Précis of *Inquiry under bounds*

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Humans are bounded agents. We have limited cognitive abilities, and in exercising our abilities, we incur costs. Theories of bounded rationality ask what rationality requires of bounded agents, who have limited cognitive abilities and must ration scarce cognitive resources to achieve good results in their environment.

It is traditionally held that the fundamental turn in the study of bounded rationality is the turn from substantive to procedural rationality. Theories of substantive rationality ask normative questions about attitudes: what is it rational to intend, prefer or believe? However, our attitudes are not given to us but rather produced by costly and constrained processes of inquiry. For this reason, procedural rationality begins with a different question: how should rational agents inquire about what to intend, prefer or believe? To say that the fundamental turn in the study of bounded rationality is the procedural turn is then to say that the central task for theories of bounded rationality is to develop an account of rational inquiry for bounded agents. We need, that is, an account of inquiry under bounds.

Inquiry under bounds develops a schematic, five-point bounded rationality program inspired by recent developments in cognitive science. To elaborate and defend that program, I argue, we need an account of rational inquiry for bounded agents. *Inquiry under bounds* presents and defends an original account of rational inquiry: the reason-responsive consequentialist view. I use this account to clarify and ground my bounded rationality program, then draw lessons for contemporary philosophical debates.

The book is divided into four parts. Part 1, *Rationality at the crossroads*, situates the project by contrasting two general approaches to the study of rationality: bounded rationality and the Standard Picture.

Chapter 1, "The Standard Picture" introduces the Standard Picture of rationality, according to which rationality is captured by structural requirements of consistency or coherence. There is good evidence that humans often violate Standard Picture requirements. We can react to Standard Picture violations in two ways. On the one hand, we can blame the agent. This involves retaining the Standard Picture as a normative theory and treating observed Standard Picture violations as irrational. On the other hand, we can blame the theory. This involves investigating the reasons why agents systematically deviate from Standard Picture requirements and holding that agents violate Standard Picture requirements because they are correctly sensitive to normative considerations that the Standard Picture does not model. I suggest that we should sometimes blame the theory.

Chapter 2, "Bounded rationality" presents an alternative approach. Theories of bounded rationality supplement the Standard Picture by drawing attention to normatively relevant bounds which the Standard Picture ignores. I present five claims characteristic of the bounded approach. First, bounds matter: paradigmatic cognitive bounds such as limited abilities and the costs of exercising them affect how it is rational for agents to cognize. Second, the study of rationality should be process-focused, concentrating on the rational status of processes of inquiry rather than the judgments and decisions that result. Third, rationality often requires the use of a toolbox of fast-and-frugal heuristic strategies. Fourth, rationality is ecological, or environment-relative. And fifth, a good theory should vindicate the rationality of many Standard Picture violations.

Bounded rationality is a paradigm, not a theory. To challenge the standard picture, bounded rationality theorists need to propose an alternative account of rational inquiry that captures the characteristic claims outlined in Chapter 2 and improves upon the Standard Picture. I take up this project in Part 2, *Norms of inquiry*.

Chapter 3, "An account of rational inquiry" develops the reason-responsive consequentialist view of rational inquiry. This account has three elements: a global consequentialist theory of rightness, a reason-responsiveness theory of rationality, and an information-sensitive reading of deontic modals. Combining these elements yields an

approach on which acts of inquiry are right just in case they are best, best just in case they promote the most value, and rational just in case they are right and taken in response to the reasons which make them right, which are determined by the agent's total evidence.

A common objection is that this account answers the wrong question. The reason-responsive consequentialist view is an account of rational inquiry, which it takes to be all-things-considered. However, the reason-responsive consequentialist view is not an account of a special type of epistemic rationality, conceived of as distinct from all-things-considered rational assessment. Chapter 4, "There are no epistemic norms of inquiry" pleads guilty to this charge. I do not offer an account of epistemic norms of inquiry because, I argue, there are no such norms. The very same reasons which led us to posit and privilege epistemic norms governing belief not only fail to motivate the existence and importance of epistemic norms governing inquiry, but in fact often tell against it. I argue that recent attempts to provide novel grounds for epistemic norms governing inquiry do not succeed.

