionate to the material rewards they receive from these organizations. Employees often make decisions in terms of their expected effects on the firm's profitability and identify with organization goals without considering their own economic self-interest. In most firms and organizations, employees cooperatively contribute much more to their organization's or firm's overall goal achievement than the minimum that could be extracted from them by supervisory enforcement of the not-fully specifiable terms of the employment contract.<sup>1</sup> So, why are they often motivated to work vigorously for the organization's welfare? Every organization faces the problem of the commons: benefits that are jointly gained and shared by all, among non-contributors

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<sup>1</sup> As Williamson (2002) has argued, all complex, future-related contracts are unavoidably incomplete.

and contributors, and the resulting temptation of free-riding (Simon, 1991). Why is there anything besides free-riding, and why do employees identify with organizational goals at all? Do organizations depend entirely on motivating agents through their selfish interests in order to operate successfully? Connected to these puzzles, why is the organizational form of the multi-person firm preferred to ordinary market transactions?

To provide some answers to these questions, this paper identifies empirically testable postulates about what motivates people in organizations and firms and about how the transmission of cultural contents via processes of social learning influences their behavior in this respect. As will be shown, cultural transmission is biased; people tend to acquire some cultural variants rather than others.<sup>2</sup> Moreover, this process of cultural transmission is influenced and constrained by humans' evolved psychology that shapes what we learn, how we think, and whom we imitate. This approach offers a new perspective to the debate on why firms exist (Coase, 1937; Alchian and Demsetz, 1972; Williamson, 2002): firms, we argue, are organizations within which a cooperative regime based on evolved social predispositions can be established. Moreover, firms are culturally variable and evolve new cultural forms as time passes. This evolution is partly driven by entrepreneurs and other business leaders in entrepreneurial roles (Penrose, 1959; Langlois, 1998), partly by the decisions made by rank-and-file members, partly by the firm's competitive success or failure (Alchian, 1950), and partly by cultural evolution in the larger society within which firms are embedded. This paper's naturalistic approach – implying a behavioral model of human agents that is based on human nature as explored by evolutionary biology, cognitive science, and other disciplines – contributes to an understanding of the processes by which corporate cultures evolve. The theory of gene-culture coevolution will serve as the central tool in this analysis (Boyd and Richerson, 1980, 1985; Richerson and Boyd, 2005; see also Nelson and Winter, 1982; Bowles, 2004). It shows the connection between humans' innate psychological predispositions and the organizations in which humans are embedded.

Another link between evolved cognitive capacities – giving rise to bounded rationality – and the theory of the firm is provided by the concept of “cognitive leadership” (Witt, 1998, 2007). This theory shows how a business conception motivates and coordinates firm members and how an entrepreneur can foster cooperation while holding down opportunism.<sup>3</sup> Thereby, it emphasizes the crucial cognitive input of entrepreneurs and other business leaders in organizing production and trade.<sup>4</sup> Central to this approach is the implementation of a business conception as a socially shaped cognitive frame within the firm that directs the scarce resource of “human attention”. We will draw on this concept to scrutinize the outstanding role of an entrepreneur or business leader in the socialization process of employees.<sup>5</sup>

An answer to motivational questions derived only from the employment contract, which is bound to have enforcement problems (Williamson, 2002), does not explain how employees are induced to work more than minimally and, what is more, perhaps even with initiative and enthusiasm (see Simon, 1991). An approach that exclusively focuses on individual maximizing behavior of parties cannot explain why employees should tend to maximize the firm's profits when making the decisions that are delegated to them. This paper argues that humans certainly have selfish interests. This trait we share with every organism. However, humans have a marked inclination toward cooperation within groups. Arguments based on natural selection processes are often invoked, explicitly or implicitly, to derive selfish characteristics of the agents (see Bergstrom, 2002). Gene-culture coevolutionary theory, in contrast, shows how non-selfish, cooperative human traits evolved: the social predispositions (Henrich, 2004; Gintis et al., 2005).

*A Behavioral Theory of the Firm* (Cyert and March, 1963) was an early approach to an economic theory of organizations with an explicit grounding in behavioral reality. The work done within the tradition of the “Carnegie School” provided important support for the notion that some aspects of human behavior within organizations are based on simple rules (March and Simon, 1958; Simon, 1978; Winter, 1971; Nelson and Winter, 1982). While this behaviorist position concentrated on forms of simple rule-governed behavior, such as satisficing behavior, problem triggered

<sup>2</sup> A cultural variant is defined as an idea, skill, belief, attitude, or value that is acquired by social learning and that influences an individual's behavior.

<sup>3</sup> The prevention of opportunistic behavior is the dominant theme of transaction-cost-based explanations of the “nature of the firm” (see Coase, 1937; Williamson, 1985).

<sup>4</sup> This is a task that, according to Langlois (2003), calls for the kinds of cognition for which humans have been equipped by biological evolution and where they enjoy a lasting cognitive comparative advantage over machines.

<sup>5</sup> For simplicity, we consider only a single leader and a population of undifferentiated employees. Obviously, many real firms have stockholders, a board of directors, a hired management team, and other organizational complexities. We suggest that same basic dynamics we model here will occur in organizations with more complex leadership structures.

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