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Why Double-Check?*

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Abstract

Can you rationally double-check what you already know? In this paper, I argue that you can. Agents can know that something is true and rationally double-check it at the very same time. I defend my position by considering a wide variety of cases where agents double-check their beliefs to gain epistemic improvements beyond knowledge. These include certainty, epistemic resilience, and sensitivity to error. Although this phenomenon is widespread, my proposal faces two types of challenges. First, some have defended ignorance norms, on which agents are only allowed to inquire about things they don't already know. Second—motivated by strong conceptions of belief or pragmatic encroachment—some have argued that double-checking destroys knowledge. I argue that these competing views fail to capture both the epistemic value of double-checking and the many reasons why agents might double-check. Moreover, they rely on overly strong assumptions about what inquiry, knowledge, or belief requires. Finally, I marshal linguistic data in favor of the compatibility of knowledge and double-checking.

"When you know and ask, your question is mistaken!"

Persian Proverb

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1 Introduction

Responsible epistemic agents often engage in further inquiry. They double-check their calculations and reassess their evidence, sometimes seeking out more. This practice seems not only familiar but well-grounded. We know that we are fallible and liable to error, so double-checking, reconsidering, and gathering more evidence seem like salutary epistemic practices. Indeed, agents who never double-check, reconsider, or gather more evidence for their beliefs are arguably overly dogmatic or confident. Even when we know something, we stand to epistemically improve by double-checking it. The aim of this paper is to vindicate the intuitive thought that responsible epistemic agents can rationally double-check their beliefs. More controversially, they can even rationally double-check beliefs that constitute knowledge.

This claim has proven controversial. Against my intuitive view, many philosophers have pointed to an antagonistic relationship between knowledge and inquiry, including further inquiry such as double-checking. Here are some examples:

> "If one knows the answer to some question at some time then one ought not to be investigating that question, or inquiring into it further… at that time" (Friedman 2017, 131).
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> "There is something to be said for the claim that the person who knows they have turned the coffee pot off should not be going back to check" (Hawthorne & Stanley 2008, 587).
>
> "[I]n general, if one takes oneself to know that p, one will not go on to continue to investigate whether p… [T]here is a sort of incoherence between taking oneself to know something and going on to investigate further whether it is the case" (Armour-Garb 2011, 670).
>
> "Any such cases [involving believing while inquiring] involve peculiarities (such as irrationality or fragmentation)" (McGrath 2021, 482, n37).
>
> "[C]ontinuing this inquiry [after achieving knowledge] is like continuing to eat after being nourished" (Whitcomb 2010, 640).

I will argue that these claims are mistaken: one can know that p—and take oneself to know that p—and still inquire further into whether p. For example, agents can rationally double-check whether p in order to attain certainty, higher-order knowledge, or greater justification. Barring skepticism, seeking these further epistemic goods is compatible with having knowledge. Views to the contrary fail to do

justice to the epistemic value of double-checking and of epistemic goods beyond knowledge.

The structure of this paper is as follows. In §2, I present and render precise my thesis that double-checking and knowledge are compatible. More specifically, I'll defend the *Synchronic Compatibility Thesis*, according to which agents are sometimes rationally permitted to double-check while knowing that p; double-checking need not destroy this knowledge, even temporarily. This is first and foremost a claim about epistemic rationality. In §3, I offer several answers to the question, "Why double-check?" that do not require ignorance. In addition to motivating my thesis, these cases also illustrate a broader point: even if belief aims at knowledge, agents can be epistemically permitted to seek further epistemic achievements beyond knowledge. In §4, I raise a series of objections to my thesis that one can rationally double-check that p while retaining knowledge that p. These objections appeal to considerations such as the nature of inquiring attitudes and belief, paradoxical assertions, and knowledge-action principles. In addition to responding to these objections, I offer a diagnosis for why philosophers have denied my thesis: by focusing on the role of knowledge, they have overlooked the rationality of seeking further epistemic goods even when knowledge has been secured. Finally, in §5, I show why a stronger version of my thesis, on which agents who know may sometimes be *required* to double-check, is not nearly as paradoxical as it has seemed. Even if you know, you might not be mistaken to ask.

2 What is Double-Checking?

2.1 Genuine vs. Ersatz Double-Checking

This paper defends the view that agents can know that p while rationally double-checking that p. To understand why this thesis is controversial, we first need to distinguish between two senses of 'double-checking.' Compare the following two uses:

> **Movies 1**: Eliza is certain that she bought tickets for the movies next Wednesday, but she needs to convince her anxious friend, Sandra, that she did. Eliza double-checks that she bought the tickets by looking for the order confirmation in her inbox and forwarding it to Sandra.
>
> **Movies 2**: Gwenyth thinks that she bought tickets for the movies next Wednesday for her and her friend, Sandra. On Wednesday morning, she thinks it's important to make sure. She double-checks her inbox for an order confirmation, and it turns out, it's there.

