Higher-Order Evidence and the Duty To Double-Check

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Abstract

The paper proposes an account of the rational response to higher-order evidence whose key claim is that whenever we acquire such evidence we ought to engage in the inquiring activity of double-checking. Combined with a principle that establishes a connection between rational inquiry and rational belief retention, the account offers a novel explanation of the alleged impermissibility of retaining one’s belief in the face of higher-order evidence. It is argued that this explanation is superior to the main competitor view which appeals to the notion of defeat.

**1 Introduction**

Consider the following scenario:

(ARITHMETIC)

Andrea engages in mental arithmetical reasoning in order to determine how much she’ll have to pay for her dinner. She infallibly remembers the price of each course and concludes that she’ll have to pay $45. However, Andrea learns from a trustworthy source that she has taken a pill that is very likely to make her arithmetical abilities unreliable, without her being in a position to notice whether this is so. As it happens, however, the pill has not actually been effective.

Andrea’s belief is inferred from her *first-order* evidence, that is, her infallible knowledge of the price of each course of the meal, via a piece of apparently sound arithmetical reasoning. Upon learning from a trustworthy source that she has taken a reasoning-distorting pill, however, Andrea acquires sufficiently strong countervailing *higher-order* evidence, namely evidence that bears on the question of whether Andrea has correctly responded to her first-order evidence. This evidence is *misleading* though, as Andrea has in fact correctly responded to her first-order evidence. What ought Andrea do?

The question of what we ought to do when we receive misleading countervailing higher-order evidence(I henceforth use “HOE” as an abbreviation for “misleading countervailing higher-order evidence”) is one of the most debated questions in contemporary epistemology. There is a central desideratum that any view about the rational response to HOE has to respect. The desideratum is to give an explanation of:

First-Order Significance: When one retains one’s belief in the face of (sufficiently strong) HOE, one does something that appears to be (epistemically) impermissible.

First-Order Significance is motivated on intuitive grounds. If Andrea retained her belief that the cost of the bill is $45 in the face of the kind of HOE she has acquired, it would be appropriate or legitimate for us to reduce our trust in her, at least as far as the topic of simple mental calculations is concerned, if not more generally. Trust reduction indicates that we’re holding Andrea *epistemically* – as opposed to, say, morally – accountable by criticising and blaming her for retaining that belief.[[1]](#footnote-1) This suggests that it would be impermissible for Andrea to retain her belief that the cost of the bill is $45 after acquiring evidence that her belief is the output of a flawed reasoning process.

To forestall misunderstanding, explaining First-Order Significance does not entail taking appearances at face value: one can tell an error-theoretic story that explains *away* why we have the impression that there’s something impermissible with belief retention in the face of HOE without endorsing that impression. This ensures that the desideratum is not prejudicial against views saying that it is rationally permissible for one to retain one’s belief in the face of HOE. To put the point differently: First-Order Significance can receive either a *vindicatory* explanation or a *revisionary* one.

The standard way of accounting for First-Order Significance takes the form of a vindicatory explanation that appeals to the notion of defeat (see Christensen, 2007, 2010; Feldman, 2005; González de Prado, 2020; Schechter, 201; Silva, 2017; Smithies, 2015): HOE generates epistemic duties (or reasons) to form or revise certain doxastic attitudes and defeats the rationality of Andrea’s belief that the cost of the bill is $45. I call this view – or family of views – “Defeatism”. We will go over the different ways of understanding Defeatism below, but even without going into such details we can already observe that Defeatism has received criticisms from multiple fronts (see Lasonen-Aarnio, 2014, 2020; Titelbaum, 2015; Weatherson, 2019; Worsnip, 2018; Whiting, 2019). So, revisionary explanations of First-Order Significance (see e.g. Lasonen-Aarnio 2010, 2014, 2020, 2021; Weatherson, 2019: Chapter 9 for proposals) have started to gain prominence.

Against this backdrop, this paper aims to offer a novel vindicatory explanation of First-Order Significance. To this end, I look at HOE from the perspective of inquiry. I first argue that, in (ARITHMETIC), Andrea ought to engage in the inquiring (or *zetetic*)[[2]](#footnote-2) activity of *double-checking* whether the cost of the bill is $45. I then show that, due to the existence of a bridge principle that connects rational inquiry and rational belief retention, the duty to double-check comes into conflict with the rational permissibility of retaining one’s belief in the face of HOE. This vindicates First-Order Significance in a better way than Defeatism, or so I argue. I call this approach to HOE “Zeteticism”.

The paper is organised as follows. In §2-2.2 I introduce the novel account of the rational response to HOE in terms of double-checking. In §3-3.2 I defend the account from a number of objections. In §4-4.2 I develop my explanation of First-Order Significance. In §5 I offer some concluding remarks.

**2 The duty to double-check**

Zeteticism’s central claim about the rational response to HOE is encapsulated in the following principle:

Duty to Double-Check: Whenever one has evidence E that bears on *p* and then receives sufficiently strong HOE about E, one ought to double-check whether *p*.[[3]](#footnote-3)

My first goal here will be to unpack Duty to Double-Check. I should flag that we’re entering into uncharted territory. While there’s recently been a surge of interest in norms of inquiry,[[4]](#footnote-4) we still lack a well-defined debate about the existence and nature of such norms. So, I think it’s important to sketch a framework for thinking about norms of inquiry at the outset. More specifically, since it is part of Zeteticism’s picture that Duty To Double-Check is a genuine epistemic norm of inquiry, I need to clarify in what sense inquiry can be subject to epistemic norms.[[5]](#footnote-5)

*2.1 Epistemic norms of inquiry*

Double-checking is a type of inquiry one engages into after having already considered the question one is re-inquiring into – hence the “double” in double-checking. I take inquiry to be an activity that, like building a house or playing chess, has a constitutive aim (see Kelp, 2021: Ch. 1 and Ch. 2). It is widely agreed that inquiry’s constitutive aim is epistemic, but there’s some debate about whether inquiry aims at true belief, or knowledge, or justification, or some other epistemic good.[[6]](#footnote-6) Addressing this issue in depth is beyond the scope of this paper, so I will make the simplifying assumption that zetetic activities, by default, aim at knowledge (see Friedman, 2017: 322; Kelp 2021 Ch. 1 and 2; Whitcomb 2010: 674). Notwithstanding this assumption, I believe that Zeteticism can be made to work even if we operate under other accounts of the aim of inquiry.

Kelp (2021: Ch. 1) notes that activities with constitutive aims determine what Ernest Sosa calls *critical domains* (see Sosa, 2007: Chapter Four), where a critical domain is constituted by a number of interrelated things whose assessment is organised around the domain’s central value. Sosa offers the following example (*ibid.*, p. 73):

Consider the world of coffee—of its production, elaboration, and consumption. One central value organizes the critical assessment distinctive of that domain. I mean the value of liquid coffee that is delicious and aromatic. Think of the assessment of coffee beans, fields, coffee machines, baristas, ways of making liquid coffee, plantations, harvests, etc. What organizes all such evaluation, the value at the center of it all, from which the other relevant values are derivative, is the value of good coffee, of liquid coffee that is delicious and aromatic. […] The world of coffee is a “critical domain”, a set of interrelated entities evaluable through correspondingly interrelated values.

What’s the cluster of interrelated things that constitute the domain of inquiry? Plausibly, at least the following things will be part of the cluster: selecting the question one will inquire into; deciding how to gather and audit evidence about that question; proceeding to gather and audit evidence by allocating certain cognitive and non-cognitive resources to such evidence-gathering and evidence-auditing; terminating one’s inquiry, e.g. by forming a certain belief on the basis of one’s previous assessment of the gathered evidence. As suggested by Kelp (2021: 137), we can then organise the evaluation of ways of initiating, proceeding with, allocating resources to, and terminating one’s inquiry around the value of good inquiry, which is identical to its epistemically valuable constitutive aim.

With these preliminary points in place, let’s focus on (ARITHMETIC). When Andrea considers the question of the cost of the bill, we can picture her inquiring into that question. Andrea initiates her inquiry bygathering evidence about the price of each course of the meal, say, via testimony – suppose further that she receives that testimony from an infallible and wholly trustworthy waiter. She then proceeds to audit the evidence via a piece of mental arithmetical reasoning that is performed by allocating a certain amount of attention, effort, and time. Finally, Andrea terminates her inquiry by adopting a belief-forming method which takes the result of her mental arithmetical calculation as input and produces the belief that the cost of the bill is $45 as output.

This is a description of (at least part of) the cluster of Andrea’s *dispositions of zetetic conduct* (“zetetic dispositions” for short). Zetetic dispositions are dispositions to initiate one’s inquiry in certain ways (e.g. by gathering evidence via running experiments, or asking reliable testifiers, or using one’s own senses), to proceed with one’s inquiry by using certain types of reasoning (e.g. by reasoning deductively, or inductively, or abductively) to audit the gathered evidence, to allocate a certain amount of cognitive (e.g. high degree of attention and computational effort) and non-cognitive (e.g. time, money, manpower, materials) resources whereby to perform the previous zetetic tasks, to terminate one’s inquiry in such-and-such ways (e.g. by coming to believe a certain proposition on the grounds of a certain belief-forming method).

