

# Norms of inquiry

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## Abstract

Epistemologists have recently proposed a number of norms governing rational inquiry. My aim in this paper is to unify and explain recently proposed norms of inquiry by developing a general account of the conditions under which inquiries are rational, analogous to theories such as evidentialism and reliabilism for rational belief. I begin with a reason-responsiveness conception of rationality as responding correctly to possessed normative reasons. I extend this account with a series of claims about the normative reasons for inquiry that we possess. I apply the account to shed light on two classes of norms that have featured prominently in recent discussions: norms of clutter avoidance forbidding agents from engaging in trivial inquiries, and norms of logical non-omniscience governing properties such as the deductive closure and consistency of an agent's belief state. I conclude with a discussion of the sense in which norms of inquiry should be regarded as epistemic norms.

## 1 Introduction

Inquiry, like belief, is governed by norms. Epistemologists and philosophers of mind have recently proposed a number of norms governing rational inquiry. Rational inquirers seek significant truths (Treanor 2014, 2018) and avoid trivial inquiries (Harman 1986); suspend judgment (Friedman 2017); gather evidence (Hall and Johnson 1998; Smith 2014, removed); aim at knowledge (Millar 2011; Whitcomb 2010); avoid incessant double-checking (Friedman 2019a); and appropriately allocate attention (Siegel 2017). One fruitful project is to add new norms to this list. But as the list becomes increasingly populous, we should also turn our sights higher and ask for a general account of norms of inquiry analogous to theories such as evidentialism and reliabilism for rational belief. Under what conditions are inquiries rational?

There are at least four benefits to the general study of rational inquiry. First, we aim not merely to list norms of inquiry but also to understand and explain why these norms are what they are. Second, understanding the grounds of norms clarifies their contents. For example, we know that rational inquirers sometimes gather evidence, but inquirers cannot gather all available evidence. Which subjects should inquirers gather evidence about, and how much evidence should they gather? Third, we need to adjudicate conflicts between competing norms of inquiry. For example, it is controversial whether and in what sense inquirers are required to suspend judgment (McGrath forthcoming). Fourth, a number of recent authors have proposed that norms of inquiry have a significant practical component (Friedman forthcoming a; Harman 2004; Lord 2020). One of my aims in this paper is to show how we can make space for this claim without falsifying traditional epistemological theories.

The first order of business is to develop an account of rational inquiry. In Sections 2-3, I develop and motivate an account of rational inquiry. Sections 4-5 show how that account can be used to shed light on two puzzle cases for recent discussions of rational inquiry: norms of clutter avoidance and requirements of logical non-omniscience. An important question raised by this discussion will be whether, and in what sense norms of rational inquiry are norms of epistemic rationality. I take up this question in Section 6.

## **2 Reason-responsiveness**

What is the relationship between rationality and reasons? Suppose you are sitting in the living room reading an informative philosophical book when you notice smoke billowing out of the kitchen. If you are rational, then you will put down the book and investigate the smoke. A plausible explanation for that fact is that rationality requires acting in accordance with the balance of reasons that you possess. Because you have most reason to investigate the smoking kitchen, that is what you are required to do.

But rational inquirers do not only act in accordance with reasons. Suppose you were

to investigate the smoking kitchen because you believed that you would be rewarded for doing so by a genie. Then we would like to say that your inquiry was irrational, even though you performed the inquiry you had most reason to perform. A plausible explanation is that rationality requires not only acting in accordance with reasons, but also responding correctly to those reasons in acting. Although your evidence-gathering was supported by strong safety-related reasons, in inquiry you did not respond to these reasons but rather to the imagined promise of a genie. As a result, your inquiry was irrational.

These thoughts are often taken to motivate a reason-responsiveness conception of rationality (Lord 2018; Kieseewetter 2017).

**(Rationality as Reason-Responsiveness)** For all agents  $S$ , times  $t$  and acts  $X$ ,  $S$ 's  $X$ -ing at  $t$  is rational if and only if in  $X$ -ing at  $t$ ,  $S$  responds correctly to the normative reasons that she possess at  $t$ .

Here I have stated the reason-responsiveness conception for the special case of rational action, since inquiry is an activity. But the reason-responsiveness conception is also meant to apply to attitudes such as belief. Although I will not defend a reason-responsiveness conception of rational belief here, it can be helpful to think through the case of rational belief to get a handle on the account.

In the case of rational belief, the requirement of responding correctly to normative reasons is familiar to epistemologists as the epistemic basing relation. Believing rationally requires holding the beliefs supported by the balance of possessed reasons, namely our total evidence, and holding these beliefs based on the evidence.<sup>1</sup> Leading theories of the reason-responsiveness relation often mirror theories of epistemic basing. For example, we can require that  $S$ 's reasons play an appropriate causal role in producing or sustaining her  $X$ -ing (Arpaly and Schroeder 2015), or that  $S$   $X$ 's as the result of a specified competence (Lord 2018).

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<sup>1</sup>This discussion can be repeated, if desired, using pragmatist or other non-evidentialist views of rational belief.

Suppose we take on board a reason-responsiveness conception of rational inquiry. What follows? At least two features of the reason-responsiveness view deserve emphasis.

First, rationality is deontic. On a reason-responsiveness view, what we are rationally required to do and what we ought to do are the same thing (Lord 2017). More precisely:

**(Rationality is Deontic)** For all agents  $S$ , times  $t$  and acts  $X$ ,  $S$  is rationally required at  $t$  to  $X$  just in case  $S$  ought, at  $t$ , to  $X$ .

Roughly put, the claim that rationality is deontic follows on a reason-responsiveness view because what  $S$  ought to do and what  $S$  is rationally required to do are determined in the same way: by the balance of her possessed normative reasons.<sup>2</sup> Because you have more reason to investigate the billowing smoke than to read your book, you ought to investigate the smoking kitchen and that is also what you are rationally required to do.

In this way, the reason-responsiveness view explains why epistemologists often pass between claims about what agents are rationally required to do and what they should or ought to do. On the reason-responsiveness view, this slide is not an equivocation or a mistake since rational requirements and oughts coincide. At the same time, the reason-responsiveness view explains why rightness and rationality remain importantly distinct normative statuses. Rationality is a strictly more demanding status than rightness, since acting rationally requires not only doing what we ought, but also acting in response to the reasons for which we ought to act.