Eliza goes through the motions of double-checking but does not *genuinely* double-check. Instead, she *ersatz* double-checks. She is double-checking merely to reassure her friend, and it is not an open question for her whether she bought the tickets. By contrast, double-checking, in the sense at issue here, is closely tied to inquiry. It is uncontroversial that Eliza can know that she bought the tickets while ersatz double-checking that she did.

Things look different when we turn to Gwenyth. Gwenyth, unlike Eliza, seems to double-check in a deeper sense: she is genuinely inquiring or investigating whether she bought the tickets. Of course, what genuine inquiry amounts to is partly what's at issue. The point here is that Gwenyth's case illustrates the sense of *double-checking* of concern here. This is also the sense that renders my thesis controversial and interesting. It is controversial whether Gwenyth can both *genuinely* double-check that she bought the movie tickets and *know* that she bought them. Henceforth, when I talk about 'double-checking,' I mean *genuine double-checking*.

Genuine double-checkers are inquirers. More specifically, they are re-inquirers. As Jane Friedman notes, to double-check that p, one already has to think that p: "a check can only count as a re-check if you're trying to confirm an answer you already think is right" (Friedman 2019a, 3). The same goes, *mutatis mutandis*, for triple-checks or further checks.[1] We can say that double-checking requires inquiring about p after earlier reaching a positive doxastic attitude—such as belief—toward p, with no relevant forgetting happening in between. More precisely:

> Double-checking: S double-checks that p at t_2 if and only if (a) S inquires into whether p at t_2, (b) S had a belief-like attitude toward p at $t_1 < t_2$, and (c) S at t_2 has not forgotten having formed a belief-like attitude toward p at t_1.

This definition can be accepted by both me and my opponents. Condition (a) rightly excludes cases like Eliza's. It also excludes cases where someone stumbles upon evidence supporting her belief that p but was not actively inquiring about whether p; these are cases where p is not on her current 'research agenda,' to

[1] Indeed, my focus in this paper is not just on double-checks but the wider phenomenon of further inquiry more generally. That said, the paradigmatic case I'm focusing on is *double*-checking, rather than just any *n*-checking, for the following reason: at a certain point, checking again is irrational. I'm concerned with rational checking and hence limit my attention primarily to cases where an agent double-checks. For proposed explanations why further checking can eventually be irrational, see Friedman (2019a) and Woodard (2022).

borrow a metaphor from Friedman (2017).[2] Condition (b) rules out (at least) cases where an agent never formed an attitude about whether p. Beyond that, I will not take a stand on what counts as a belief-like attitude beyond noting that it includes, at least, believing that p or thinking that p.[3] Finally, condition (c) rules out cases where an agent forgets that she formed an attitude about whether p in the first place. In other words, it requires that S knows that condition (b) holds. To see why this is important, consider the following: in 2010, Mo believed that Mauna Kea is the tallest—though not highest!—mountain in the world. He doesn't remember having ever formed a belief about this matter, and he now has no attitude about the subject. When Mo Googles, "What is the tallest mountain?," in 2020, he doesn't count as double-checking. You can't double-check that p if you don't even remember that you previously had an attitude toward p!

While there may be other ways of using the term 'double-checking' that weaken these conditions, they serve to delineate the subject matter here.

2.2 Synchronic vs. Diachronic Compatibility Theses

Having delineated our subject matter, we're now in a position to turn to our central question: can an agent simultaneously know that p and be rationally permitted to double-check p? On my view, the answer is yes. More precisely, I will defend the *Synchronic Compatibility Thesis*:

> *Synchronic Compatibility Thesis (SCT):* In some cases, knowing that p is fully compatible with double-checking that p *at the same time*.

By 'fully compatible,' I mean that knowing and double-checking are both *normatively* and *descriptively* compatible. According to the normative claim I defend, an agent can know that p and be rationally *permitted* to double-check that p.[4] This gives us an answer to our central question. However, this claim would be uninteresting if it were not even possible to simultaneously know and double-check, i.e. if double-checking destroyed knowledge. Thus, I also aim to establish that it is *possible* to know and double-check.

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[2] For earlier work that formalized the notion of a research agenda, see Olsson & Westlund (2006) and subsequently Enqvist (2012). Thanks to David Thorstad for bringing this work to my attention.

[3] Most disputes about the extension of *double-checking* will likely turn on how broadly we understand 'belief-like' attitude. For example, does it include not just belief but also credence, disbelief, or suspension? I'm inclined to think that one can at least double-check claims that they have some credence in. That said, we need not resolve these issues here: in the cases I discuss, the agent previously had—or could be redescribed as having—a belief in the matter.

[4] Throughout this paper, I will use 'rationally' and 'rationally permitted' interchangeably, unless otherwise stated. I consider the question whether an agent can be rationally required to simultaneously know that p and double-check that p in §5.