Zetetic dispositions can be *reliable* or *unreliable*, depending on their conduciveness to the epistemically valuable aim of inquiry.[[7]](#footnote-7) Suppose, for instance, that one initiates one’s inquiry into the question whether *p* by gathering evidence about that question: one’s disposition to initiate an inquiry by gathering evidence is reliable if, were one to properly audit that evidence with the right amount of cognitive and non-cognitive resources and were one to terminate one’s inquiry by forming a belief on the grounds of the gathered and audited evidence, one would come to form a knowledgeable belief in a sufficiently high number of cases.

Two questions about the reliability of zetetic dispositions must be answered in order to make sense of them. First: how to individuate the type of zetetic disposition to which we attribute reliability? Secondly: what’s the type of circumstance relative to which we attribute reliability to zetetic dispositions?

The first question is a version of the (in)famous generality problem for reliabilism.[[8]](#footnote-8) Suppose one is inquiring into whether there are beers in the house. One initiates one’s inquiry by gathering evidence and sees that there are beers in the cupboard. Has one gathered evidence by looking? Or by looking in the cupboard? Or by looking in the cupboard at 5pm? Or by looking in the cupboard at 5pm on Monday? The generality problem asks us to type-individuate zetetic dispositions in a principled way.

My take on the type-individuation of zetetic dispositions starts from the idea that inquiry is a critical domain in Sosa’s sense. Note the following: If a scientist is inquiring into a scientific question concerning the explanation of a certain phenomenon ϕ, then gathering evidence about ϕ might very well involve running an experiment, and assessing that experiment will involve a certain type of abductive and inductive considerations. If, by contrast, a mathematician is inquiring into the question of whether a certain mathematical conjecture is a theorem, then gathering evidence will involve reflection on and understanding of the mathematical concepts and structures involved, and assessing that evidence will involve a certain type of deductive considerations. So, within the general critical domain of inquiry we can identify different sub-fields displaying different initiation, evolution, resource allocation, and termination conditions for a token activity of inquiry (within that sub-field).

Building on this simple observation, my thought here is that what counts as initiating, proceeding with, allocating resources to, and terminating an activity of inquiry within a certain sub-field is established by looking at what the relevant community field regards as the standard way to pursue inquiries within that sub-field. For instance, what counts as initiating an inquiry by gathering evidence in the sub-field of science is established by the community of scientists: what they regard as the standard way to gather evidence within that sub-field is going to set the initiation conditions of scientific inquiry. The same is true about inquiries into, say, mathematical, normative, and philosophical questions. This brings out another (related) feature of zetetic dispositions: it looks as though zetetic dispositions are context sensitive, [[9]](#footnote-9) where such context-sensitivity is to be understood as sensitivity to what different epistemic communities within different sub-fields of inquiry regard as the standard or conventional way to, say, initiate an inquiry by gathering evidence. The same holds, *mutatis mutandis*, for the type-individuation of zetetic dispositions to proceed with one’s inquiry by auditing the evidence, to terminate one’s inquiry by forming a belief, and so on.

This picture helps us tackle the generality problem for zetetic disposition in a way that is very much in the spirit of Sosa’s approach to the generality problem for virtue-theoretic reliabilism (Sosa, 1991: Chapter 16). The rough idea is this: There are certain ways to initiate an inquiry by gathering evidence that different epistemic communities sanction as the standard for a given sub-field of inquiry. So, given the target sub-field, we individuate the type of the zetetic disposition to initiate one’s inquiry by gathering evidence in a principled manner by looking at what the target epistemic community regards as the standard way to gather evidence within that sub-field of inquiry.

Let’s turn now to the question of how to identify the type of circumstance relative to which we attribute reliability to a zetetic disposition. Just like a glass’s fragility is relative to normal conditions in which the glass will shatter when struck (say, the glass is not wrapped in high-tech protective bubble wrap, it’s struck by an adult and not by a baby, and so on), the reliability of one’s zetetic dispositions is relative to normal conditions. So, the cases we will look at to determine whether the reliability of one’s zetetic dispositions are the *normal* instances of the contextually determined type of the zetetic sub-field one is in.[[10]](#footnote-10) Here’s an example of what I have in mind. Suppose again one is inquiring into whether there are beers in the house. What’s normal about such a situation is that one will have three or four different places where to look for beers; one is able to tell beers and lemonades apart visually or by tasting them; one has no particular reason to distrust one’s senses. What’s abnormal about such a situation is that one encounters a real-looking fake beer among real ones; one has reason to completely distrust one’s perceptual faculties; one is subject to an experientially undetectable illusion as of there being a beer over there, and so on. Importantly, the fact that one, perhaps it’s best to think here of an adult, can tell beers and lemonades apart by tasting them doesn’t require any explanation. By contrast, the fact that one is indeed looking at a real-looking fake beer among real ones leads us to naturally wonder: How’s that possible? Why is there a real-looking fake beer here?

The general lesson seems to be this: normal conditions do not *call for explanation* given what’s feasible for us to do given our computational, attentional, recollective, temporal, spatial, and even financial limits.[[11]](#footnote-11) So, although I won’t offer a precise definition of what makes a condition normal, I can state a heuristic: to fix the range of cases for assessing the reliability of zetetic dispositions, let’s ask what would or wouldn’t call for explanation given the cognitive and non-cognitive bounds we have qua inquirers. I think that the arguments below will not depend on the details of how the notion of normal conditions is explicated or defined, so this should suffice for our purposes.

Once the normal type of the token activity of inquiry we’re examining is established, we focus on the dispositions to initiate, proceed with, allocate resources to, and terminate the inquiry to see what happens in close cases that fall under the normal type where one still inquires into the question. If one’s zetetic dispositions conduce to having a knowledgeable answer to the question at hand in a sufficiently high number of cases, then one’s zetetic dispositions will count as reliable. As for the assessment of the reliability of zetetic dispositions, it’s important to bear in mind that zetetic dispositions – just like dispositions in general – are context-sensitive. So, holding fixed the normality conditions established by our cognitive and non-cognitive bounds, a disposition to double-check in a certain context might look importantly different from a disposition to double-check in another context. Consequently, the assessment of their reliability would also have to reflect these contextual differences. While giving a detailed account of how to assess the reliability of zetetic dispositions in general is a daunting task that would have to be deferred to further works, I will give a concrete example of such type of assessment in the next section by focusing on (ARITHMETIC).

We’re now in a position to explain how norms of inquiry such as Duty To Double-Check are endowed with genuinely normative force. The pattern of explanation I adopt is consequentialist and value-based, but with a twist. Starting from the thought that inquiry is an aim-directed activity, we have that a certain token activity of inquiry has a positive or negative zetetic deontic status in virtue of how it conduces towards or promotes the epistemically valuable aim of inquiry. If that token activity of inquiry reliably conduces to knowledge,[[12]](#footnote-12) then it deserves to be called rational. To bridge the gap between what we are rational to do and what we ought to do from a zetetic viewpoint, we can adopt different strategies. On a fairly flatfooted *maximising* version of the basic consequentialist thought I’m operating with, we ought to do zetetically whatever would maximise the epistemic value constituting the aim of inquiry. Thus, if we ought to engage in all and only zetetic activities that promote knowledge, then there are zetetic things that we ought to do and zetetic things that we ought not to do. On an alternative, *rule-based* version of the basic consequentialist thought, one’s zetetic obligation to ϕ is not wholly determined by whether or not ϕ-ing maximises knowledge, but it rather depends on whether or not ϕ-ing is in accordance with a certain set of rules which, if generally complied with, would promote knowledge. We shouldn’t be bogged down by different formulations of consequentialism though, as it would be enough for present purposes to have just a sketch of how norms of inquiry come about.

Here comes the twist to the basic consequentialist thought. For any ϕ-ing that promotes knowledge, consequentialism tells us that we have reason to ϕ. Yet, not any ϕ-ing that promotes knowledge is part of the interrelated things that constitute the critical domain of inquiry within a certain sub-field.[[13]](#footnote-13) Take scientific inquiry: eating a sandwich promotes knowledge since it enhances intellectual performance, but eating a sandwich isn’t a conventional (or natural, for that matter) way to gather or audit evidence, nor is it a way to terminate a scientific inquiry. That is to say, the community of scientists doesn’t regard eating a sandwich as one of the standard ways whereby to initiate an inquiry by gathering evidence within that sub-field. By contrast, running an experiment promotes knowledge and it also constitutes a conventional way to gather evidence in scientific inquiry. A normative distinction emerges: For any ϕ-ing that promotes knowledge without being one of the interrelated things constituting the critical domain of inquiry, we have an *instrumental* reason to ϕ. For any ϕ-ing that promotes knowledge while being one of the interrelated things constituting the critical domain of inquiry, we have a distinctively *epistemic* reason to ϕ. The distinction rests on the following thought: the value of a critical domain organises an assessment of things that are *distinctive of that domain*. So, the epistemic value of knowledge organises its distinctively *epistemic* normative assessment of those things that constitute the critical domain of inquiry. This gives us reason to believe that there are distinctively *epistemic* norms of inquiry.[[14]](#footnote-14)

I have now sketched a framework for thinking about epistemic norms of inquiry. Zeteticism maintains that Duty to Double-Check is one such norm. What we need now is an argument in favour of such a claim.