A second consequence of the reason-responsiveness view is that rationality is all-things-considered. I discuss this consequence at length in Section 6, but here is a first pass statement and motivation. On the reason-responsiveness view, all types of normative reasons combine to determine what agents are rationally required to do. We can of course specify restricted types of moral, prudential or epistemic rationality which consist in responding correctly to specific classes of reasons. But in general we need an all-things-considered view of rationality to capture many roles that a theory of rationality is meant

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<sup>2</sup>On some views, establishing the implication that Rationality is Deontic takes a bit more work than this. See (Lord 2017) for a full argument.

to play. For example, it is often held that rational agents defer to what is rational in their present situation (Greco and Hedden 2016; Levinstein 2017, removed) and plan to do what would be rational in future contingencies (Gibbard 2003; Horowitz and Dogramaci 2016). On most plausible ways of spelling out these planning and deference requirements, each requirement tracks an all-things-considered conception of rationality. If agents have most epistemic reason to read a book but most all-things-considered reason to investigate the smoking kitchen, then they defer by investigating the smoke. Those of us reading about their plight plan to do the same when faced with similar circumstances.

The claims that rationality is deontic and all-things-considered help the reason-responsiveness conception to meet Kolodny's challenge: why be rational (Kolodny 2005, removed)? The reason-responsiveness view answers Kolodny's challenge in the natural way. In doing what is rational, we do what we ought and also what we have most reason to do. By contrast, if we deny that rationality is deontic or all-things-considered, then there will be agents who ought or have most reason to one thing, but are rationally required to do another. In this case, Kolodny's challenge sharpens to the following: why do what is rational, instead of what we ought or have most reason to do? These are difficult questions to answer, and a reason-responsiveness conception allows us to avoid them.

In this section, we have developed a reason-responsiveness conception on which rationality involves responding correctly to normative reasons. Two noteworthy consequences followed: rationality is deontic and all-things-considered. To unpack the reason-responsiveness conception further, we will need to say something specific about normative reasons.

### **3 Reasons for inquiry**

In the rest of this paper, I leave behind the more complicated question of when a token act is rational and take up the simpler questions of which acts we are permitted or required to token. This will allow me to remain neutral between competing accounts of the reason-

responsiveness relation in order to focus on the questions about rational permissions and requirements that have taken center-stage in recent discussions of rational inquiry.

On a natural reading of Rationality as Reason-Responsiveness, agents are rationally permitted to  $X$  just in case  $X$ -ing could be a correct response to the normative reasons that they possess. This in turn plausibly occurs when agents have sufficient reason to  $X$ , giving:

**(Rational Permissions)**  $S$  is rationally permitted at  $t$  to  $X$  if and only if  $S$  has sufficient possessed reason at  $t$  to  $X$ .<sup>3</sup>

Agents are rationally required to  $X$  just in case  $X$  is the only thing that they are permitted to do. If we accept that agents have decisive reason to  $X$  just in case  $X$ -ing is the unique thing they have sufficient reason to do, we recover:

**(Rational Requirements)**  $S$  is rationally required at  $t$  to  $X$  if and only if  $S$  has decisive possessed reason at  $t$  to  $X$ .

But this is as far as we can proceed without controversy. To go any further, we need to say something specific about the nature of normative reasons. I will lay my cards on the table as precisely as I can.<sup>4</sup> Readers with differing views are invited to trace the consequences of alternative assumptions throughout the rest of our discussion.

Like many epistemologists, I adopt a teleological approach on which reasons track what is of value. A minimal consequence of that approach is the following:

**(Weak Teleological Claim)**  $S$  has sufficient possessed reason at  $t$  to  $X$  if and only if  $X$ -ing is at least as good as any alternative available to  $S$  at  $t$ .

It follows that  $S$  has decisive possessed reason to  $X$  just in case  $X$ -ing is best.

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<sup>3</sup>Here and throughout the remainder of the paper I suppress quantifiers in the statements of principles when their domains are clear from previous statements.

<sup>4</sup>For a full defense see [removed] and [removed].

The Weak Teleological Claim is often associated with consequentialism, but in fact it is quite a bit weaker than that. Many nonconsequentialist views accept the Weak Teleological Claim. For example, deontologists can agree that we always have most reason to do what is best (Sylvan 2020). On a first-pass deontological view, we have most reason not to lie even if lying would prevent several lies from being told, because in lying we would dishonor the truth. For this reason, it is also better not to lie in this case. By contrast, consequentialists and other teleologists think on a first-pass that we would have most reason to lie in this case, because lying would promote the most truth-telling.

The question at issue here is whether reasons are always reasons to promote value, or whether there can also be reasons to instantiate, honor, or otherwise relate ourselves to value. In this debate I side with the consequentialist. Perhaps reasons for belief and other attitudes are reasons to instantiate values such as accuracy. But inquiry is an activity, not a state, and we act on the world in order to promote valuable ends:

**(Promotion)** All reasons for action are reasons to promote value.

Putting together Promotion with Rational Permissions, Rational Requirements, and the Weak Teleological Claim yields a reason-responsiveness, consequentialist view:<sup>5</sup>

**(Reason-Responsiveness Consequentialist View)** For all agents *S*, times *t* and acts *X*:

**(Evaluative Permission)** *S* is rationally permitted at *t* to *X* if and only if *X*-ing is at least as good as any alternative available to *S* at *t*.

**(Evaluative Requirements)** *S* is rationally required at *t* to *X* if and only if *X*-ing is the best alternative available to *S* at *t*.

**(Promotion)** All reasons for action are reasons to promote value.

What are the prospects for this account?

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<sup>5</sup>Strictly speaking, the view also includes Rationality as Reason-Responsiveness, but as I have said I am concerned here only with what the view implies for rational permissions and requirements.

It may seem surprising to adopt a consequentialist account of rational inquiry, but I think there are good reasons for optimism. Consequentialist approaches to rational belief already enjoy considerable popularity (Ahlstrom-Vij and Dunn 2018). We should expect a consequentialist account of rational inquiry to perform better still, insofar as consequentialists have always been most at home in accounting for actions rather than attitudes. Opponents of epistemic consequentialism may even see a consequentialist account of rational inquiry as a natural place to relocate tradeoffs and other consequentialist mainstays which they see as unattractive in a theory of rational belief (Berker 2013a,b; Sylvan 2020). Moreover, global consequentialists have been reasonably successful in extending consequentialism beyond a theory of right action to account for new objects and types of normative assessment, including the rationality of decisionmaking procedures.<sup>6</sup> Extending global consequentialism to the neighboring topic of rational inquiry provides a natural test case for the global consequentialist program.

If a consequentialist account of rational inquiry is to be made to work, it will need to have two features on top of those introduced in Section 2. First, we need to adopt a *rich axiology* on which not only practical goods such as welfare and desire-satisfaction, but also intellectual achievements such as truth and knowledge bear ultimate value. Consequentialism does not make the pragmatist claim that intellectual achievements are valuable only insofar as they conduce to practical goods. By opening space for intellectual achievements to bear value, the consequentialist puts herself in a better position to recover truth-directed epistemic norms.