Why think that the Synchronic Compatibility Thesis is true? First, it is motivated by a wide variety of cases where agents may seek to epistemically improve beyond knowledge. For example, agents might try to attain certainty, higher-order knowledge, or to increase their sensitivity to error. Such cases are not only possible but also permissible, sometimes even praiseworthy. Second, SCT offers us an attractive and plausible picture of the relationship between inquiry and epistemic improvement. By inquiring, we often stand to epistemically improve, and we can improve in ways that go beyond knowledge.[5] Finally, my view offers an attractive picture of inquiry, on which inquiry requires being *open* toward p in way that is compatible with both belief and knowledge. This upshot is important: by allowing knowledge and inquiry to be compatible, we allow agents to toe the line between skepticism and dogmatism. Agents can inquire into their beliefs without thereby giving them up, and they can retain their core beliefs without avoiding inquiry.

Nonetheless, both my normative and descriptive claim have been challenged. On the normative side, some have argued that, although simultaneously knowing and double-checking is *possible*, this combination is not *rational*. By contrast, others have denied that double-checking while knowing is even descriptively possible. On these views, given the nature of knowledge or belief, it is not possible to be in the mental state of knowing while genuinely double-checking. I address the first type of challenge to my thesis in §4.1 and the second in §4.2.

It's worth emphasizing what my opponents and I agree and disagree about. We both agree that an agent can know that, for example, her stove is off and subsequently genuinely double-check. What we disagree about is what happens to her knowledge *while she's double-checking*.[6] On my view, it's possible for her to retain knowledge and still be rationally inquiring. On my opponent's view, it's either not permissible or not possible for her to retain knowledge while inquiring. To highlight our differences, note that my opponent accepts either a normative or descriptive version of the (mere) Diachronic Compatibility Thesis:

Diachronic Compatibility Thesis (DCT): Knowing that p is compatible

[5] Falbo (forthcoming) defends the view that the *aim* of inquiry is epistemic improvement. By contrast, my view is compatible with a view on which agents are only permitted to stop inquiring upon attaining knowledge; they are simply permitted to go further. Falbo, my contrast, seems to allow that agents can permissibly close inquiry prior to attaining knowledge (Falbo forthcoming, 12). We both deny that agents *must* stop at knowledge. More generally, our projects are mutually supportive.

[6] There may be some views on which it is never rational to double-check what you know. These views would deny both the Synchronic and the Diachronic Compatibility Thesis. I don't find such views plausible or attractive, and they seem to require a view on which knowledge is a very strong epistemic state. (For discussion and rejection of views that seem to have this consequence, see Goldberg (2019).)

> with double-checking that p only if one knows that p at t_1 and double-checks that p at t_2, where $t_1 \neq t_2$.

According to defenders of DCT, agents who know that p can double-check that p so long as the knowing and checking occur at different times. Uncontroversially, double-checking is sometimes a way to gain knowledge: one double-checks that p at t_1 and thereby comes to know that p at t_2. We'll focus instead on cases where an agent starts out knowing that p at t_1 but nonetheless double-checks at a later time, t_2. The question is: can she retain knowledge while double-checking? DCT answers negatively. On the descriptive version of this view, if an agent who knows does later check, she loses knowledge in the process of double-checking. In other words, double-checking destroys knowledge—if only temporarily.[7] On the normative version, she does something rationally impermissible. On these alternatives, knowledge and double-checking are merely diachronically compatible.

I will argue that merely preserving the Diachronic Compatibility Thesis does not adequately preserve the insight with which we began, namely that responsible epistemic agents sometimes double-check their beliefs. To echo Jane Friedman, "The good and reasonable epistemic subject doesn't only care about belief formation but cares about epistemic maintenance as well. Double-checking is an important part of that maintenance program" (Friedman 2019b, 7). Unlike Friedman, I want to argue that this observation favors the Synchronic Compatibility Thesis. The problem for DCT arises in two ways.

First, on this approach, an agent must temporarily forgo knowledge while in the process of double-checking, for she cannot rationally both know that p and inquire into whether p *simultaneously*. Assuming that knowledge is an important normative or evaluative standard, DCT requires reflective agents to do worse than their counterparts who fail to double-check their beliefs. By denying that double-checking and knowledge are synchronically compatible, we force responsible epistemic agents to face an unattractive trade-off, one that their less epistemically responsible counterparts don't have to face. This seems counterintuitive.[8] It would be unfortunate if virtuous epistemic agents were systematically

[7] Cf. Lewis (1996).

[8] Here's an illustration. Consider two students, Alysha and Brad, who are taking a math exam. Alysha is a diligent student, who prepared extensively for the exam. She is thus able to finish it early with extra time to check her work. Brad is a good student, but he did not study as much as Alysha did, so he does not have time to check his work. Suppose further that Alysha and Brad both know the answers to many of the questions. It would be odd to say that Alysha lacks knowledge of these answers while she double-checks, yet Brad does not, simply because he did not leave himself enough time to check! That is, it's counterintuitive to claim that Alysha is doing epistemically *worse* than Brad; if anything, she is doing *better*! Thanks to Seth Yalcin for suggesting this way of illustrating this point.

precluded from knowledge simply in virtue of engaging in a salutary practice of double-checking. My view avoids this substantive cost.