Part 3, *Justifying the account*, gives three arguments for the reason-responsive consequentialist view. Chapter 5, "The argument from minimal criteria," argues for three constraints on an account of rational inquiry. First, it should be tradeoff-sensitive, telling agents how to meet the tradeoffs that arise within the course of a single inquiry, between competing inquiries, and between inquiry and other activities. Second, it should be stakes-sensitive, vindicating for example the common view that it is often rational to think quickly about less important matters, but slowly about more important matters. Finally, it should explain the rational impermissibility of many inferences made by stereotyping, despite the uncomfortable resemblance between problematic stereotypes and seemingly rational heuristic strategies. I argue that the reason-responsive consequentialist view is our best hope for satisfying the minimal criteria.

Chapter 6, "The explanatory argument," gives an explanatory argument for the reason-responsive consequentialist view. Consequentialists have historically supported their views by showing how they give precise, plausible explanations of a wide range of

normative phenomena. I show how the reason-responsive consequentialist view accounts for a range of normative claims about inquiry that have been difficult for other theories to explain. These include duties to avoid cognitive clutter, norms of friendship, and norms of logical non-omniscience. To the extent that these explanations are plausible and unifying, they provide support for the reason-responsive consequentialist view.

Chapter 7, "Vindicatory epistemology," shows how the reason-responsive consequentialist view can vindicate the rationality of many observed Standard Picture violations. As with the explanatory argument, these vindications will lend support to the reason-responsive consequentialist view to the extent that they are plausible and draw essentially on the view. I use case studies of anchoring biases and errors in conditional reasoning to show how the reason-responsive consequentialist view can be used to vindicate well-known deviations from Standard Picture requirements.

Parts 2-3 set out to develop and defend an account of rational inquiry in order to clarify and defend some characteristic claims associated with the bounded tradition. Part 4, *Applying the account*, uses the reason-responsive consequentialist view to do just that, then draws out further consequences of the view.

Chapter 7 showed how the reason-responsive consequentialist view grounds a robust vindicatory program. Chapter 8, "Bounded rationality revisited" takes up the remaining four claims from Chapter 2. I show how the reason-responsive consequentialist view explains why bounds matter to rational cognition. I use the view to reinterpret and ground the claim that rational assessment should be process-focused. I show how the reason-responsive consequentialist helps us to see when and why heuristic cognition is rational. I also use the view to defend a version of ecological rationality.

I said in Part 1 that bounded rationality would be a replacement for the Standard Picture. But now we are in a position to see that this is not quite right. Chapter 9, "The Standard Picture revisited" reconsiders the relationship between bounded rationality and the Standard Picture. I show how bounded rationality opens up a third path between blaming agents and blaming theories for observed violations of Standard Picture norms.

This approach blames theorists rather than theories, and attitudes rather than agents, in many cases of interest. The result is that the Standard Picture may be at least nearly correct about rational attitudes while providing a misleading and incomplete fragment of a complete theory of bounded rationality.

Chapter 10, "The zetetic turns" situates my project alongside the zetetic turn in epistemology from the study of doxastic attitudes towards the study of theoretical inquiries which produce them. I argue that the zetetic turn in epistemology should be understood as part of an overarching procedural turn in bounded rationality from attitudes to inquiry. This means that descriptive and normative theories of bounded rationality may be a good place to begin studying theoretical inquiry. It also reminds us that the procedural turn is broader than the zetetic turn. The procedural turn involves not only turning from doxastic attitudes such as credence and belief towards the theoretical inquiries that produce them, but also turning from practical attitudes such as intention and preference towards the practical inquiries that produce them. This motivates a second zetetic turn within practical philosophy and suggests normative and descriptive lessons that are often parallel to those drawn for epistemology.