Second, we need to draw a strict *level separation* between questions about belief and inquiry ([removed]). It is one question what we are rationally permitted to believe and another question entirely how we are permitted to inquire. For example, it may be wastefully irrational to count the blades of grass on our lawns even if we could form a rational belief about the number of blades as a result of this inquiry. The present account is

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<sup>6</sup>On global consequentialism, see Driver (2001); Kagan (2000); Parfit (1984); Pettit and Smith (2000) and [removed].



only a theory of rational inquiry, not an account of rational belief. Without level separation, a consequentialist theory of inquiry would imply the unpopular result that we have strong and widespread non-intellectual reasons for belief. While I do not want to foreclose on that possibility, it should not be forced on us merely by recognition of the fact that inquiry is an activity and, like most activities, inquiry answers partly to non-intellectual reasons.

Level separation is familiar to consequentialists in the practical domain as the distinction between the rationality of decision procedures and the rationality of the intentions that result. Here I propose extending that same separation to the case of theoretical inquiry and belief. This level separation is also a familiar part of traditional arguments for evidentialism. Level separation is used to hold that apparent non-epistemic reasons for belief, such as the importance of a subject matter, are actually non-epistemic reasons for some activity, such as getting yourself to have detailed and accurate beliefs on that subject matter (Way 2012). Because inquiry is often a good way to get yourself to hold detailed and accurate beliefs, this strategy posits a large number of non-epistemic reasons for inquiry which must be sharply separated from questions about rational belief.

In this section, I have developed a consequentialist extension of the reason-responsiveness approach sketched in Section 2. This view holds that all reasons for activities such as inquiry are reasons to promote value, and that rationality requires us to do what is best. In order to avoid marginalizing epistemic reasons for belief and inquiry, I adopt a rich axiology on which intellectual achievements bear significant final value, as well as a sharp level separation between the rationality of belief and inquiry.

The purpose of this account is to clarify and ground claims about rational inquiry. It is time to see whether a reason-responsiveness consequentialist approach can do the work set out for it. In Sections 4-5, I show how the view accounts for two puzzle cases in recent discussions of rational inquiry: norms of clutter-avoidance and logical non-omniscience. In Section 6, I close with a discussion of the sense in which these norms are norms of epistemic rationality.

## 4 Clutter avoidance

If you are like most people, you believe the following: the sky is blue. From this belief you can deduce many others. For example, either the sky is blue or today is Quine's birthday. Must you spend your days drawing out each trivial logical consequence of your beliefs?

Many philosophers have followed Gilbert Harman in thinking that you should not do this. To clutter your mind with trivialities would be an irrational waste of time. Harman captured this thought in a principle of Clutter Avoidance.

**Clutter Avoidance (CA)** One should not clutter one's mind with trivialities.

(Harman 1986, p. 12).

Harman gave three arguments for CA. First, *wasted effort* is expended in deducing trivialities. Second, due to our *limited retrieval capacity*, cluttering long-term memory with irrelevant beliefs makes it more difficult to retrieve relevant beliefs from memory. Finally, our memories have *limited storage capacities* for information.

While the argument from limited storage capacities has met with mixed reactions, most philosophers have thought that there is something plausible about CA and that considerations of wasted effort and limited retrieval capacity are an integral part of the story.<sup>7</sup> Philosophers have disagreed about the contents of CA: what precisely does CA require? Philosophers have also disagreed about the explanation for the truth of CA. In this section, I review two prominent views about the contents of CA and its grounds, then develop an alternative consequentialist view.

Jane Friedman (2018) takes Clutter Avoidance to concern *junk beliefs*. Friedman begins with the notion of a junk subject matter. Subject matters are junk for agents whose interests would not be served by knowing about them. More precisely, subject matter  $x$  is junk for agent  $S$  in world  $w$  at time  $t$  just in case  $S$  has no interest or desire served by having a belief about some proposition contained in  $x$ . Junk propositions are members of junk

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<sup>7</sup>The trouble with the argument from storage capacities is that many memory researchers think we are in limited danger of running out of memory storage (Michaelian 2011).

subject matters. Friedman takes Clutter Avoidance to be a prohibition against forming junk beliefs.

(CA<sub>F</sub>) Necessarily, if  $p$  is junk for  $S$  at  $w, t$ , then  $S$  ought not believe  $p$  at  $w, t$ .

Friedman accepts Harman's motivations for CA<sub>F</sub>. She also takes on board Harman's view that CA<sub>F</sub> is not a first-order normative claim, but rather a meta-normative constraint on acceptable norms of belief revision. By this, Friedman means that norms of belief revision which conflict with CA<sub>F</sub> cannot be genuine norms.

Note that CA<sub>F</sub>, like CA, is phrased as a claim about oughts rather than rational requirements. The claim that rationality is deontic explains why this is not a conceptual mistake: we can pass between the coextensive categories of what agents ought to do and what they are rationally required to do. For this reason, we can meet Friedman halfway and speak in this section about how agents ought to inquire without risk of equivocation.

While I will take on board substantial portions of Friedman's view, the view has three limitations which a consequentialist approach helps resolve. First, inquirers should not merely be concerned with their own interests but also with the interests of others. Suppose that Sharky Sue is a CEO who is genuinely unconcerned with the welfare of her workers and benefits financially from exploiting them. Should Sharky Sue inquire into her workers' welfare? According to CA<sub>F</sub>, Sue should not. The welfare of Sue's workers is a junk subject matter for Sue, since it would serve none of Sue's interests to have beliefs about her workers' welfare. But Sue's unconcern for her workers' welfare does not absolve her from the obligation to learn about their welfare any more than it absolves Sue from the obligation to improve her workers' welfare. We have no more normative license to be selfish in inquiry than in any other activity.

Second, although wasted effort and limited retrieval capacity are compelling motivations for CA<sub>F</sub>, we need to explain why these considerations are normatively relevant to inquiry. As Friedman notes, many 'epistemic purists' take such considerations to be irrelevant to rational inquiry. A compelling response will not merely deny the epistemic

purist's contentions, but also substitute an alternative picture of rational inquiry on which these considerations are normatively relevant.<sup>8</sup> We will see at the end of this section how consequentialism captures the normative relevance of wasted effort and limited retrieval capacities. We will also see at the end of Section 5 how consequentialism captures three further normative considerations driving theorists like Harman to adopt Clutter Avoidance.