Second, DCT—the view that knowledge and double-checking are *merely* diachronically compatible—offers unintuitive verdicts in a wide variety of cases. As I will show, there are many cases where it is natural to describe agents as both rationally double-checking and knowing. Unsurprisingly, these are cases where agents seek epistemic goods beyond knowledge. DCT must either obscure the existence of these epistemically praiseworthy agents or deem them irrational. Neither option seems attractive.

3 Why Double-Check?

We can now turn to my central argument. Here I'll present a series of vignettes where it seems natural to describe the protagonists as rationally double-checking that p and knowing that p. I'll then use those vignettes to motivate several answers to the question, 'Why double-check?', that do not require ignorance. To preview, one might double-check to gain certainty, increase confidence, or to know that one knows. My thesis is, of course, compatible with the claim that *one* answer to our question is to gain knowledge about *whether p*; my point is that it's not the *only* answer. These cases challenge DCT, which has to either redescribe them in ways that are *ad hoc* or in conflict with other commitments.

Before we begin, two points about notation. First, in italics, I explicitly claim that these agents *know* while double-checking to highlight that it is not odd to describe them this way. Second, I letter some possible explanations for why the agent double-checks for later collation.

We can turn now to the vignettes:

> **Deming** is quite confident that she locked the door behind her when she left for work. *Indeed, she knows that she did.* However, she decides to double-check that she locked the door by walking back to the door and trying to open it, (a) just to be sure. (b) By double-checking, she may also come to know that she knows that the door is locked. At the very least, she gains greater (propositional) justification for believing that she knows.
>
> **Riley** is taking an algebra exam that is not multiple choice. One of the questions asks one to solve for x. Riley is quite skilled at these problems, and when they solve for x, they get the answer $x = 15$. *They thereby come to know that* $x = 15$. After finishing the exam, Riley goes back to check their work. To do so, they plug 15 in for x

in the initial equation and confirm that they got the right answer. In doing this, (c) Riley becomes more confident that $x = 15$.

Sam has a memory of putting his travel-size sriracha bottle in his backpack on Monday. This memory justifies him in having .9 credence that he packed it, and this credence *constitutes knowledge*.[9] It's Thursday now, and like many memories formed a few days prior, Sam's memory isn't maximally vivid. That doesn't undermine its status as justified *or knowledge*, though, for plausibly almost all of our perceptual memories become less vivid through time. Although his trip isn't until Saturday, he decides to double-check that he packed it now so that he doesn't feel the need to double-check later. By double-checking now, (d) he increases the resilience (and thus the stability) of this credence: that is he is less likely to abandon it if his evidence changes, particularly in light of new evidence.

Carla is researching dense bodies in red blood platelets. The scientific community has learned that these dense bodies exist (and play an important biological role) by using light microscopy, and these results have been replicated. Carla and her research team want to corroborate these results further. They do this by employing the method of transmission electron microscopy to detect these dense bodies. These two methods rely on different types of physical processes and causal mechanisms. Carla and her fellow researchers know that dense bodies exist before doing further experiments. Nonetheless, by doing these further experiments, (e) they gain greater justification for believing in them. Moreover, since these methods are consilient with one another, they provide independent confirmation of the same hypothesis. (f) Thus, performing both of these experiments makes our beliefs more sensitive to different sources of error.[10]

From the examples, we can extract several reasons for double-checking that don't obviously presuppose ignorance. Compiling, here are some reasons an agent might double-check that p despite knowing that p:

(a) to seek certainty about whether p (negatively: to remove doubts)

(b) to gain higher-order epistemic states (e.g. knowing that one knows)

[9] See Moss (2016) for a defense of the view that credences can constitute knowledge. Philosophers who prefer not to traffic in credences can translate this claim into one where the agent has a justified belief, and double-checking still makes it less likely that he'll abandon this belief.

[10] This example comes from Hacking (1983). For further references on corroboration in science, see Chakravartty (2017), §2.2. Thanks to Josh Hunt for suggesting this kind of case.

(c) to increase one's confidence (or credence) about whether p

(d) to increase the resilience (stability) of one's credence (belief) regarding p, which can make it more likely one will retain knowledge

(e) to increase justification for belief that p

(f) to increase sensitivity to different possible errors

The key question now is whether all of these vignettes describe a normatively problematic or descriptively incoherent state of affairs. Intuitively, the answer is no. First, it's implausible that each of our protagonists is doing something impermissible by double-checking their beliefs. On the contrary, some protagonists seem positively praiseworthy! For example, Riley is doing what any good student would do, namely double-checking their work. Moreover, Carla's case describes an ordinary and ubiquitous instance of scientific inquiry. The cases I've described are quotidian, not recherché, cases of inquiring practices in which we all engage. Moreover, an epistemic rationale underwrites these practices: by inquiring further, these agents stand to epistemically improve. To claim that such cases are impermissible is to indict practices that are not only widespread but also epistemically salutary. The philosopher who wishes to deny that the cases, as described, are permissible owes us an error theory. Tellingly, a more common reaction—to which I return below—is to try to redescribe these cases to *avoid* imputing irrationality.

