Chapter III

The Semiotic Structure of Practical Reasoning Habits: A Grammar of Common Sense

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Abstract

This chapter introduces relational thinking styles (RTS), a model and method for identifying practical reasoning habits. Taken together, these unintentional reasoning habits parallel C. S. Peirce’s logic of inquiry (methodeutic). However, unlike the deliberate application of inferences prescribed by Peirce’s logic, these find expression as the unconscious applications of methods for the selection of ends and means (goals and processes). Not everyone applies the same inferencing patterns, especially for encountering novelty. Most people persistently lay familiar templates over novel issues, habitually engaging inductive-like processes to the solving of new problems. However, some apply abductive-like mental processes in the face of novelty; others, apply deductive-like ones. Because RTS is capable of predicting future consequences and of empirical verification by means of a reliable assessment tool (Chiasson, Malle, & Simonds, 2003) it is amenable to computer modeling. Computer modeling of the abductive-like process defined by this model may contribute to eventual development of an abductive inference engine.
Introduction

Over the past few decades, researchers have programmed computers to perform certain well-defined tasks extremely well; computers can play championship chess, calculate a collision between two galaxies and juggle a million airline reservations. But computers fail miserably at simulating the ordinary, experience-based intelligence that helps ordinary humans get through ordinary days. In other words, computers lack common sense, and that’s why even the smartest ones are so dumb. (Horgan, 2005)

The tasks of teaching computers how to think and enabling them to effectively augment human intelligence are daunting, made even more so because there has been no comprehensive theory of common sense from which to extract programmable systems. Common sense can be considered from two directions—first, as the inferential structure (syntax) from which decisions are made and second, from the contents (semantics) of those decisions, which are often cultural and experience-based. This chapter deals with the syntax of various common sense inferential structures and their effects upon the expression of practical reasoning. (Throughout this chapter, the word reasoning refers to common sense or practical reasoning, unless prefixed with the words formal or deliberate).

In the same sense that the grammars of languages exhibit syntactic structures, so, too, do the tacit reasoning habits by which individuals maneuver in ordinary life. There is a grammar overarching these mental processes as well as the contexts and categories within which they are expressed. If we follow Noam Chomsky’s (1957, p. 49) definition of grammar; that is, “A grammar of the language L is essentially a theory of L”—then the grammar and grammatical relationships of these unintentional reasoning habits provide a theoretical framework from which to examine and understand them. The semiotic structure of practical reasoning habits exposes an implicit grammar of these mental processes, which C. S. Peirce variously called reasoning instincts, the rule of thumb, practical reasoning, and common sense. Although these automatic processes may often feel like reasoning, Peirce explains:

A bee or an ant cannot—could not, though he were able to indulge in the pastime of introspection—ever guess that he acted from instinct. Accused of it, he would say, “Not at all! I am guided entirely by reason.” So he is, in fact, in the sense that whatever he does is determined by virtual reasoning. He uses reason to adapt means to ends—that is, to his inclinations—just as we do. ... The point at which instinct intervenes is precisely in giving him inclinations which to us seem so singular. Just so, we, in the affairs of everyday life, merely employ reason to adapt means to inclinations which to us appear no more bizarre than those of a bee appear to him. (CP 2.176)

These instinctive inclinations direct the performance of practical reasoning habits, guiding both the development of purposes and the means we select to achieve them. However, not everyone possesses the same inclinations for practical reasoning. Both the methods and the consequences of applying different habits within various contexts reflect differences among individuals. These differences can be observed, and their consequences for generic sorts of contexts can be predicted, even for the long term. Although other researchers are
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