Third, we need to clarify the objects to which  $CA_F$  applies. Although  $CA_F$  is stated as a principle governing belief states, Friedman clarifies that  $CA_F$  governs belief revision, that is the process of inquiry by which our beliefs are revised. Clutter Avoidance has been applied to at least three separate processes of belief-revision: initial investigation, encoding of beliefs in long-term memory, and forgetting. By separately specifying the demands of Clutter Avoidance on each of these processes we can clarify its contents and motivations. In each case, I will argue that in addition to any meta-normative content,  $CA_F$  generates specific first-order normative requirements on investigation, encoding, and forgetting.<sup>9</sup> In formulating these norms I will leave open the conditions under which a belief counts as junk, since on my own view the junkiness of a belief is not essentially tied to a believer's interests.<sup>10</sup>

Suppose you are walking down the street and you notice that  $p$ : there is a ladybug on your neighbor's rosebush. As a result, you form the junk belief that  $p$ . Have you done something wrong? Plausibly not. We form junk beliefs of this sort all the time, and it

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<sup>8</sup>Friedman (forthcoming a) provides one such picture: all epistemic norms are zetetic norms, and all zetetic norms are epistemic norms. We will see in Section 6 that reason-responsiveness consequentialist approach which I defend makes room for this view, but also opens the possibility of weaker views which allow a substantive distinction to be drawn between epistemic and non-epistemic norms.

<sup>9</sup>Friedman's argument against a first-order construal of Clutter Avoidance draws on her view that Clutter Avoidance is interest-sensitive, which I deny. Friedman is also concerned that first-order Clutter Avoidance norms will conflict with existing epistemic norms, but this is not clearly the case if existing norms are taken as constraints on belief states rather than processes of inquiry, given a sharp level separation between belief and inquiry.

<sup>10</sup>For consequentialists, 'junk' is an evaluative term in the standard axiological sense of the word. Junk beliefs are beliefs without significant value or disvalue. In this usage, 'junk' is opposed to 'significant', and the junkiness or significance of a belief is a matter of degree. The turn to a graded notion of junkiness is needed to block avoid trivialization, since few beliefs are utterly without value.

would be more effort than it is worth to prevent ourselves from forming them. But it would have been wrong for you to search the rosebush for ladybugs unless you were curious or wanted to protect the roses. This suggests that there is a clutter-avoidance norm on investigation driven by considerations of wasted effort.

**Junk Non-Investigation (JNI)** Agents should not expend effort investigating junk subject matters.

You have not violated JNI because you did nothing more than notice that  $p$  in passing. It would have cost you more effort to suppress the junk belief than to form it.

Now that you have formed the belief that  $p$ , should you encode that belief in long-term memory? Some philosophers think that memory encoding is involuntary and hence inapt for rational assessment. However, at the very least it should be conceded that there are norm-governed voluntary processes which influence the depth and likelihood of encoding beliefs in long-term memory. For example, you can increase your probability of recalling a person's name by verbally repeating it after meeting them, and decrease the probability of successful encoding by distracting yourself. In the case of junk beliefs  $p$ , it is plausible at least that you should take cognitively inexpensive steps to ensure that  $p$  is not encoded, for example not staring at the ladybug. Otherwise  $p$  will clutter later memory searches, making it more difficult for you to make effective judgments and decisions based on information stored in memory. This motivates another first-order Clutter Avoidance norm.

**Junk Non-Encoding (JNE)** Agents should take steps to ensure that junk beliefs are not encoded in long-term memory.

Plausibly, you have not violated JNE if you merely notice the ladybug in passing and end up encoding the belief that  $p$  in long-term memory.

But now that  $p$  is encoded in long-term memory, all is not lost. We can and do preferentially forget junk beliefs in order to declutter memory retrieval. Here is how the trick is done (Anderson and Schooler 1991). Junk beliefs are unlikely to have been

accessed frequently or recently, since they are irrelevant to most memory queries. By preferentially forgetting memories according to recall frequency and recency, we can rid ourselves of junk beliefs over time. Again, many philosophers think that memory is inapt for normative assessment, but this opinion is increasingly controversial: we regularly criticize agents for failures to remember (Carr 2015; Smith 2005) and a growing number of philosophers and psychologists develop rationality requirements on memory (Schooler and Hertwig 2005; Bernecker 2018).

I want to side-step the question of which steps towards forgetting are sufficiently volitional to be apt for rational assessment. Most philosophers accept that some forgetting-related steps can be the subject of rational requirements. For example, we can be rationally required not to intentionally mentally replay an unfortunate episode that we would like to forget, because replaying the episode decreases the likelihood that we will forget it. Hence without taking a stand on the extent of rational requirements on forgetting, we can see Clutter Avoidance as imposing the following norm:

**Junk Forgetting (JF)** Agents should take steps to ensure that junk beliefs are forgotten.

If you are like most people, you will soon forget all about the ladybug on the rosebush. That is a good sign that you have complied with JF.

Summing up, we need to develop an account of Clutter Avoidance which is unselfish, explains why standard motivations for Clutter Avoidance are good ones, and separately accounts for the first-order normative requirements imposed by Clutter Avoidance. A good start at this project is made by Kourken Michaelian (2011). Michaelian argues that the function of memory is to provide a manageable quantity of currently relevant information in a timely manner. These considerations could be taken to directly support JF and JNE, although JNI would need to be separately motivated by appeal to wasted effort. But this is not what Michaelian does. Michaelian argues that Clutter Avoidance can be supported by a purely intellectual norm which ranks belief states by the ratio of junk to non-junk beliefs contained in them. Roughly, the norm is

**Ratio (RT)** Let  $B, B'$  be belief states which differ only in that  $B'$  contains some junk beliefs that  $B$  does not contain. Then  $B'$  is epistemically inferior to  $B$ .

Michaelian motivates RT by arguing that we care intrinsically about the ratio of junk to non-junk beliefs contained in a belief state. I must confess that I find it opaque why agents should care about such a thing. It is perfectly intelligible why agents would be averse to spending effort moving from  $B$  to  $B'$ , or why they would be worried that  $B'$  clutters later memory retrieval. It is also intelligible why agents would think that  $B'$  is not much epistemically better than  $B$ , since the junk beliefs in  $B'$  are not very important. But why should the ratio of junk to non-junk beliefs contained in an agent's belief state count intrinsically against it? RT is an ad-hoc principle invented to deliver Clutter Avoidance norms that are best explained by the very arguments that Harman took to motivate them.

A consequentialist approach to Clutter Avoidance fares better. Consequentialism explains the normative importance of limited retrieval capacities. As Michaelian correctly notes, in memory retrieval agents aim to retrieve manageable quantities of relevant information in a timely manner. We do this in order to make good decisions and form correct judgments on the basis of information retrieved, because on a rich axiology it is better to make good decisions and judgments than bad ones. The need to declutter retrieval motivates JNE and JF.