Second, there is nothing self-contradictory about knowing that p and seeking these further epistemic goods. That is, (a)–(f) each seems descriptively compatible with first-order knowledge that p. (a)–(c) assume that knowledge does not require certainty, higher-order knowledge, or maximal credence, respectively. (d)–(f) assume that knowledge does not require maximal resilience, maximal justification, or sensitivity to all possible sources of error.[11] These assumptions are not wholly uncontroversial, and I will support some of them below. Since I am merely defending the view that there are *some* cases where an agent can double-check and have knowledge, all I require is one answer to the question, "Why double-check?" not predicated on ignorance.

Indeed, it seems difficult for most epistemologists to deny that *all* of the reasons for double-checking specified by (a)–(f) are descriptively incompatible with

[11]Note that this list need not be exhaustive. Perhaps agents can inquire to increase the accuracy of their credence (Falbo 2021) or to attain understanding *why* p holds, assuming that understanding why p can go beyond knowledge *that* p. See Kelp (2021) for one recent discussion of the relationships between understanding, knowledge, and inquiry.

(again, first-order) knowledge. One reason is that most epistemologists are fallibilists (Brown 2018).[12] While specifying precisely what *fallibilism* amounts to is a tricky philosophical question,[13] one plausible, recent definition is that one can know that p even though one's evidence does not guarantee the truth of p (Brown 2018, 2). The general thought is this: one can know that p even though p might, in some sense, be false—either because the evidence does not guarantee p, or for some other reason. It would seem to go against the spirit of fallibilism—if not also the letter—to insist that knowledge requires certainty, credence 1, maximal justification or the like.

However, assuming fallibilism is not necessary.[14] The real problem is this: to claim that *all* of the reasons for double-checking specified by (a)–(f) are descriptively incompatible with knowledge would seem to require embracing skepticism, rendering knowledge scarcely attainable. Again, this is because if knowledge entails certainty, KK, sensitivity to all sources of error, and so on, then it would be intensely demanding. It's implausible that we ever achieve such an exalted state. Hence, the burden is on my opponent to show that the cases I've described are impossible without undermining a widely shared commitment to anti-skeptical epistemological theorizing.

Unsurprisingly, defenses of views on which knowledge entails states like certainty or higher-order knowledge often treat knowledge as a very strong epistemic state.[15] First, consider the claim that knowledge entails certainty ("KEC"). Philosophers distinguish between two types of certainty, namely psychological and epistemic certainty. Psychological certainty depends on an agent's strength of conviction, whereas epistemic certainty depends on a proposition's evidential support (Beddor 2020). Peter Unger uses KEC as a premise in an argument for skepticism, the view that we have little—if any—knowledge (Unger 1975). In response, Stanley (2008) and Beddor (2020) persuasively argue that knowledge entails neither psychological nor epistemic certainty. For example, they observe that there's nothing problematic about third-personal ascriptions of knowledge and psychological uncertainty, as in: "John knows that Bush is a Republican, though, being a cautious fellow, he's somewhat uncertain of it" (Stanley 2008, 49). More-

[12] See Dutant (2016) for a recent defense of infallibilism. Philosophers cite Williamson (2000) as making room for a type of non-skeptical infallibilism (cf. Brown (2018)).

[13] See Dougherty (2011).

[14] Thanks to Matthew Hewson for helping me realize that I did not need to assume fallibilism: even infallibilist epistemic logic models allow for KK failures.

[15] Note that it's even more implausible that knowledge *rationally* requires certainty or knowing that you know, and some of the considerations below militate against such views. Even Unger only claims that if S knows that p, then S is *permitted* to be psychologically certain that p (Unger 1975, 42). Greco (2014, n16) briefly considers the possibility that KK holds for fully rational agents, but does not pursue it. Thanks to an anonymous referee for making these positions salient.

over, it is non-redundant to assert, "I know that p. In fact, I'm certain that p," and "I know that p. In fact, it's certain that p." Instead, such follow-ups are informative. (Contrast: "I know that p. Indeed, p is true.") This data suggests that certainty is stronger than knowledge. If KEC is false, then agents can double-check what they know in order to attain (psychological or epistemic) certainty about whether p, or to increase their confidence more modestly.