*2.2 Why double-check in the face of HOE?*

Double-checking can take different forms. Consider Andrea’s predicament in (ARITHMETIC): she can double-check whether the cost of the bill is $45 by gathering further evidence, e.g. by asking the restaurant’s manager, or by changing belief-forming method, e.g. instead of using her mental arithmetical abilities she uses her pocketsize calculator. These are *direct* ways of double-checking: they are direct because they promote knowledge by putting the inquirer in a better epistemic position than they are vis-à-vis the question whether *p*. However, Andrea can double-check whether the cost of the bill is $45 in other ways too. For instance, she might test for the effects of the reasoning-distorting pill. If the results of the test are negative, she acquires evidence that makes it rational for her to rule out the possibility that she made a calculation mistake. Andrea can also look more closely at the trustworthiness of the individual who’s told her about the pill: if she finds out that the individual is not a reliable testifier as far as reasoning-distorting pills are concerned, she also acquires evidence that makes it rational for her to rule out the possibility that she made a calculation mistake. These are *indirect* ways of double-checking: they are indirect because Andrea does not acquire further evidence about the cost of the bill, but she rather acquires higher-order evidence undermining the strength of the initial HOE she received about her mental arithmetical abilities. This suggests that the duty to double-check can be discharged in different ways, allowing for a plausible form of contextual dependence.

With all of this in mind, let’s suppose that Andrea can double-check whether the cost of the bill is $45 by allocating quite a bit of cognitive and non-cognitive resources to such an activity. We can then imagine that: Andrea decides to test for the effects of the reasoning-distorting pill; while waiting for the results of the test, she gathers further evidence about the cost of the bill and also takes her pocketsize calculator to run the numbers on it. Let’s now move on to assess whether, by so doing, Andrea manifests a reliable zetetic disposition. To do so, we should, first, look at normally close cases in which Andrea still receives the same HOE she has in the original case. This is so because we’re indeed trying to ascertain whether double-checking is a reliable way to respond to HOE. Secondly, we should look at those cases in which Andrea’s reasoning is in fact tainted by the effects of the reasoning-distorting pill. This is so since a normally close scenario to the original (ARITHMETIC) is such that the pill does kick in. Let’s ask: would the fact that a pill has the effects that it’s supposed to have require an explanation? It seems that it would not. This suggests that the normally close scenarios we should pay attention to while assessing the reliability of Andrea’s zetetic disposition to double-check do include scenarios in which the HOE isn’t misleading and her reasoning has indeed been impaired.

Now, in normally close cases in which Andrea receives the same HOE she has in the actual world and her response to the first-order evidence is in fact tainted by the effects of the reasoning-distorting pill, if Andrea double-checks whether the cost of the bill is $45 she finds out that it is not precisely because she learns that the pill was effective and that the cost of the bill is, say, $43. So, double-checking whether the cost of the bill is $45 is a reliable way of getting to know the answer to the question of the cost of the bill.[[15]](#footnote-15) Given the link between reliable zetetic dispositions and rational inquiry, this provides an initial motivation for Duty to Double-Check.

**3 Defending** Duty To Double-Check

I will now defend Duty to Double-Check against a number of worries. I’ll begin with general worries about the normative and epistemic force of Duty To Double-Check.

*3.1 General worries*

The first general worry comes in the form of an attack on the consequentialist foundations of Duty To Double-Check. One can indeed claim that the standard worries about consequentialism about epistemic norms of belief carry over to epistemic norms of inquiry.[[16]](#footnote-16) I’ll say two brief things in response. First, I do believe that the replies already offered by consequentialists about epistemic norms of belief can be extended to defend the consequentialist foundations of epistemic norms of inquiry such as Duty To Double-Check.[[17]](#footnote-17) Secondly, while I take consequentialism to be a somewhat natural foundational framework for theorising about norms of inquiry, one can motivate Duty To Double-Check in non-consequentialist ways too. One can say, for instance, that *respect for* (and not promotion of) truth or knowledge demands double-checking in the face of HOE.[[18]](#footnote-18) There would clearly be much more to say about these issues, but the foregoing should suffice to show there’s no simple and straightforward argument from foundational considerations to the rejection of Duty To Double-Check.

Even if we sidestep foundational objections, one might argue against the epistemic nature of Duty to Double-Check as follows. Begin with the thought that epistemic norms are *state-oriented norms*,[[19]](#footnote-19) namely norms that tell us either what doxastic states one ought/is permitted/is forbidden to be in (so-called *synchronic* norms) or what doxastic states one ought/is permitted/is forbidden to retain or revise from time t0 to time t1 (so-called *diachronic* norms). So, the thought that epistemic norms are state-oriented norms is the thought that all epistemic norms are norms that govern doxastic states. And yet, double-checking is an activity which, unlike belief retention or revision, need not necessarily involve a transition from and to doxastic states.[[20]](#footnote-20) These remarks might suggest the following argument: (I) Epistemic normativity is state-oriented normativity; (II) Zetetic activities cannot be subsumed under state-oriented norms; so, (C) Zetetic activities are not governed by epistemic norms.

This argument isn’t sound though. Although premise (II) is motivated, premise (I) is not. Besides mere stipulation, the best way to motivate premise (I) I can think of is to invoke *time-slice epistemology*, whose key principle is:

Synchronicity: What attitudes you ought to have at a time does not directly depend on what attitudes you have at other times.[[21]](#footnote-21)

Even if Synchronicity were true, this would at most put pressure on the existence of *state-oriented and diachronic* epistemic norms, that is, norms that are meant to specifically govern belief revision and belief retention only – think for instance of the principle of conditionalisation within a Bayesian framework. So, Synchronicity would at most show that the rationality of one’s doxastic *states* is determined synchronically, but it would not impinge on the possibility of there being processes or activities that do not necessarily involve transitions from and to doxastic states which are also governed by norms. Synchronicity is in fact compatible with the existence of “process-oriented” epistemic norms that guide us when we engage in activities that do not wholly reduce to the states we can or must be in while engaging in them.[[22]](#footnote-22) I contend that zetetic activities are the starkest example of such activities. This shows that the argument against the epistemic nature of zetetic norms such as Duty to Double-Check cannot be defended via Synchronicity.

The third worry starts from the following train of thought: We happen to form beliefs about all sorts of things, and most of these things have little (if any) importance to us. While we can receive HOE that makes it apparently impermissible to retain those beliefs we might wonder: why should we inquire further into matters we don’t want nor do we need to figure out?

As I see it, the worry indicates that engaging in an activity of double-checking about matters we don’t care about is *practically irrational*: we have limited cognitive and non-cognitive resources, and practical responsibility dictates that we devote them to addressing things we want to or have a need to figure out. This, however, does not speak against Duty to Double-Check. Such a duty is distinctively epistemic in kind, and while it might well be the case that epistemic duties will have to be weighed against practical considerations to determine what we plain-ought to do in a certain scenario, this does not show that a certain epistemic duty fails to apply to us in that scenario.

Alternatively, the practical pointlessness of inquiring further into matters we don’t care about might support the thought that norms of inquiry are essentially practical. In reply, I’m happy to acknowledge that many of the considerations we have in favour of inquiring into questions depend on our wants, desires, and needs. But I also think that we can sharply separate what we zetetically ought to do in light of a genuinely normative epistemic standard from what we zetetically ought to do in light of a genuinely normative practical standard. Here’s how.

Suppose that everything is like in (ARITHMETIC) and Andrea does nothing in response to the acquisition of HOE. Her friend John says to her: “Given the HOE you’ve just received, why didn’t you double-check your calculations? It’s not like you didn’t have time and it was fairly easy. You had your phone to run the numbers and the waiter was also coming your way. I don’t trust your judgement on the bill”. John’s comment appears to be perfectly appropriate. That is to say, it seems appropriate for John to reduce his trust in Andrea, at least as far as the topic of simple mental calculations is concerned, if not more generally, given how she handles her HOE. As has already emerged at the outset, trust reduction is a mark of *epistemic* accountability or blame. In this case, then, John is holding Andrea epistemically accountable by criticising and blaming her for not double-checking. Furthermore, John could reduce his trust in Andrea in a distinctive way, by saying something like this: Although Andrea got it right this time and the HOE she receives is misleading, retaining her belief instead of double-checking is not the reliable thing to do: in close cases in which Andrea retains that belief and the HOE she receives is not misleading she has indeed made a calculation mistake. If John were to criticise and blame Andrea for not double-checking this way, his criticism and blame would be epistemically appropriate and fitting (see Goldberg, 2018: 170 and Kauppinen, forthcoming on what makes an epistemic practice appropriate).[[23]](#footnote-23) The presence of a legitimate practice of criticism and blame has been widely taken to suggest that there is a certain norm that one is violating (see Flores and Woodard, 2023; Kiesewetter, 2017: chapter 2; Wallace, 1994: 134; Sher, 2006: 118). So, given that it’s epistemically legitimate to criticise and blame Andrea for not double-checking, this gives us reason for thinking that there’s an epistemic norm that Andrea has violated by not double-checking.

