

## What is inference? Good! The question to ask!

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### 1 Introduction

In some previous work, I tried to give a concept-based account of the nature of our *entitlement* to certain very basic inferences (see the papers in Part III of Boghossian 2008b). In this previous work, I took it for granted, along with many other philosophers, that we understood well enough what it is for a person to *infer*.

In this paper, I turn to thinking about the nature of inference itself. This topic is of great interest in its own right and surprisingly understudied by philosophers. A correct understanding of inference promises to shed light on a number of important topics. In particular, it threatens to undermine the sort of concept-based story about entitlement to which I had previously been attracted.

In 2012, can this possibly be true if “inference” is understood as what is studied by logicians.

### 2 Preliminaries

We will need to spend some time making sure that we zero in on the topic I mean to be discussing.

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An earlier version of this paper was presented as a talk at the Pacific Division Meeting of the APA in San Diego in April of 2011, with John Broome and Crispin Wright serving as commentators. I am very grateful to the members of that audience, as well as to audiences at the Universities of Cambridge and Geneva, and to David James Barnett, Sinan Dogramaci, and Paul Horwich for comments and feedback. The author owes a very special debt of gratitude to his two distinguished commentators, not only for their feedback on this particular paper, but for conversations and writings that have greatly influenced his thinking on these issues. Crispin and the author have been discussing these topics for many years. More recently, the author has been greatly stimulated by conversations with John Broome and by reading bits of his manuscript in progress, *Rationality Through Reasoning*. As will be evident, the present paper is part of an extended dialogue with both of these philosophers.

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By “inference” I mean reasoning with beliefs. Specifically, I mean the sort of “reasoned change in view” that Harman (1986) discusses, in which you start off with some beliefs and then, after a process of reasoning, end up either adding some new beliefs, or giving up some old beliefs, or both. I, therefore, explicitly leave aside practical reasoning.

Within the sphere of theoretical reasoning, it is becoming customary to distinguish between two kinds, dubbed “System 1” and “System 2” by Daniel Kahneman. As Kahneman (2011, pp. 20–21) characterizes them,

*System 1* operates automatically and quickly, with little or no effort and no sense of voluntary control.

*System 2* allocates attention to the effortful mental activities that demand it, including complex computations. The operations of System 2 are often associated with the subjective experience of agency, choice, and concentration.

Examples of System 1 thinking are detecting that one object is more distant than another, orienting to the source of a sudden sound, responding to a thought experiment with an intuitive verdict. Examples of System 2 thinking are searching memory to identify a surprising sound, monitoring your behavior in a social setting, checking the validity of a complex logical argument.

There are many things to be said about this distinction, but I don’t have the space to say them here. I will make two brief comments. First, to the extent to which I understand the distinction, it seems to me to correspond to the distinction between reasoning that is sub-personal, sub-conscious, involuntary and automatic, on the one hand, and reasoning that is person-level, conscious, attention hogging and effortful, on the other. Second, given this understanding of the distinction, it seems to me that a lot of reasoning falls somewhere in between these two extremes. Consider, for example, the following episode of thought, which I will call (Rain):

On waking up one morning I recall that:

(1) It rained last night.

I combine this with my knowledge that

(2) If it rained last night, then the streets are wet.

to conclude:

So,

(3) The streets are wet.

This belief then affects my choice of footwear.

I judged (1) and (2) and inferred from them that (3). This is neither the sort of sub-personal, sub-conscious, involuntary process characteristic of System 1. Nor is it the effortful, concentrated process attributed to System 2. It resembles System 2 thinking in that it is a person-level, conscious, voluntary mental action; it resembles System 1 in that it is quick, relatively automatic and not particularly demanding on the resources of attention. We could call it System 1.5 reasoning.

When I say that I am interested in inference, I mean that I am interested in reasoning that is System 1.5 and up. That is to say, I am interested in reasoning that