Next, consider the claim that knowledge entails knowing that you know, also known as the KK thesis. Historically, defenses of KK have treated knowledge as an exalted state. Unsurprisingly, then, it has also been used as a premise in arguments for skepticism.[16] Most prominently, Williamson argues that knowledge requires safety from error, and since a belief can be safe but not safely safe, then an agent can know that p but not know that they know that p (Williamson 2000).[17] More generally, higher-order knowledge generally seems more demanding than first-order knowledge. Another way to motivate this idea is that higher-order states—such as higher-order knowledge or higher-order justification—require being justified in believing that the process one used to form one's first-order belief is reliable. But first-order knowledge requires no such thing; if it did, a regress would generate (Alston 1980). Finally, KK-failures can be motivated intuitively, as when we uncover that we knew something all along, but didn't realize that we knew it. If KK fails, we can also easily see why agents can know that p but seek to make their more resilient or sensitive to different sources of error.[18]

By now it should be clear that even philosophers who accept a knowledge-first picture in epistemology can accept my claim that there are reasons to double-check that go beyond first-order knowledge.[19] First, it is possible that many of the epistemic goods I discuss can be analyzed in terms of knowledge. The most obvious example is higher-order knowledge. As we saw, the most prominent defender of the knowledge-first program holds that higher-order ignorance is compatible with first-order knowledge (Williamson 2005, 234). In addition, certainty might be analyzed as *knowing for sure* (Beddor 2020). Second, other epistemic goods—

[16] Hintikka (1970) argues that KK holds for a strong conception of knowledge, which may differ from that of everyday discourse. Stroud (1984) employs KK as a premise in an argument for skepticism, while Adler (1981) rejects it on the grounds that it leads to skepticism.

[17] Roughly, S's belief that p is safe only if there are no nearby worlds where S is wrong about whether p, i.e. where S falsely believes that p. KK fails because the nearness relation is not transitive: there may be no nearby possibilities where S is wrong even though there are nearby possibilities where there are nearby possibilities in which S is wrong. I follow Greco (2014)'s presentation here.

[18] There may be other ways to motivate these claims. For instance, see Weatherson (2019), chapter 9 for a defense of the view that knowledge does not require sensitive beliefs, but that one reason to inquire is to make our beliefs more sensitive to different possible errors.

[19] For the classic defense of a knowledge-first program, see Williamson (2000).

such as justification—may only be valuable insofar as they are derivative goods of knowledge. Insofar as *some* of the epistemic goods I discuss cannot be so-analyzed, there may be fewer reasons to double-check than I canvas. However, this is not a problem for my view. As long as there is at least one type of reason to double-check that is compatible with but goes beyond ordinary first-order knowledge that p, then we have a counterexample to DCT.

There are, then, three further ways for the opponent of SCT to push back against my cases. First, they can question the claim that these reasons listed above are reasons for *genuinely* double-checking, as opposed to *ersatz* double-checking. Second, they can provide non-skeptical reasons for denying that the protagonists do, or ought to, retain knowledge while they double-check. Third, they can redescribe all the cases such that the agent in question is not inquiring about *whether p*. Rather, they are inquiring into *whether q*, which they don't already know. For example, perhaps they are inquiring, not into *whether p*, but into *whether they know that p*. Call this *the redescription strategy*.

I'll turn to arguments for the second line of thought in §4. For now, I want to flag that the first line seems unpromising. For we can ask: in virtue of what is none of these agents genuinely double-checking? The reply cannot be that these agents are not double-checking because they already know that p. That would beg the question: whether one can double-check that p while knowing that p is precisely what is at issue.

Moreover, it seems like agents who double-check in order to gain knowledge have something important in common with the agents like Deming, Riley, Sam, and Carla: they all double-check in order to gain some epistemic good. The fact that genuine double-checkers display this unity in their epistemic aims puts pressure on the narrow thesis that only the nescient can genuinely double-check.[20]

We can now consider the redescription strategy. I have three responses. First, this strategy seems implausible for at least some agents we discussed. Consider Riley. Riley is double-checking *whether x=15* in order to become more confident. There is no other plausible proposition they are inquiring about. Second, even when we inquire into whether we know that p, oftentimes, we do that by inquir-

[20]There's an interesting question, which I cannot explore here, regarding whether someone who double-checks primarily to relieve epistemic anxiety (in the sense of Nagel (2010)) and only indirectly to gain epistemic goods counts as genuinely double-checking. I think they can, but defending this would go beyond the scope of the paper here. In the cases I'm considering, an agent is directly motivated by the search for some epistemic good, and that is the primary and direct reason why they double-check. There's also an interesting question in the vicinity of whether someone who fulfills her procedural epistemic duties (e.g. in virtue of her role, such as of a detective) genuinely double-checks; for instance, does the detective who double-checks someone's alibi out of duty genuinely double-check, or is he more like Eliza? I suspect that in cases like this, it depends on the specific agent's motivations. Unfortunately, I have to set this question aside.

ing into whether p itself. More generally, the redescription strategy risks conflating the reasons why someone double-checks and the content of that agent's inquiry. For example, Deming might double-check whether the door is locked in order to gain higher-order knowledge, but that does not mean that the content of her inquiry is whether she knows that the door is locked.[21] Third, this strategy is essentially piecemeal and risks misrepresenting or overly intellectualizing agent's investigations. For my thesis to hold, there needs to only be one case where redescription fails.

Now that I have offered an argument for the normative and descriptive compatibility of double-checking while knowing, I can turn to reasons for denying it. Not only do the challenges fail to undermine SCT, but, in some cases, they also provide fodder for further arguments in its favor.