Consider now another variant of (ARITHMETIC), where everything is like in the original case except for the following: after her dinner, Andrea has to go to the airport to pick up a friend she hasn’t seen in two years, and she’s already running very late. From a practical point of view, Andrea shouldn’t be double-checking whether the cost of the bill is $45, as she should rather rush to the airport. And yet, Andrea does double-check the cost of the bill. John says to her: “Well, why are you spending time double-checking? Go pick up your friend!”. Andrea replies to him: “Well, I’ve received this piece of HOE, that’s why I’m double-checking my calculations”. Andrea’s reply is rationally intelligible to us: even though she is mistaken, in that she should prioritise going to the airport, she’s motivated by concern for what is epistemically right. To use Kauppinen (forthcoming)’s apt formulation, Andrea’s reply constitutes a *partial defence* that displays her as a *substantively rational agent* who’s responding to the presence of genuinely normative *epistemic* considerations.

The foregoing indicates that double-checking in the face of HOE is subject to distinctively epistemic normative evaluation. Such evaluation can, at times, come into conflict with distinctively practical normative evaluation.

Perhaps the right way to press the practicality worry is to focus on the interplay between Duty to Double-Check and the *ought-implies-can* principle. The rough idea, I submit, is that if I am just unable to double-check whether *p* because there’s no time or because I don’t have the appropriate cognitive resources to do so (or for any other similar reason), then I am not under the epistemic obligation to double-check whether *p*. Since it is very easy to imagine – or even to be in – situations like these, the duty to double-check won’t apply to agents in a vast array of possible (and everyday) scenarios in which they acquire HOE.

On reflection, though, the version of the ought-implies-can principle on which this objection hinges is implausible. The debate about epistemic versions of the ought-implies-can principle revolves around the very possibility that individuals be subject to genuine epistemic oughts. The worry here is that epistemic oughts violate the ought-implies-can principle since there isn’t a robust enough form of epistemic agency underpinning the “can”. Importantly, however, denials of epistemic agency do not operate under the assumption that if an ‘ought’ claim transcends particular humans’ capacities then those particular humans are not subject to that ‘ought’ claim. Rather, rejecting the existence of epistemic oughts via a denial of epistemic agency requires showing that forming beliefs and engaging in activities of double-checking is not something that *anyone* has agential control over.[[24]](#footnote-24) This shows that cases of HOE when one individual in particular has no time or lacks the relevant cognitive resources to double-check whether *p* are not counterexamples to the view on offer.

As a rejoinder, one might wonder whether the same sort of worry may be raised on the basis of a weaker ought-implies-can principle, one where ‘can’ tracks something like what is *in principle* possible. We can then envisage an agent who, by their very nature, is unable to double-check, although they are able to receive evidence. If we can conceive of such an agent, and if ‘ought’ implies ‘in-principle can’, then the agent will never be under the obligation to double-check. And yet, First-Order Significance would still suggest that the agent is required not to retain their belief in the face of HOE.

Entering a debate on the right formulation of the ought-implies-can principle would lead us too far afield. But I want to stress the following: once we adopt this weak version of the principle, it seems that we can also envisage an agent who is able to receive evidence but who, by their very nature, is unable to revise their beliefs. If we can conceive of such an agent, and if ‘ought’ implies ‘in-principle can’, then the agent will never be under the obligation to revise their beliefs, despite what First-Order Significance would seem to indicate. This, to my mind, suggests that the phenomenon of HOE seems to pose a problem for this weak version of the ought-implies-can principle, rather than vice versa, for the principle would be incompatible with the very datum we are trying to make sense of.

The final general worry I want to consider starts from the observation that, given the prevalence in an individual’s social-epistemic environment of HOE, the view on offer is in danger of over-generating unfulfilled epistemic duties. The thought is this: given that Duty To Double-Check applies to us whenever we acquire HOE and that it’s very easy to encounter HOE, most individuals will fail to meet their epistemic duty to double-check. I agree that there would be something uneasy about finding ourselves in a situation in which we often violate our epistemic duties. But it’s unclear to me that such uneasiness spells trouble for Duty To Double-Check. The first observation I want to make is this: double-checking need not be a cognitively taxing and time-consuming epistemic activity. At times, double-checking can be as easy as belief revision, just like at times revising some of our beliefs might take more time and effort than double-checking. We can easily imagine Andrea double-checking on her phone the cost of the bill quickly and effortlessly, just like we can easily imagine cases in which revising a deeply entrenched belief of ours might require investing a lot of cognitive and non-cognitive resources. This brings me to the second observation: in an environment where HOE abounds, individuals would have a hard time fulfilling the duty to double-check just like they would have a hard time fulfilling the duty to revise their beliefs. For instance, recent studies show that individuals are much worse at disbelieving something they once believed to be true, as opposed to believing in a proposition once thought to be false (see Yang *et al.*,2022). So, if we take the overgeneration of unfulfilled epistemic duties to constitute a cost for Zeteticism, it’s a short step to take it to constitute a cost for Defeatism as well. The final observation is this: from the fact that individuals might tend to violate a certain epistemic duty we shouldn’t conclude that such a duty doesn’t apply to them. We should rather conclude that living a correct epistemic life isn’t easy.[[25]](#footnote-25)

I have defended Duty to Double-Check from several general worries concerning its normative and epistemic force. I turn now to consider individual scenarios that might represent putative counterexamples to this principle.

*3.2 Putative counterexamples*

The first set of putative counterexamples is constituted by scenarios in which one acquires HOE after having already double-checked. Joshua Schechter has in mind such kinds of cases when he writes (2013: 444, fn. 46): “There are apparent cases of higher-order defeat in which I have double-checked my calculations as much as is possible for me. In such cases, there is no prospect of claiming that I am exhibiting some kind of failing in not further checking my reasoning”.

As I see it, the kind of cases envisaged by Schechter can be constructed in three different ways, none of which represents a counterexample to Duty To Double-Check. Consider a first variant of (ARITHMETIC) in which Andrea has double-checked her calculations in a number of different ways, e.g. by using pen and pencil, running the numbers on her calculator, asking the restaurant’s manager, and so on. Suppose that the result of each round of double-checking is that the cost of the bill is $45. At this stage, a trustworthy source tells Andrea that she has taken a pill that is very likely to make her *mental* arithmetical abilities unreliable, without her being in a position to notice whether this is so. Does this piece of HOE indicate Andrea’s response to the evidence is unreliable? Clearly it doesn’t: the HOE Andrea has acquired in such a case casts doubt on her mental calculations but it does not speak against the reliability of the pen and pencil- and calculator-based calculations, nor does it put into question the reliability of the restaurant’s manager. So, since the duty to double-check in the face of HOE kicks in only when one acquires (sufficiently strong) HOE about E, this first variant of (ARITHMETIC) in no way speaks against Duty to Double-Check, for the HOE Andrea receives is just about a small subset of her evidence E.

Consider now a second variant of (ARITHMETIC) in which Andrea has double-checked her calculations (say) by using pen and pencil, running the numbers on her calculator, asking the restaurant’s manager, and the result keeps being that the cost of the bill is $45. Suppose now, unlike the first variant of (ARITHMETIC), that a trustworthy source tells Andrea that she has taken a pill that is very likely to make not only her mental arithmetical abilities unreliable, but also her ability to use pen and pencil, to use a calculator, and to form appropriate beliefs in response to bill-related testimony. In this case, Andrea does acquire HOE about her whole body of evidence E. So, the case falls under the purview of Duty to Double-Check. However, it seems only rational for Andrea to double-check whether the cost of the bill is $45 by testing whether the calculator works, checking whether she’s done her pen and pencil calculations right, whether her testimonial-based beliefs are formed correctly, and so on. So, Duty to Double-Check issues the intuitively correct verdict about this variant of (ARITHMETIC).

The third variant of (ARITHMETIC) goes like this: Andrea checks the question of the bill the same way she did in the first and second variants and receives HOE that every way to double-check the cost of the bill is going to be unreliable, no matter what. This third variant of (ARITHMETIC) makes Andrea doubting herself in a perniciously radical and global way. I acknowledge that it would be rationally pointless to double-check in the face of this type of HOE, but I think that we should sidestep global sceptical issues here and just consider Zeteticism as a view that only addresses *local* self-doubts about our capacities to respond to the evidence.[[26]](#footnote-26) The foregoing shows that scenarios in which one receives HOE after one has already double-checked a lot do not pose a problem for Duty To Double-Check.

Another set of potential counterexamples to Duty To Double-Check arises from the possibility of receiving the same type of HOE from several independent and equally trustworthy sources. To give more shape to this possibility, consider this variant of (ARITHMETIC):

(INCESSANT ARITHMETIC)

Andrea engages in arithmetical reasoning in order to determine how much she’ll have to pay for her dinner. She infallibly remembers the price of each course and concludes that the cost of the bill is $45. However, Andrea receives the information that she has taken a reasoning-distorting pill that makes her mental arithmetical abilities unreliable from fifty different and independent trustworthy sources. Every time she hears the testimony of one of these fifty testifiers, Andrea double-checks whether the cost of the bill is $45.