Considerations of wasted effort are also normatively relevant to our initial investigations. It is wrong to waste effort investigating junk subject matters, even if the resulting beliefs will not be encoded in long-term memory. Wasting effort is wrong because that effort could be better spent on other pursuits. Limited retrieval capacities are also relevant insofar as junk investigations may, against our wishes, lead junk beliefs to be encoded in long-term memory, cluttering retrieval. Together, wasted effort and limited retrieval capacities provide good support for JN1.

In this way, consequentialism explains the normative relevance of Harman and Michaelian's original motivations for Clutter Avoidance norms. Consequentialism grounds the correct first-order normative consequences of Clutter Avoidance, and does

so without introducing unmotivated epistemic principles. Further, consequentialism is unselfish. Sharky Sue ought to investigate and take steps to remember facts about her workers' welfare because knowing these facts puts Sue in a position to improve the lives of her workers.

We have seen that consequentialism explains the nature and grounds of Clutter Avoidance norms, capturing the most plausible claims made by existing views while avoiding their defects. In the next section, we will see how consequentialism solves a second puzzle: accounting for norms of logical non-omniscience.

## 5 Logical omniscience

How does logic constrain rational inquiry? On some views, rational inquirers are subject to norms of logical omniscience such as the following:<sup>11</sup>

**(Deductive Closure)** If a rational agent believes that  $p_1, \dots, p_n$ , and  $p_1, \dots, p_n$  entail  $q$ , then she forms the belief that  $q$  or abandons her belief in one of the  $p_i$ 's.

**(Consistency)** If a rational agent believes an inconsistent collection of claims  $p_1, \dots, p_n$ , then she abandons her belief in one of the  $p_i$ 's.

Authors studying rational inquiry are nearly unanimous in their opposition to norms of logical omniscience (Harman 1986; Hintikka 2001).

At least three reasons are given for rejecting norms such as Deductive Closure and Consistency. First, full compliance is *beyond our abilities*. We cannot, for example, deduce all logical consequences of Peano Arithmetic. Second, it is often *too demanding* to comply with omniscience norms even when we could do so. To infer from  $p$  to  $p \vee q$  is within

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<sup>11</sup>MacFarlane (manuscript) and Steinberger (2019) term these 'bridge principles'. While a full discussion of their views is beyond the scope of this paper, the move towards attitudinal restriction in Steinberger (2019) will be covered later in this section. Some other important issues, such as the distinction between narrow- and wide-scope readings, go beyond the focus of this paper.



our abilities, but often a waste of time. In fact, Gilbert Harman took such inferences as his original motivation for Clutter Avoidance. Finally, as Harman (1986) notes, the laws of logic are *principles of implication*. They tell us what follows from what. Principles of implication are not *principles of revision*, telling us how to revise our beliefs. We can propose principles of revision which are motivated by the laws of logic, but the status of these logical laws as principles of implication is no reason to accept them as principles of belief revision. Indeed, it would be surprising if there were a straightforward correspondence between the very different questions of what follows from what, and which processes rational agents should use to revise their beliefs.

It might be thought that weakened forms of Deductive Closure and Consistency survive these criticisms. For example, we could restrict both principles by requiring that the entailments in question be foreseeable or beneath a certain logical complexity. But such weakenings are at once too demanding and not demanding enough. These weakenings are too demanding because simple and foreseeable inferences such as the inference from  $p$  to  $p \vee q$  may do nothing but waste effort and contribute to mental clutter. And they are not demanding enough because they make no room for stakes. For example, humans make a variety of logical errors in evaluating important financial decisions, and these errors are enormously costly (Benartzi and Thaler 2007; Johnson et al. 1993). We could reduce the frequency of such errors by employing more demanding forms of reasoning which draw less foreseeable and more complex inferences and detect or avoid additional inconsistencies. But nothing in the weakened forms of Deductive Closure or Consistency explains why we ought to do so.<sup>12</sup>

Some authors respond by saying too little about the logical requirements on rational inquiry. For example, Christopher Cherniak weakens Consistency to say that:

If an agent has a particular belief-desire set, then if some (but not necessarily all) inconsistencies arose in his belief set, he would eliminate them. (Cherniak

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<sup>12</sup>It might be objected that the threshold for complexity or foreseeability is context-sensitive. But now we need an account of how and why these thresholds vary, and here consequentialism seems a likely candidate.

1981, p. 172).

This is not false, but it does not tell us what we would like to know. We want to know which inconsistencies a rational inquirer will detect and eliminate. Similarly, Harman weakens Consistency to hold:

One has a reason to avoid believing things one recognizes to be inconsistent.

(Harman 1986, p. 18).<sup>13</sup>

Again, this is too weak. We want to know which inconsistencies a rational inquirer should recognize, not merely that she has a reason to rid herself of inconsistencies once they are recognized.

At this point, we might despair of saying anything substantive and true about the logical requirements on rational inquiry. But that would be a mistake. To see the way forward, consider the game of chess. Most chess players evaluate moves at least partly by considering candidate continuations, sequences of future moves that could result from a given position. Logically omniscient agents would not need to generate and examine novel continuations, since the existence of each continuation follows by first-order logic from the agent's knowledge of the present position and the rules of chess. But for non-omniscient agents, generating new continuations is a way of increasing the deductive closure of their belief state. Here we can ask the natural normative question: when should agents consider additional continuations, and which move sequences should agents search for continuations of?

These questions can be most precisely posed for agents whose computational abilities and memory are fully specified. A great deal of work has been done on these questions. Some answers on offer are explicitly consequentialist. For example, agents might engage in consequentialist meta-reasoning, assigning to each position that they are aware of

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<sup>13</sup>For a similar principle see Steinberger (2019). Note that Steinberger takes this principle to be a *directive*, offering first-personal guidance, rather than an *evaluative* third-person standard. If that is right, then we need not disagree since consequentialism is an evaluative claim. However, Steinberger later claims that the demandingness of inquiry is not evaluatively relevant. Here we do disagree.

an expected value of searching for continuations beginning at that position and taking the searches with highest expected value (Lieder and Griffiths 2017; Russell and Wefald 1991). The expected value of search tracks the expected improvement to the player's position, and perhaps also intellectual achievements such as gained understanding, less the expected cost of deliberation time. Most authors hold that explicitly calculating expectations is more costly than it is worth. These authors instead propose algorithms for pruning and extending trees of possible continuations.<sup>14</sup> Although these algorithms do not explicitly calculate expectations, most scholars have understood them to have an explicitly consequentialist justification. If agents ought to evaluate some continuations rather than others or halt search rather than continue, that is because doing so will have the best impact on the player's odds of winning the game or their understanding of chess play.