4 Challenges to Synchronic Compatibility

In the vignettes described above, double-checking while knowing seemed permissible, perhaps even epistemically praiseworthy. However, many philosophers have argued that it is difficult to make sense of this combination. In this section, I'll discuss a series of challenges to my thesis. I divide them into two types. The first focuses on the nature of inquiry (§4.1) while the second focuses on the nature of belief or knowledge (§4.2). While there are different ways of framing these objections, the first primarily challenges the normative component of my thesis, while the second focuses on the descriptive component. Along the way (§4.1.1), I discuss a further objection—appealed to by opponents with various epistemological commitments—according to which my thesis licenses assertions that border on Moore-paradoxicality. I show how my view not only avoids this objection but is also linguistically well-motivated by bringing to bear ordinary language judgments in favor of my thesis.

4.1 The Challenge from Inquiring Attitudes

The first challenge, *the Challenge from Inquiring Attitudes*, claims that inquiry requires suspension of judgment, and thus is normatively incompatible with both belief and knowledge. This argument appears throughout the work of Jane Friedman, especially Friedman (2017). The argument proceeds roughly as follows: in-

[21] Note that if KK in fact holds, then Deming already knows that she knows that her door is locked. Hence, she'd be inquiring into something that she already knows, which is allegedly impermissible. If KK is true, then this reduces the resources available not only to me but also to my opponent.

quiry entails suspension: that is, an agent is inquiring only if she is suspended.[22] However, if one is suspended toward p, then one ought not believe that p. This is a normative claim: for Friedman, just as it's possible to believe that p and disbelieve that p, it's also possible to believe that p and suspend about whether p; it's simply not rational. Barring redescription, for Friedman, an agent like Deming both suspends about whether her door is locked *and* believes that it's locked: this is a possible but 'epistemically inappropriate' state of affairs (Friedman 2017, 310). Since knowledge requires belief, it plausibly follows that if one ought not believe that p, then one ought not to be in a state that is required for knowing that p—rendering knowledge normatively incompatible with double-checking.[23] Thus, the normative incompatibility of knowing while inquiring is established.

Schematized, the argument is as follows:[24]

(P1) **Double-checking is a form of inquiry**: If S is double-checking p, then S is inquiring about p.

(P2) **Inquiry entails suspension**: If S is inquiring, then S is suspended about whether p.

(P3) **Suspension requires no belief**: If S is suspended, then S ought not believe that p.

(C1) **Double-checking requires no belief**: Therefore, if S is double-checking that p, then S ought not believe that p.

(P4) **Knowledge requires belief**: If S ought not believe that p, then S ought not know that p.[25]

(C2) **Double-checking requires not-knowing**: Therefore, if S is double-checking p, then S ought not know p.

Premise 1 is common ground and central to this project. Premise 4 is plausible given the uncontroversial view that knowledge entails belief. That leaves premises 2 and 3. While some might deny premise 3, I'll argue that—properly read—it is relatively uncontroversial. I'll then focus my attention on premise 2, arguing that it is false.

[22] Friedman defends the stronger claim that S is inquiring if and only if S is suspended. I'm focusing on the *only if* claim here.

[23] Thanks to an anonymous referee for suggesting this framing.

[24] A more precise, but more unwieldy, version of this argument would add in a parameter for time throughout: all claims are indexed to a single time.

[25] That is, S ought not be in a state requisite for knowing that p.

I'll begin with two clarificatory points regarding premise 3. First, P3 posits a *normative* claim about the permissibility of both believing and suspending (Friedman 2017). However, this argument could be re-run by replacing it with a descriptive version instead; this would give us a *descriptive* challenge to SCT. Second, while I use the term 'suspension' here, there has recently been a great deal of interesting work on the varieties of suspension and other attitudes that fall 'between belief and disbelief' within traditional non-credal frameworks. Those working with a more fine-grained taxonomy may wish to substitute their favorite 'in-between' attitude—be it hypothesizing,[26] in-between believing,[27] agnosticism,[28] or some alternative. For the Challenge from Inquiring Attitudes to proceed, this attitude must be (a) the right one to take while inquiring, and (b) incompatible with belief. In short, I mean to target any view on which all forms of inquiry require some attitude that is (at least normatively) incompatible with belief.

We should accept premise 3 as relatively uncontroversial. Despite recent debates about varieties of 'in-between' attitudes, it is easy to find wide convergence on the idea that there is *some* attitude that plays the roles attributed to judgment suspension and is distinct from both belief and disbelief. This is true for both traditional and formal frameworks. Traditional frameworks tend to work with three doxastic attitudes: belief, disbelief, and judgment suspension. However, we could instead understand the relevant 'in-between attitudes' in terms of degrees of belief. For example, Matthew McGrath and Alan Hájek use the term 'agnosticism' to describe this attitude as one of having middling credence, such as having approximately equal credence in p as in its negation (Hájek 1998; McGrath 2021). These in-between attitudes seem to have different normative profiles from belief. For instance, belief (or high credence) seems required, and suspension (or agnosticism) impermissible, when there is overwhelming evidence that p. Meanwhile, suspension or agnosticism seems most appropriate when the evidence is balanced for both p and $\neg p$.