Duty to Double-Check issues the verdict that Andrea ought to double-check whether the cost of the bill is $45 each and every time she acquires HOE. Setting aside concerns about the practical feasibility of doing so, the question is whether Andrea’s incessant double-checking in response to distinct acquisitions of the same HOE is epistemically irrational.

I want to start addressing this question by comparing (INCESSANT ARITHMETIC) with two types of scenarios in which incessant double-checking is clearly epistemically irrational. My aim is to show that incessant double-checking in cases such as (INCESSANT ARITHMETIC) is importantly different from those scenarios. Consider the following case due to Jane Friedman (2019b: 84):

(STOVE)

You cook your breakfast and turn off the stove. You eat and get ready for work, but as you’re about to walk out the door you start to wonder whether you in fact turned the stove off. You’re pretty sure you did, but just to be safe you have a quick look at the stove dial before you leave the house. You can see that it’s in the off position and so you head off. A moment later though you start to worry about whether the stove is really off—was the dial really in the off position? You cast another glance at the dial, you see it’s in the off position and you leave the house. But a few moments after that you start to wonder again about whether the stove is really off […] And this keeps going.

The subject’s incessantly double-checking whether they have turned off the stove and ending up with the same belief every time is, intuitively, epistemically irrational. Friedman’s explanation of this irrationality, in a nutshell, is that if one incessantly double-checks whether *p* one can either lose or acquire new first-order evidence: if the more one double-checks whether *p* the more one loses evidence about it, then at some point one should stop keep checking whether *p* precisely one’s epistemic position will be impoverished as to make it irrational for one to believe that they have turned off the stove. By contrast, if the more one double-checks whether *p* the more one gains evidence about, say, its truth, then at some point the case for *p*’s truth would be so strong as to make it irrational to keep inquiring into whether *p*.

There’s a crucial difference between incessant double-checking in cases such as (STOVE) and incessant double-checking in cases such as (INCESSANT ARITHMETIC): the crucial difference is that in the latter, unlike in the former, the subject is double-checking in order to respond to HOE. This difference matters because double-checking whether *p* need not imply that one either loses or acquires new first-order evidence about *p*. To see why, suppose that Andrea double-checks whether the cost of the bill is $45 by asking a physician to test for the presence of the effects of the pill. This amounts to checking whether the HOE she receives is misleading or truthful – what I called above an “indirect” way of double-checking. If the physician’s test is negative, then Andrea receives higher-order evidence that she responded to her first-order evidence reliably. However, this higher-order evidence does not constitute new first-order evidence about the cost of the bill. So, an essential component of the puzzle of incessant checking as conceived by Friedman, namely the fact that one acquires or loses first-order evidence, is a dispensable element of the activity of double-checking qua response to HOE. This is enough to show that Friedman’s puzzle of irrational incessant double-checking doesn’t carry over to double-checking in the face of HOE.

Let’s turn now to a different scenario, presented by Elise Woodard (2022: 324):

(HISTORY)

Fran is a history buff who has studied conflicting theories about how Amelia Earhart died. She thinks the most plausible theories are that she died in a plane crash or in Japanese captivity. On June 1, she is convinced that Earhart died in a plane crash. However, on June 2, she changes her mind: she now believes that Earhart died in captivity. On June 3, she changes her mind again, once again believing that she died in a plane crash. Fran continues to cycle through these theories, despite neither gaining nor losing—much less forgetting—any first-order evidence. […] [S]he keeps changing her mind each day throughout the month […].

There surely is something epistemically irrational about Fran’s behaviour. Woodard (2022) explains this datum by saying that when Fran constantly redeliberates and changes her mind about Amelia Earhart’s death she gains higher-order evidence, of an inductive kind, that she is unreliable about the topic under investigation because the belief she arrives at the end of each deliberative process will change after the next deliberation.

On the face of it, while both (HISTORY) and (INCESSANT ARITHMETIC) can be read by stipulating that the respective agents don’t gain any new first-order evidence about the matter at hand, there’s a crucial difference between them. It’s a key element of Woodard’s puzzle of fickleness that Fran incessantly changes her mind at the end of her deliberations, whereas there’s no reason to think that Andrea must change her mind so frequently, if at all, at the end of each token activity of double-checking whether the cost of the bill is $45. So, it’s perfectly compatible with Duty to Double-Check that each and every time Andrea double-checks whether the cost of the bill is $45 she keeps ending up with the same belief. Thus, unlike Fran, Andrea does not acquire inductive higher-order evidence that she is unreliable about the cost of the bill. So, Woodard’s puzzle of irrational fickleness doesn’t carry over to double-checking in the face of HOE.

I’ve just reviewed two ways in which further checking or constant deliberation are clearly epistemically irrational and argued that incessant double-checking in the face of multiple items of the same type of HOE is importantly different from either of them. I take this to be good news, but the foregoing isn’t enough to assuage a more general worry about how to handle cases in which one receives the same type of HOE from a considerable number of different and independent trustworthy sources. These cases are problematic for all the views on the market, but I do think that there’s a way out available to Zeteticism. The thought is that each time Andrea double-checks whether the cost of the bill is $45 and the outcome of each token activity of double-checking is that the cost of the bill is indeed $45, she gains higher-order inductive evidence of reliability about bill-related issues. Such higher-order inductive evidence weakens the strength of the HOE she keeps receiving from different and independent trustworthy sources to the point that the two types of higher-order evidence cancel each other out. There will then be a point at which the newly received HOE won’t be strong enough to require of Andrea to double-check – bear in mind that Duty To Double-Check mandates double-checking only when HOE is sufficiently strong.

I’ve now defended Duty To Double-Check from a number of potential counterexamples. I thus conclude that Duty to Double-Check deserves to be on the table as one of the most promising views about the rational response to HOE. Equipped with it, we can now turn to First-Order Significance.

**4 The Zetetic Explanation of** First-Order Significance

I’ll break up my task in two. I’ll first articulate Zeteticism’s explanation of First-Order Significance and then argue that it compares favourably with Defeatism’s.

*4.1* Duty To Double-Check *and Rational Belief Retention*

The largest part of this section is devoted to defending the following claim: one cannot be under the duty to double-check whether *p* while, at the same time, being rationally permitted to retain one’s belief that *p*.[[27]](#footnote-27) Given that Zeteticism claims that we indeed are under the duty to double-check whenever we acquire HOE, this will get us to a vindication of First-Order Significance.

I begin with arguing that two principles merit inclusion in our theorising about the zetetic and the doxastic,[[28]](#footnote-28) namely:

Double-checking and Not-Settling**:** If one ought to double-check whether *p*, then one ought not to take the question whether *p* to be settled.

Retaining and Settling**:** If one is permitted to retain one’s belief that *p*, then one is permitted to take the question whether *p* to be settled.

Let me clarify what I mean by *taking the question whether p to be settled*. Taking the question whether *p* to be settled is a zetetic process-like thing we do: it takes up (and does not persist through) time by unfolding over time, it has initiation, evolution, resource allocation, and termination conditions, and it is not formed/revised/retained. To have an initial grip on this kind of zetetic doing, consider first the difference between someone who drinks an Oaxacan Negroni and someone who refrains from drinking it. Both individuals exercise their agency, but they do so differently: the former does something and exercises a form of control over their positive behaviour, whereas the latter does something and exercises a form of control over their negative behaviour. Note, moreover, that refraining from drinking an Oaxacan Negroni is different from forgetting or simply not drinking it: in the first case one has done something, whereas in the latter one simply has not done anything. Refraining from drinking an Oaxacan Negroni is not engaging in a particular behaviour, i.e. drinking an Oaxacan Negroni, and it can therefore be seen as a negative correlate of the positive behaviour of drinking an Oaxacan Negroni. Using the notion of “omission” as an umbrella term for any type of negative doing, Randolph Clarke writes (2014: 29): “One seldom if ever counts as having omitted to do something unless there was some norm, standard, or ideal that called for one’s so acting. Kent Bach also suggests that one can engage in a negative ϕ-ing only if one is “in a conveniently broad and vague sense, ‘supposed to ϕ’” (Bach 2010: 54). Clearly, since I have control over my refraining from drinking an Oaxacan Negroni whereas I have no control over my forgetting it, the former is a doing I’m responsible for whereas the latter is an absence of doing for which I cannot be held responsible (see Clarke, 2014 and Payton, 2021 for more on this issue).

By analogy, I claim that taking the question whether *p* to be settled is a negative behaviour one engages into when one does not do a specific thing, namely inquiring into the question whether *p*. Thus, by taking the question whether *p* to be settled, one behaves passively inquiry-wise: for instance, one no longer puts the question whether *p* on one’s research agenda, refuses to gather further evidence about it, does not devote time and attention to finding an answer to the question of *p*’s truth-value, and so on. Plausibly, just like one conducts an inquiry into the question whether *p* relative to one’s own epistemic position vis-à-vis *p*’s truth-value, one takes the question whether *p* to be settled relative to one’s own epistemic position vis-à-vis *p*’s truth-value. Thus, the control one exercises over taking the question whether *p* to be settled makes one epistemically responsible and liable to epistemic assessment for such a zetetically passive act.