I take this discussion to reveal two things. First, there is often a great deal that can be said about logical requirements on rational inquiry. In the special context of evaluating possible continuations during chess play, there is a well-established body of research offering specific and detailed characterizations of the degree of deductive closure that agents should achieve given constraints imposed by their cognitive capacities and deliberation time. Second, at least in the special case at hand, norms of inquiry are explicitly consequentialist: agents should inquire in the ways that are expectedly best, which in this case amounts to doing whatever makes them most likely to win the game.<sup>15</sup> Features such as foreseeability and complexity matter only insofar as they bear on the possibility and cost of examining some continuations rather than others. There are many foreseeable combinations, and even single moves which agents may rationally fail to consider.

Consequentialists think that logic plays the same normative role in chess as it does

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<sup>14</sup>An accessible and effective example is alpha-beta pruning in minimax decisionmaking (Knuth and Moore 1953). Some recent algorithms function quite differently (Silver et al. 2018).

<sup>15</sup>In taking expectations, I side with many epistemologists against objectivists who think that agents should do what will actually have the best consequences. I will not have the time to argue for this view here. Objectivists are invited to repeat this discussion without taking expectations.

in all other inquiries. We can ask various questions about rational principles of revision. When should inferences be made using logical principles such as modus ponens? When may agents use inference patterns which sometimes produce inconsistent beliefs, and how much potential inconsistency should they accept? Each of these questions is to be answered on consequentialist grounds by citing the expected improvements to an agent's belief state, the importance of those improvements and the costs of making them. If they wish, consequentialists can hold that coherence, like accuracy, has intrinsic value, but the intrinsic value of coherence is not always the only, or even the most relevant normative factor.

To see how these questions generalize beyond the artificial context of chess play, consider the problem of strategy selection during inquiry (Marewski and Schooler 2011; Lieder and Griffiths 2017). Throughout our lives we must choose between frugal, heuristic forms of inquiry and more demanding nonheuristic forms of inquiry. In many cases, heuristics are less costly than nonheuristic inquiries, but are slightly less accurate and carry a small risk of producing incoherent judgments. As bounded agents, humans must sometimes inquire heuristically, but we needn't always do so.<sup>16</sup> When are the costs of heuristic inquiry, in particular the risk of incoherence, worth paying?

Again, it will help to consider an example. Suppose I ask you to judge whether a distant tree is an oak tree. You might make this judgment by considering how representative the distant tree is of a typical oak tree. Does it have acorns? Are its height and shape typical of an oak tree? Here you have employed the *representativeness heuristic*, determining whether an object, the distant tree, is likely to belong to a category, oak trees, by asking how representative the object is of the category. The representativeness heuristic is often a quick and reliable way of making inferences, but it differs from nonheuristic forms of inference in a number of ways. For example, the representativeness heuristic neglects

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<sup>16</sup>This claim is less controversial than it may appear. For example, Tversky and Kahneman write: "It is not surprising that useful heuristics such as representativeness and availability are retained, even though they occasionally lead to errors in prediction or estimation" (Tversky and Kahneman 1974, p. 1130), and the introduction to a recent anthology in the heuristics and biases tradition clarifies: "heuristics themselves are sensible estimation procedures that are by no measure 'irrational' " (Gilovich and Griffin 2002, p.3).

base rates. Nowhere in your inference did you consider the prevalence of oak trees in your surroundings. In some contexts, this leads representativeness-based inferences to be wildly inaccurate, but in many contexts the drop in accuracy may be mild and well worth paying.

However, in addition to their reduced accuracy, representativeness-based inferences are occasionally incoherent. The problem is easiest to see in the context of probabilistic inference. Daniel Kahneman and Amos Tversky gave participants the following vignette

Linda is 31 years old, single, outspoken, and very bright. She majored in philosophy. As a student, she was deeply concerned with the issue of discrimination and social justice, and also participated in antinuclear demonstrations. (Tversky and Kahneman 1983).

Kahneman and Tversky asked one group of participants to estimate the likelihood that Linda is a bank-teller, and another group to estimate the likelihood that Linda is a feminist bank-teller. Participants in aggregate made the incoherent judgment that Linda is more likely to be a feminist bank-teller than a bank-teller. The explanation for this result is that agents made their judgments using the representativeness heuristic. Linda is more representative of a feminist bank-teller than a bank-teller, so participants judged that Linda was more likely to be a feminist bank-teller than a bank-teller.

As our discussion of representativeness illustrates, heuristics are often less costly than nonheuristic inquiries, but are slightly less accurate and carry a small risk of producing incoherent judgments. When are these costs worth paying? Consequentialists think that potential incoherence should be balanced against cognitive frugality in exactly the same way as frugality is balanced against potential inaccuracy. When the potential for incoherence or inaccuracy is sizable, or when these consequences are especially important to avoid, agents should not inquire heuristically. When these costs are bearable, agents should inquire heuristically in order to keep the costs of inquiry manageable.

The consequentialist account has a number of virtues. Chief among them, it lets us

see how Linda is not like an oak tree.<sup>17</sup> There may be nothing wrong with using representativeness to determine whether a distant tree is an oak, but it seems seriously wrong to judge Linda's profession by representativeness alone. Why is this so? In the context of social inference, the representativeness heuristic is a simple form of stereotyping. Stereotyping is not only wrong because it produces inaccurate judgments: some stereotypes are reliable. Nor is the wrongness of stereotyping exhausted by the fact that it occasionally produces incoherent beliefs. One thing that is wrong with stereotyping is that it produces prejudiced beliefs about Linda. Social inferences made on the basis of stereotypes cause systematic and pervasive harms to the lives of stereotyped groups, and these harms bear directly on the rationality of stereotyping as a principle of belief revision.

Epistemologists increasingly accept the need for norms of inquiry to capture the wrongness of stereotyping, as well as to make room for the permissibility of seemingly equivalent inferences, as in our example about oak trees (Basu 2019; Bolinger forthcoming). Consequentialism is in a position to do both, since for the consequentialist all harms caused by stereotyping bear directly on its normative status as a principle of belief revision. Here consequentialism takes a balanced view of the normative importance of incoherence and points us instead to what matters most: not incoherence, nor always inaccuracy, but rather the harms imposed on agents by stereotyping.

Summing up, we need to provide an account of the logical requirements on rational inquiry. Existing accounts will not do, but consequentialism offers good hope for a detailed and specific account. Consequentialism explains clearly how agents ought to close their beliefs under logical deduction in a special case drawn from chess play, and extends the same account to cover all types of inquiry. The consequentialist account sheds light on a pressing question: when should agents employ heuristic rather than nonheuristic forms of inquiry? Here consequentialism suggests that potential incoherence should be

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<sup>17</sup>The discussion in this section is, by necessity, somewhat compressed. For a fuller discussion of the prospects for a consequentialist account of stereotyping see [removed], Rinard (2019), Thomsen (2011) and the exchange between Risse and Zeckhauser (Risse and Zeckhauser 2004; Risse 2007) and Lever (Lever 2005, 2007).

balanced against cognitive frugality in exactly the same way as frugality is balanced against inaccuracy. This account helps us to see why many social inferences made on the basis of stereotypes are irrational.