This clarified, the justification for Double-checking and Not-Settling is as follows. In light of the previous account of taking the question whether *p* to be settled, double-checking *p*’s truth-value while at the same time taking the question of *p*’s truth-value to be settled comes very close to taking a question to be and not be settled at the same time. It is thus eminently plausible to think that if you ought to double-check whether *p* you ought not to take the question whether *p* to be settled. This makes Double-checking and Not-Settling a rather uncontroversial norm of inquiry.

Retainingand Settling appears to be less straightforward, for the principle affirms the existence of a connection between what one is permitted to do inquiry-wise and what one is permitted to do belief-wise. To see the intuitive motivation behind Retainingand Settling, let’s suppose that my friend David tells me that Liverpool has defeated Real Madrid. I don’t care about soccer at all, and I’m just chilling on the sofa while he’s watching the game. As it happens, though, I form the belief that Liverpool has defeated Real Madrid. That belief appears to be rationally permissible, for David is a reliable source regarding the results of soccer games. However, I keep manifesting my total disinterest in this matter and I actively refuse to look at the game’s highlights, I change the radio station when they start talking about the game, I don’t bring up the topic with other Liverpool or Real Madrid supporters, and so on and so forth. There’s nothing epistemically wrong with my zetetically passive behavior. In fact, insofar as I have formed the belief that Liverpool has defeated Real Madrid and I’m permitted to believe it since my testimonial evidence supports that belief, I can act as a reliable testifier on this matter and participate in distinctively epistemic practices, such as information pooling. So why would I be doing something epistemically forbidden by not putting the question of that game’s result on my research agenda?

The case suggests that zetetic passivity comes on the epistemic cheap, so to speak: if I’m rationally permitted to believe that *p*, then my epistemic position leaves me with no further epistemic obligation to discharge with respect to *p*’s truth-value that would require abandoning my zetetic passivity with respect to the question whether *p*. Now, if that belief keeps being rationally permitted, this means that my epistemic position still doesn’t generate any epistemic ban on avoiding putting the question whether *p* on my research agenda. Hence, if I’m rationally permitted to retain my belief that *p*, I’m thereby rationally permitted to take the question whether *p* to be settled.

The substantive claim made by Retainingand Settling is this: cases in which one is permitted to believe *p* and forbidden to take the question whether *p* to be settled are impossible. Are there counterexamples to this claim?

A family of cases that might be taken to show the possibility of rationally believing that *p* while being rationally forbidden to take the question whether *p* to be settled is exemplified by the following scenario:

(INTEL)

The secret services of country C receive credible intel that country Z will strike a nuclear attack on C’s capital. The secret services’ belief that country Z will strike a nuclear attack on C’s capital is rationally permissible, but it seems that, given the national and worldwide implications of the scenario, the secret services ought to inquire further.

Cases such as (INTEL) reveal the existence of high-stake scenarios wherein, even though one’s belief that *p* is rationally permissible, one had better inquire further and not take the question whether *p* to be settled. (INTEL) would constitute a counterexample to Retainingand Settling only if the obligation of inquiring further were to be interpreted as purely epistemic in kind, as the notion of permissibility that appears in Retainingand Settling is intended to be epistemic. Yet, the supporter of Retainingand Settling can account for the intuitive verdict in (INTEL) by saying that the duty to inquire further and not take the question to be settled is practical, as opposed to epistemic. It is quite natural to maintain that there are norms that tell us when and how to inquire that are generated by aims or goals that the inquirers might have in relation to their practical interests (see e.g. Kelp, 2021: 60). So, nothing prevents us from acknowledging that inquiry can be subject to both epistemic and practical norms and making room for the idea that, in cases such as (INTEL), the practical ought of inquiring further trumps the epistemic permission of taking the question be settled.[[29]](#footnote-29)

One can raise a different objection to Retaining and Settling based on the recent debate about the strength of the attitude of belief. Those who argue that belief is *weak* (see Hawthorne *et al.*, 2016) maintain that believing *p* merely requires thinking *p* likely, and the rationality of thinking something likely is governed by weak evidential norms, “certainly weaker than those for assertion and possibly even weaker than having over 50% overall credence […]” (*Ibid.*: 1401). And yet, having a fairly low credence in *p* doesn’t seem compatible with taking the question whether *p* to be settled. For example, in response to the question “Who will win next year’s Wimbledon?” I might reasonably respond “I believe Emma Raducanu is going to win” even if I consider it less than 50% likely that Emma Raducanu is going to win, so long as I consider her to be the biggest favorite. If belief is indeed weak, I’m rationally permitted to believe (and also to retain my belief) that Emma Raducanu is going to win Wimbledon. Yet, in such a case, I presumably shouldn’t treat it as settled who is going to win next year’s Wimbledon. This seems to speak against Retaining Settling.

The “belief is weak” view is controversial (see Nagel, 2021 and Williamson, forthcoming for push-backs), but it would be nice to show that Retaining and Settling can be endorsed even if we accept such a view. I think that we can. Bear in mind that, as I understand it, taking the question whether *p* to be settled is a passive zetetic behaviour which involves, for instance, refusing to gather further evidence about *p* and avoiding putting the question whether *p* on one’s research agenda. Now, the “belief is weak” view could bolster the following train of thought: even if you can be rationally permitted to believe that Emma Raducanu is going to win Wimbledon, you still are rationally permitted to inquire further into the question of whether Emma Raducanu will win Wimbledon precisely because the evidential support you have for your belief is very weak. However, this falls short of demonstrating that you would be irrational if you decided to avoid putting such a question on your research agenda and gathering further evidence about it. You have every right to be zetetically passive vis-à-vis whether Emma Raducanu is going to win Wimbledon, even if your belief that she will is rationalised by very weak evidence.

A more general point is also in order: the debate on HOE needs to assume a somewhat stronger notion of belief than the one discussed by Hawthorne *et al.* (2016). On closer inspection, the “belief is weak” view threatens to make Defeatism an unpalatable view. If believing *p* merely requires thinking it likely, then one could say that even if HOE imposes a decrease of confidence in *p*’s truth, this is still compatible with the fact that one’s belief that *p* is rational, since even having 45% credence in *p* might be enough for having a rational belief that *p*. If this were right, however, Defeatism would be in big trouble, for supporters of this view could not longer claim that HOE defeats the rationality of one’s belief that *p* and requires adopting a more cautious attitude than belief. Moreover, the idea that belief is subject to strong evidential norms plays a motivating role in revisionary explanations of First-Order Significance. To illustrate. Lasonen-Aarnio (2010, 2014, 2020)’s revisionary explanation of First-Order Significance focuses on cases in which (i.) one’s first-order evidence is knowledge-entailing, (ii.) one receives HOE about that first-order evidence and (iii.) one retains one’s belief on those same first-order evidential grounds. In such cases, HOE doesn’t require one not to retain one’s belief because that belief remains knowledgeable despite the acquisition of HOE. However, belief retention in such cases amounts to the manifestation of a bad disposition to follow the evidence, giving rise to the phenomenon Lasonen-Aarnio (2010) dubs “unreasonable knowledge”. On these grounds, the impression that belief retention in the face of HOE is epistemically impermissible gets explained away by claiming both that belief retention in such cases is bad from an evaluative viewpoint, and that we mistakenly take such evaluative badness to be sufficient for genuinely normative impermissibility or wrongness. Now, it would be hard to go revisionary about First-Order Significance by saying that the rational status of one’s belief that *p* is indefeasible even though that belief receives weak evidential support, for it is key to Lasonen-Aarnio’s view that one’s belief keeps being evidentially supported to the point of counting as knowledge even in the face of HOE. It thus seems to me that the debate on HOE does operate under a notion of belief that is stronger than Hawthorne *et al*.’s (2016). Whether or not the notion of belief employed in this debate is a technical one is a question that I can leave open for present purposes.

There may be a range of alleged counterexamples to Retaining and Settling constituted by cases in which subjects are rationally permitted to believe but are forbidden to be zetetically passive. While we cannot possibly go case by case here, my thought is that, once we look closely at these cases, it will be difficult to find any that falsify Retaining and Settling. In some, it will be plausible that the relevant subjects are under the duty to inquire and avoid zetetic passivity but such duty is in fact practical, whereas in others we’ll simply want to acknowledge that the subjects are permitted to be zetetically active but deny that they are under a distinctively epistemic duty to inquire. So, it won’t be easy to find genuine counterexamples to Retaining and Settling.

This concludes my case for Retaining and Settling. Equipped with it, we can now run the following argument, which I’ll call the *Zeteticism-Rational Belief Retention incompatibility argument* (ZR-Incompatibility for short):

1. S ought to double-check whether *p* (Duty to Double-Check)
2. S is permitted to retain their belief that *p* (Rational Belief Retention)
3. If S ought to double-check whether *p*, then S ought not to take the question whether *p* to be settled (Double-checking and Not-Settling)
4. If S is permitted to retain one’s belief that *p*, then S is permitted to take the question whether *p* to be settled (Retaining and Settling)
5. S ought not to take the question whether *p* to be settled (From 1, 3)
6. S is permitted to take the question whether *p* to be settled (From 2, 4)
7. *S* ought not to take the question whether *p* to be settled and S is permitted to take the question whether *p* to be settled (From 5, 6, &-introduction)
8. ⊥ (From 7 and standard definition of permissibility)

Zeteticism claims that Duty to Double-Check gives us the correct way of responding to HOE. In light of ZR-Incompatibility, Zeteticism is committed to sanctioning belief retention in the face of HOE as irrational. We thus arrive at a vindicatory explanation of First-Order Significance: When one retains one’s belief in the face of (sufficiently strong) HOE one does something that appears to be (epistemically) impermissible because one ought to double-check, and such a duty comes into conflict with retaining one’s belief permissibly.

*4.2 Zeteticism vs. Defeatism*

Zeteticism and Defeatism agree on the irrationality of belief retention in the face of HOE. However, Zeteticism’s vindicatory explanation of First-Order Significance differs from and compares favourably with Defeatism’s. To see why, it’s important to understand where the fundamental difference between these two approaches lies.

As I use the label, Defeatism refers to a family of views that subscribe to the general thought that HOE, first and foremost, generates epistemic duties (or reasons) concerning doxastic attitudes – that is, duties or reasons to form or revise certain doxastic attitudes. By contrast, Zeteticism is the view that HOE, first and foremost, generates epistemic duties concerning inquiry – that is, duties to engage in a certain activity of inquiry. To put the same point differently: Defeatism says that the fundamental epistemological significance of HOE lies in its ability to generate certain *doxastic* epistemic duties (or reasons) whereas Zeteticism says that the fundamental epistemological significance of HOE lies in its ability to generate a certain *zetetic* epistemic duty, i.e. the duty to double-check.[[30]](#footnote-30) Before deepening our understanding of such a difference and examining its implications, though, I’d like to point out that nothing prevents a supporter of Defeatism from assigning a role to double-checking in the rational response to HOE. In fact, some authors working within a Defeatist framework do mention double-checking or redeliberation (Christensen, 2010: 186; Littlejohn, 2020: 1382; Schechter, 2013: 44; Staffel, 2023).[[31]](#footnote-31) However, what – according to these authors – ultimately explains the fact that HOE rationally obliges us to revise our beliefs is not – as Zeteticism has it – that HOE generates a duty to double-check and that such a duty is in tension with rational belief retention. Rather the explanations of First-Order Significance endorsed by those authors still rest on the old Defeatist idea that HOE generates doxastic duties (or reasons) to revise. This, again, reveals that Zeteticism and Defeatism give substantively different accounts of the epistemic significance of HOE.

Having clarified this, I turn to argue that Zeteticism’s explanation of First-Order Significance is superior to Defeatism’s. To do so, I want to distinguish between two main versions of Defeatism. The first hinges on the idea that HOE interacts with the first-order evidence in such a way as to directly defeat the rationality of one’s first-order beliefs. The best-known articulation of this version of Defeatism appeals to the idea that HOE *brackets* the agent’s first-order evidence or reasons (see Christensen, 2010; Elga, 2007; González de Prado, 2020). The second version of Defeatism hinges on the idea that when HOE rationalises a change in first-order belief, it does so by defeating the rationality of one’s belief in a certain *higher-order* proposition, which, in turn, rationalises a change in first-order belief. The best-known articulation of this version of Defeatism appeals to certain principles which establish a strong connection between what’s (ir)rational for one to believe at the higher-order level and what’s (ir)rational for one to believe at the first-order level (see Bergmann, 2005; Feldman, 2005; Neta, 2018). In what follows I take up both versions of Defeatism in turn and argue that Zeteticism fares better than either of them.

As already mentioned at the outset of this paper, the idea that HOE can directly defeat the rationality of one’s first-order beliefs has been heavily criticised in recent literature. Since Zeteticism makes no use of such a notion, this already constitutes a significant advantage over the first version of Defeatism. Secondly, the appeal to bracketing has been taken to be subject to a self-defeat problem in cases in which one receives sufficiently strong HOE that makes one doubt oneself about Defeatism itself – this would typically happen when one learns of a disagreement with an epistemic peer about the truth of Defeatism itself. Whenever a peer disagrees with a defeatist about the truth of Defeatism, this version of Defeatism would require *bracketing one’s own reasons* for Defeatism,[[32]](#footnote-32) something which rationalises either suspension of judgement or coming closer to the opponent’s view. While Zeteticism has it that one ought not to retain one’s belief in the truth of Duty to Double-Check, this does not mean that one ought to bracket one’s own reasons in favour of this principle. On the view on offer, two philosophers disagreeing on the truth of Duty to Double-Check can still appeal to their respective reasons in favour and against Duty To Double-Check to keep defending their views.[[33]](#footnote-33)

Let me now turn to the second version of Defeatism. It may indeed be natural to think that HOE – being higher-order in kind – primarily targets what is rational to believe at a higher-order level and only subsequently rationalises a change in one’s first-order beliefs. More precisely, the thought here is that if one receives HOE and this evidence is strong enough as it is in (ARITHMETIC), then it is rational for one to believe that one’s belief that *p* irrational. More precisely:

Higher-Order Import:Whenever one acquires sufficiently strong evidence that one’s belief that *p* has been formed unreliably,then it’s rational for one to believe *that it is irrational for one to believe p*.

Higher-Order Import says nothing about the rational status of one’s first-order belief about *p*. So, we need a level-connecting principle saying that, once my evidence make it rational for me to hold a certain higher-order belief, this immediately places a constraint on what first-order beliefs I can rationally hold, or vice-versa. A candidate principle discussed in the literature is (see Bergmann, 2005; Feldman, 2005; Neta, 2018; Titelbaum, 2015):

Level-Bridging: If it's rational for one to believe that it’s irrational for one to believe *that p*, then it is irrational for one to believe that *p*.

Once Higher-Order Import and Level-Bridging are in place, it’s easy to see that HOE rationalises a change in one’s first-order belief that *p*. Zeteticism cannot offer a similar story though, for it makes no claim about what’s rational to believe at a higher-order level. For this reason, one might contend that Zeteticism gives a less natural explanation of the distinctive way in which HOE can rationalise a change in first-order beliefs than the one available to Defeatism.

This advantage is only apparent though. For one thing, Level-Bridging is a contentious principle. If we take rational belief to be determined by the evidence, Level-Bridging says that one’s total evidence cannot support both believing that *p* and believing that one’s belief that *p* is irrational. So, if Level-Bridging is true, evidence cannot be misleading about itself. And yet, it has been argued that there are various scenarios in which one’s evidence makes *p* likely while making it likely that it doesn’t make *p* likely (see Lasonen-Aarnio, 2020; Worsnip, 2018). So, accepting Level-Bridging comes at a certain cost. For another, Higher-Order Import and Level-Bridging give rise to contradictory verdicts about what *higher-order beliefs* one is rational to have. The argument for this claim goes as follows:

1. It’s rational for one to believe that *p* (Assumption)
2. One acquires sufficiently strong HOE that supports the belief *that it is irrational for one to believe p* (Assumption)
3. If one acquires sufficiently strong HOE that supports the belief *that it is irrational for one to believe p*, then it’s rational for one to believe *that it is irrational for one to believe p*. (Higher-Order Import)
4. It’s rational for one to believe *that it is irrational for one to believe p*. (From 2, 3)
5. If it’s not irrational for one to believe that *p*, then it is not rational for one to believe that it’s irrational for one to believe *p*(Contrapositive of Level-Bridging)
6. If it’s rational for one to believe that *p*, then it’s not irrational for one to believe that *p.* (Assumption)
7. If it’s rational for one to believe that *p*, then it is not rational for one to believe that it’s irrational for one to believe *p*(From 5, 6)
8. It’s not rational for one to believe that it’s irrational for one to believe *p* (From 1, 7)
9. ⊥ (From 4 and 8)

Assumptions (1) and (2) are stipulative of the target cases, so they can’t be rejected. Assumption (6) can’t be rejected either, as it simply expresses a conceptual truth about rationality and negation. So, once Defeatism subscribes to both Higher-Order Import and Level-Bridging, it’s bound to give contradictory verdicts about the rationality of higher-order beliefs. Zeteticism doesn’t carry such bad implications. This is a reason to prefer Zeteticism over (this version of) Defeatism.

As a final point of comparison, one might think that Defeatism (in general) has a better explanation of the plausibility of double-checking in cases of HOE than Zeteticism. One might reason as follows: when we have a duty to double-check a proposition, part of the explanation for this must be that we are not rationally permitted to retain our belief in that proposition, and not the other way around, as alleged by Zeteticism. So, Zeteticism would get the explanatory direction wrong. By contrast, Defeatism would vindicate First-Order Significance in a way that’s compatible with the right explanation of the plausibility of double-checking in the face of HOE.

Zeteticism’s and Defeatism’s explanations of why one might be under a duty to double-check whether *p* have opposite directions, but this doesn’t mean that Zeteticism gets the order of explanation wrong. What’s eminently plausible about double-checking in the face of HOE is that it’s quite natural to respond to the acquisition of HOE by seeking out more evidence about the matter at hand in order to determine whether one’s belief really is botched, irrespective of whether or not HOE defeats the rationality of that belief. To see this more clearly, one might be convinced by the arguments in favour of Duty To Double-Check in §§2.2-3.2 while, at the same time, rejecting Retaining and Settling. If so, ZR-Incompatibility wouldn’t get off the ground and the resulting view would owe us a different of explanation of First-Order Significance than the one I am offering. I of course think that my argument in favour of Retaining and Settling in §4.1 is right. But the crucial point in the defence of Duty To Double-Check is that the reasons why we have a duty to double-check a proposition are different from and do not depend on the reasons we have to deny the rational permissibility of retaining one’s belief.