Finally, consequentialism captures the primarily grounds on which logical omniscience requirements have been challenged: demandingness, cognitive abilities, and the distinction between principles of implication and principles of belief revision. For the consequentialist, principles of belief revision are to be justified by the costs and benefits of employing them, and that is an entirely different question from which principles of implication hold between propositions. The demandingness of principles of belief revision bears directly on their costs, and hence on their rationality. And rational requirements cannot be beyond our abilities, since rationality is deontic and in deontic matters, ought implies can. Here, as before, consequentialism provides a well-motivated, explanatorily adequate account of proposed norms of inquiry. That account is relatively non-revisionary, both in its normative recommendations and in its ability to capture existing motivations for proposed norms. These results support a reason-responsiveness consequentialist account of the nature and grounds of norms of inquiry.

## **6 Inquiry and the epistemic**

An objection that is often raised to this account is that it answers the wrong question. Consequentialism is an account of rational inquiry. But our goal, the thought goes, was to develop an account of a more restricted notion: epistemically rational inquiry. Consequentialism succeeds by changing the subject from epistemic rationality to rationality simpliciter.

This objection raises the important questions of whether and in what sense some norms of inquiry count as epistemic, and to what extent recent discussions of rational inquiry track a special class of epistemic norms. These are large questions which have already been the focus of much discussion, and I cannot hope to fully answer them here. My aim

in this section is to map out some of the ways that we might answer these questions, and to situate and motivate my project against the landscape of possible views.

The first thing to say is that it is important and worthwhile to study rational belief and inquiry, even if this diverges from a more restricted notion of epistemic rationality. Recent discussions of rational belief have raised the possibility that the rationality of belief may be influenced by non-epistemic factors such as the risk of racial bias (Basu 2019) and duties of friendship (Keller 2004; Stroud 2006). And some pragmatists have claimed that rational belief is influenced by a wide range of traditionally non-epistemic factors (Rinard 2019; Steglich-Petersen and Skipper 2019). The modal response to these views has not been to claim that they change the subject from epistemic rationality to rationality simpliciter, and hence can be set aside. Quite the opposite: most epistemologists have found these views interesting and well worth engaging with. Because rational norms tell us how to regulate our beliefs and inquiries, it is of the utmost importance to understand how we are rationally required to conduct ourselves in belief and inquiry. Insofar as epistemologists have resisted the encroachment of traditionally non-epistemic factors into discussions of rational belief, they have tended to argue not that this encroachment would be uninteresting, but rather that it is untrue. And nothing I have said here should threaten that claim.

It is still worth asking whether and in what sense norms of inquiry count as epistemic. Even in the case of rational belief, the nature, importance and cogency of the category of epistemic rationality has recently been subject to considerable dispute.<sup>18</sup> Discussions of rational inquiry provide a natural test case for thinking through what our options are, and why we might privilege one notion of epistemic rationality over another.

There are at least two leading views of epistemic rationality on which the consequentialist is free and clear. On one traditional view, no norms of inquiry are epistemic norms. In its most restricted form, this view holds that epistemic norms are synchronic

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<sup>18</sup>See Cohen (2016a,b) and Chisholm (1991) for challenges to the concept of epistemic rationality; Dotson (2019) for challenges to its importance; and Conee (2016); Lyons (2016) and McGrath (2016) for different conceptions of the epistemic.



norms governing doxastic states, although there may be some room to broaden the view (Feldman 2000, 2002; Hedden 2015). If this is right, then it is no objection to say that consequentialism is a nonepistemic view, since all norms of inquiry are nonepistemic.

Jane Friedman has recently defended the opposite view: all norms of inquiry are epistemic (Friedman forthcoming a). In support of this view, Friedman cites the difficulty of drawing a principled distinction between those norms of inquiry which count as epistemic, and those that do not. Friedman also argues that many ways of drawing this distinction will exclude prominent norms of inquiry from the class of epistemic norms. For example, it is difficult to produce a theory of epistemic rationality on which consequentialism counts as a nonepistemic theory, but norms of clutter avoidance such as  $CA_F$  do not. The only apparent difference between Friedman and the consequentialist on clutter avoidance is that whereas  $CA_F$  takes rationality to answer to the interests and desires that an agent actually has, the consequentialist appeals to the interests and desires that she would have if she were concerned for what is of value. If Friedman is right that all norms of inquiry are epistemic norms, then again there is no objection to be made. If consequentialism is the correct story about rational inquiry, then it follows on this view that consequentialism is a theory of epistemically rational inquiry.

Consequentialism fares less well on at least one leading theory of the epistemic. On a *value-based* conception, epistemic norms are picked out by a specific class of intellectual values which they instantiate, promote or honor: for example, the values of truth, knowledge, or understanding. The value-based conception has a good pedigree. It was popularized as a view of rational belief by the work of Richard Foley (1987) and Alvin Goldman (1986). The value-based conception underlies recent programs such as epistemic consequentialism. And some prominent discussions of rational inquiry explicitly adopt a value-based approach (Friedman 2019b).

In many ways, the value-based conception captures the crux of the complaint that consequentialism is not an epistemic theory. The value-based conception says that consequentialism is not an epistemic theory because it adopts a rich axiology on which not

only epistemic values such as truth and knowledge, but also non-epistemic values such as well-being and nondiscrimination bear on rational inquiry. For the same reason, the value-based conception implies that many existing norms of inquiry such as  $CA_F$  are not epistemic norms.

Many recent discussions have resisted the proposed restriction to a value-based epistemic conception of rational inquiry. It has been stressed that rational inquiry, in an ordinary and central sense, has a strong practical component (Friedman forthcoming a; Harman 2004; Lord 2020). While I do not know that I can say enough here to convince a committed proponent of the value-based conception, here are two reasons why we might not want to take a value-based epistemic approach to the study of rational inquiry.

First, in the case of rational belief one of the most compelling arguments for a value-based epistemic approach is the claim that all reasons for belief are reasons to promote epistemic value.<sup>19</sup> For example, it is claimed that normative reasons for belief must be potential motivating reasons, reasons on which our belief is based. While non-intellectual considerations such as prudence and welfare may be the basis for actions which indirectly influence belief, many epistemologists think that beliefs themselves can only be motivated by value-based epistemic reasons (Kelly 2002, 2003).<sup>20</sup> It follows on this view that only value-based epistemic reasons can be normative reasons for belief. Another common argument holds that purported reasons for belief based on non-intellectual values are really reasons for some activity, such as getting ourselves to believe. On this view, the importance of a comfortable retirement is not a reason to hold many true beliefs about retirement, but rather a reason to get ourselves to hold many true beliefs about retirement.