I have now compared Zeteticism with Defeatism extensively. [[34]](#footnote-34) The comparison shows that Zeteticism’s explanation of First-Order Significance is superior to Defeatism’s.

**5 Concluding Remarks**

Zeteticism claims that the acquisition of HOE generates a duty to double-check, a duty that comes into conflict with rational belief retention. This conflict arises given the existence of a principle that connects rational inquiry and rational belief, i.e. Retaining and Settling**.** Such types of principles have never been considered before, and this makes the incompatibility argument on offer novel and interesting.

The supporter of revisionary explanations of First-Order Significance is likely to remain unimpressed, but the present defence of Zeteticism is not aimed at convincing revisionists that they are wrong. The arguments of this paper should be read as offering a vindicatory explanation of First-Order Significance that, freed of the commitments undertaken by Defeatism, proves quite resilient in the light of recent arguments against the thought that HOE ultimately forces us to relinquish our beliefs.[[35]](#footnote-35)

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1. See Boult (2021) and Kauppinen (2018) for more on the links between trust reduction and epistemic accountability and blame. [↑](#footnote-ref-1)
2. After Friedman (2020)’s use of the Graecism “zetetic” to refer to matters related to inquiry. [↑](#footnote-ref-2)
3. The principle is restricted to cases in which one receives “sufficiently strong” HOE. This is meant to capture the plausible thought that one acquires HOE from a trustworthy source. [↑](#footnote-ref-3)
4. See in particular Friedman (2020) and Thorstad (2022). [↑](#footnote-ref-4)
5. Thorstad (2022) has recently argued that there are no epistemic norms of inquiry. I’ll indicate how my view addresses Thorstad’s challenges as we go along. [↑](#footnote-ref-5)
6. See Friedman (2020: 510, fn. 11) and Kelp (2021: Chapter 2) for further references. [↑](#footnote-ref-6)
7. Reliability comes in degrees, but I’ll ignore this complication in what’s to come. [↑](#footnote-ref-7)
8. See Feldman (1985) and Goldman (1979). [↑](#footnote-ref-8)
9. For more on the context-sensitivity of dispositions, see Manley and Wasserman (2008). [↑](#footnote-ref-9)
10. The appeal to normal conditions also features in Lasonen-Aarnio (2021)’s and Sosa (2007: Chapter 5, 2015: Chapter 1)’s frameworks appealing to belief-forming dispositions (often called “competences”). [↑](#footnote-ref-10)
11. The link between explanation and normalcy is at the heart of Smith’s (2016) normic theory of epistemic justification. [↑](#footnote-ref-11)
12. I’ll henceforth drop the “reliably” qualification for ease of expression. [↑](#footnote-ref-12)
13. See also Fleisher (2023) for what I take to be a compatible approach to the sandwich reasons problem in terms of the distinction between “right-kind” and “wrong-kind” of reasons. [↑](#footnote-ref-13)
14. This responds to Thorstad’s (2022) worry about sandwich norms of inquiry. [↑](#footnote-ref-14)
15. What would happen if Andrea received the same piece of HOE from a trustworthy source but there’s no pill at all? To assess the reliability of Andrea’s double-checking in reply to HOE in this type of situation we should look at normally close situations in which she still has HOE and there’s pill. Why? Well, if X is a trustworthy source and says that *p*, that *p* is the case wouldn’t require any explanation. So, a normally close world to the actual one in which a trustworthy source is mistaken about *p* is a world in which the trustworthy source isn’t mistaken about *p*. I’m thankful to an anonymous referee for pressing me on this variant of the original (ARITHMETIC). [↑](#footnote-ref-15)
16. See, for instance, the “too-few-reasons” objection due to Kelly (2003) or the “illicit trade-offs” objection due to Berker (2013). [↑](#footnote-ref-16)
17. See, for instance, Willoughby (2022)’s reply to the “too-few-reasons” objection and Ahlstrom-Vij and Dunn (2014)’s reply to the “illicit trade-offs” objection. [↑](#footnote-ref-17)
18. See Sylvan (2020). [↑](#footnote-ref-18)
19. The label is Podgorski’s (2017). [↑](#footnote-ref-19)
20. To see this, suppose S checks the flight board to see if their gate is listed yet. It isn't listed, so S doesn't have any doxastic attitude towards an answer to the question of whether the flight board lists their gate. 20 seconds later, they glance up and check again. Surely S is double-checking whether the flight board lists their gate even though they had no doxastic attitude towards an answer to that question. [↑](#footnote-ref-20)
21. Hedden (2015: 452). [↑](#footnote-ref-21)
22. Again, I borrow the “process-oriented” label from Podgorski (2017). [↑](#footnote-ref-22)
23. This responds to Thorstad’s (2022) worry that epistemic norms of inquiry do not play any important role in our evaluative epistemic practices. [↑](#footnote-ref-23)
24. Here I am borrowing from and elaborating on Chrisman (2008: 357). [↑](#footnote-ref-24)
25. I’m thankful to an anonymous referee for raising this worry. [↑](#footnote-ref-25)
26. See González de Prado (2020) for further discussion of this point. [↑](#footnote-ref-26)
27. This question differs from the question of whether inquiring into the question whether *p* is incompatible with believing (not-) *p*. See Falbo (2021), Friedman (2019a), and Woodard (2021) for discussion. [↑](#footnote-ref-27)
28. I considered similar principles in Palmira (2019), although at that time I had not realised the proper import of such principles. [↑](#footnote-ref-28)
29. I’m here assuming, for the sake of simplicity, that the practical stakes don’t shift the threshold for rationally permissible belief. If you do think that the pragmatic encroaches on the epistemic, you might want to reject this assumption. So, (INTEL) would no longer exhibit the features of a putative counterexample to Retaining and Settling. Still, there can be cases in which one has a practical obligation to inquire further even if there’s nothing at stake, e.g. cases in which one promises to a friend to find out more about the answer to a certain completely irrelevant question. [↑](#footnote-ref-29)
30. An anonymous referee for this journal points out that, once we understand Defeatism in a fairly flatfooted way as the view that HOE rationally forces us to give up our beliefs, we could say that Zeteticism is a variety of Defeatism that gives a novel explanation of why HOE has such an epistemic effect. Surely this would be a perfectly legitimate – if not standard – use of the label, and I might have chosen a different term for the views I’m classifying under the header “Defeatism” – “Doxasticism” is a label that comes to mind, for instance. The way I see things (at least in this paper), a view counts as defeatist only if it rationalises a change in belief on account of the existence of certain doxastic duties or reasons. However, I trust that this terminological issue about how to use the label “Defeatism” won’t overshadow the substantive difference between the proposal on offer and the other proposals in the literature. [↑](#footnote-ref-30)
31. Whiting (2019: 259-60) suggests that a failure to double-check one’s conclusions in the face of HOE might be regarded as *practically* irrational. Zeteticism differs from and is superior to Whiting’s proposal in that, by taking Duty to Double-Check to be genuine e*pistemic* (as opposed to practical) norm, allows for a vindication of the prima facie plausible thought that HOE has distinctively epistemic significance. [↑](#footnote-ref-31)
32. See Elga (2007), Christensen (2010) and González de Prado (2020) for more on *bracketing*. [↑](#footnote-ref-32)
33. Elga (2010) and Littlejohn (2020) offer solutions to the self-defeat worry on behalf of Defeatism: Elga appeals to the indefeasibility of our rational belief in fundamental norms of rationality, whereas Littlejohn claims that if Defeatism is true then it’s a *fixed-point of rationality*, namely, a truth we cannot rationally believe to be false (see also Titelbaum, 2015). I regard these solutions as more controversial than mine. For one, Elga offers no reason for making beliefs whose contents are fundamental norms of rationality indefeasible. For another, the existence of fixed-points of rationality is contentious (see e.g. Field, 2019 and Whiting, 2020). [↑](#footnote-ref-33)
34. A third version of Defeatism is developed by Lord and Sylvan (2021). On their view, HOE generates direct reasons to suspend judgement about whether *p*, where such reasons are weightier than the reasons we have for believing *p*. Since Lord and Sylvan (2021) explicitly reject the idea of direct defeat by HOE and don’t accept Level-Bridging, their proposal can be regarded as yet another variety of Defeatism. Reasons of space prevent me from examining Lord and Sylvan’s proposal in detail, but I have reservations. First, their view seems to fall prey to the self-defeat worry. Secondly, the view depends on a specific account of suspension of judgement one might want to resist. Thirdly, Lord and Sylvan don’t give any detail as to why the reasons for suspension are weightier than the reasons for believing. Fourthly, and relatedly, they mention (Lord and Sylvan 2021: 132) the importance of the matter one receives HOE about, something which raises the suspicion that part of the reasons for suspension will be practical and not purely epistemic. [↑](#footnote-ref-34)
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