However successful these arguments may be in the case of rational belief, neither argument generalizes to show that all reasons for inquiry are value-based epistemic reasons. Non-intellectual considerations can be, and frequently are motivating reasons for inquiry.

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<sup>19</sup>There are also analogues of this discussion for versions of the value-based epistemic approach on which some epistemic value is to be instantiated or honored, rather than promoted.

<sup>20</sup>Some versions of the value-based account may have trouble with motivating reasons. For example, it is not clear whether I can be motivated to believe  $p$  by the fact that doing so will promote accurate beliefs on other matters.

You can check the weather to learn the truth or assuage your curiosity, but also to plan a picnic. And the most natural way to hold that purported non-epistemic reasons for belief are reasons to get ourselves to believe something involves admitting that many of these reasons are non-epistemic reasons for inquiry. For example, suppose that the importance of a comfortable retirement is a strong non-epistemic reason to get yourself to hold many accurate beliefs about retirement. Many of the most natural ways to get yourself to hold many accurate beliefs about retirement involve inquiry. You might attend classes, interview neighbors, and consult your financial planner. As we saw in Section 3, this is a natural way of applying level separation to defend traditional epistemological views: purported non-epistemic reasons for belief are often best thought of as non-epistemic reasons for inquiry. If this is right, then we cannot adopt a value-based epistemic approach to rational inquiry on the grounds that this approach captures all of the reasons that there are.

A second reason to resist focusing on value-based epistemic norms for inquiry is that inquiry involves a variety of prioritization decisions which are difficult to make without invoking traditionally non-epistemic values (Friedman forthcoming b). We must decide when to open inquiry into a question or place it on our research agenda (Olsson and Westlund 2006; Enqvist 2012), and when to close inquiry (Harman 2004; Kvanvig 2011). We must select between a variety of heuristic and nonheuristic inference rules which vary in their accuracy and cognitive demandingness (Marewski and Schooler 2011; Lieder and Griffiths 2017). We must decide whether and how to gather evidence on a question (Hall and Johnson 1998; Howard 1966), and how much evidence to retrieve from memory before making a judgment (Icard 2018; Vul et al. 2014). Once we form a judgment, we need to decide whether and how strenuously to double-check our answer (Friedman 2019a).

Each of these prioritization decisions involves an opportunity cost. If we open inquiry into one question, we must forgo inquiry into another. If we select a very demanding inference rule in one situation, we must make do with less effortful rules in other situations. Many philosophers and most nonphilosophers have held that the right way to make these

prioritization decisions makes central appeal to non-epistemic values such as an agent's interests or welfare. For example, it is held that other things equal, we should use more demanding nonheuristic inference rules to answer high-stakes questions, and reserve frugal heuristics to answer lower-stakes questions (Evans and Stanovich 2013; Kahneman 2011).<sup>21</sup> And it is widely admitted that decisions about whether and how to gather evidence will need to be made partly on non-intellectual grounds (Hall and Johnson 1998; Stigler 1961; Howard 1966). We can, of course, step back and theorize about these prioritization decisions from a perspective that ignores the non-intellectual stakes at issue in allocating cognitive and noncognitive resources during inquiry. But in doing so, we risk isolating epistemic theorizing from the motivating questions that drive us to theorizing, as well as from the broad array of answers to questions about rational inquiry that have already been developed throughout the disciplines, few of which involve any explicit appeal to epistemic rationality at all.

None of this is meant to suggest that it is impossible or fruitless to develop a conception of epistemically rational inquiry or to study the norms that result. For example, on a *justification-centered* conception of the epistemic, the epistemic is distinguished by its appeal to a privileged notion of epistemic justification, which applies to doxastic attitudes such as belief, disbelief, and perhaps also credence and suspension of judgment.<sup>22</sup> We might try to pick out epistemic norms of inquiry by their relationship to the justificatory status of beliefs produced or instantiated during inquiry. For example, it has become increasingly popular to claim that failures to gather evidence may make our beliefs unjustified (Baehr 2009; Sosa forthcoming).

This strategy could take inspiration from Jane Friedman's work on double-checking (Friedman 2019a). Friedman argues that double-checking involves the adoption of a particular doxastic attitude: suspension of judgment. Friedman argues that double-checking is epistemically defective in situations where suspension of judgment would be

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<sup>21</sup>Of course, other things are not always equal (Gigerenzer and Brighton 2009).

<sup>22</sup>For discussion see Goldman (1986), Lyons (2016) and Siscoe (forthcoming).

epistemically unjustified. Note in particular that this type of epistemic defect does not need to be given a value-based epistemic reading. We may well accept Friedman's claim while holding that all epistemic value is to be promoted, and acknowledging that double-checking may ultimately be in the service of promoting epistemic value even when it involves a momentary suspension of otherwise justified belief.

It is fruitful and important to investigate such ways of extending the notion of epistemic rationality to cover the case of rational inquiry. However, recent discussions have emphasized that ordinary questions about rational inquiry are not exhausted by this and similar notions of epistemic rationality. Suppose, for example, that we accept a means-end principle of rational inquiry into questions  $Q^?$ :

**(Zetetic Instrumental Principle)** If one is inquiring into  $Q^?$  at  $t$  and actively focused on resolving  $Q^?$  at  $t$ , then, other things equal, one ought to take the best means available to resolving  $Q^?$  at  $t$ . (Friedman forthcoming a).

Now suppose that you are a detective interviewing a witness to a murder. By attending to the witness, you may form justified beliefs about the murder. By glancing out the window instead, you may form justified beliefs about the birds outside. It is not so clear whether there is any difference from a justification-centered epistemic perspective between these inquiries: both would lead to the formation of a justified belief. But the Zetetic Instrumental Principle implies that, other things equal, you should attend to the witness and ignore the birds, because attending to the witness is the best way to achieve your goal of identifying the murderer.

The intended upshot of this discussion is that on many traditional conceptions of epistemic rationality, it may turn out that epistemic rationality is not an exhaustive lens into ordinary and important questions about rational inquiry. One way of making this point is due to Tom Kelly: theoretical rationality is a hybrid virtue (Kelly 2003). Even if the rationality of belief answers to intellectual considerations alone, rational inquiry answers to a lively mixture of intellectual and non-intellectual reasons. As we expand

our lens from belief to inquiry, we need to take a broad perspective which says how both intellectual and non-intellectual considerations bear on rational inquiry, while leaving open the traditional view that only intellectual considerations bear on rational belief. I have argued that a reason-responsiveness consequentialist approach to rational inquiry is in a good position to do just that.

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