Thus, while there are ways to quibble about the formulation of P3, it seems plausible that there is some attitude that plays the functional role attributed to judgment suspension that requires not believing that p.

That leaves premise 2. P2 is a descriptive claim, on which an agent only counts as inquiring if she is suspended. I will argue that P2 is false. To preview, I'll argue that inquiry (descriptively) requires some type of openness, but the openness in question neither normatively nor descriptively requires suspension and thus does not preclude belief. (For the remainder of this discussion, I am focused on

[26] Palmira (2020). Cf. Fleisher (2018) on endorsement, which seems to play a similar functional role as hypothesizing.

[27] Schwitzgebel (2001)

[28] Hájek (1998); McGrath (2021)

what inquiry *descriptively* requires—i.e. the necessary conditions for counting as inquiring—unless otherwise stated.)

To fully argue against P2, we'll first want to understand and scrutinize the motivations for endorsing it in the first place. This premise is supported by two assumptions: one, that inquiring requires having an open attitude toward p, and two, that suspension represents the attitude of being open, whereas belief and knowledge are attitudes one has once one has closed or settled an inquiry (Friedman 2017).

In assessing these assumptions, much hangs on how we should interpret the relevant notion of 'openness.' I can grant that suspension is a paradigmatically open doxastic attitude. What I deny is that one cannot, as a matter of fact, believe that p and display the requisite openness about whether p. Indeed, one can believe that p while displaying "an openness or even willingness to inquire further" (Friedman 2017, 307). For example, it seems *possible* to believe that p while being open to being proven wrong about whether p, or to be open to improving with respect to one's belief that p. Indeed, to avoid dogmatism or epistemic complacency, we often normatively *should* display this openness at least with respect to some of our beliefs. One's openness can be evinced by seeking further evidence on the topic.[29] It also seems possible to believe that p while assigning some credence to the possibility of being wrong about whether p. Indeed, double-checkers are sometimes motivated by the worry that their belief might be false. These are all ways in which an agent can be open about whether p in the sense sufficient for rationally inquiring. These observations cast doubt on the claim that belief or knowledge require settling in a way that is incompatible with further inquiry.[30]

4.1.1 Paradoxical Assertions

One might worry that I've neglected a crucial motivation for the view that inquiry requires suspension, and thus precludes knowledge. At the very least, by denying P2—the claim that inquiry entails suspension—one might think that my view gives rise to an objection that the proponent of P2 avoids. Specifically, the worry is that by rejecting P2, we license paradoxical statements like the following:

[29] Feldman & Conee (2018, 73–4) illustrate a similar point.

[30] David Thorstad helpfully noted that we can distinguish between doxastic state D being an open attitude and an agent with attitude D having an open stance toward a question. My argument only depends on accepting the latter claim, as applied to belief. On my view, inquiry requires being open toward a question Q, and one can be open toward Q in ways described below while being in a paradigmatically closed state (such as, perhaps, belief). In addition, Sarah Moss helpfully noted that openness comes in degrees: as long as belief displays—as I think it does—a sufficient degree of openness for inquiry, then we have a challenge to P2. This is so even if suspension is a *more open* attitude.

(1) #I know that I bought the movie tickets, but I wonder whether I did.

(2) #Gwenyth knows that she bought the movie tickets, but she's wondering whether she bought them.

Jane Friedman raises these examples to challenge views on which inquiring and knowledge are compatible. She claims that "[a] natural interpretation of these assertions has them describing unfortunate states of affairs and confused states of mind" (Friedman 2017, 310). Her view that inquiry entails suspension would help explain why. For Friedman, inquiry is the most general interrogative attitude; others include wondering, questioning, or being curious. These attitudes embed questions, rather than propositions: we wonder *whether p*, not *that p*.[31] But knowledge seems incompatible with interrogative attitudes, as the infelicity of (1) and (2) suggests. Given that I rejected P2, how can I avoid licensing these paradoxical assertions?

To begin, I want to offer counter-data. Ordinary assertions do not unequivocally show that representing oneself or others as both knowing and inquiring is always paradoxical or problematic. For example, the following do not sound problematic, especially if we make clear that the subject is seeking further epistemic goods beyond knowledge:

(3) I know that I bought the tickets, but I'm double-checking that I did, just to be sure.

(4) Riley knows that $x = 15$, but they're double-checking (just in case).[32]

(5) Although the scientists know that dense bodies exist, they're corroborating that these results hold (to further justify their belief).

In each of these cases, a subject is represented as both knowing that something is the case and inquiring further into it. Yet these assertions do not sound paradoxical. What does this data suggest? First, it suggests that inquiry does not require interrogative attitudes, such as wondering. We often claim to double-check *that p* or corroborate *that p*. Similarly, we can claim to verify that p, confirm that p, or make sure that p. Importantly, these all seem like ways of inquiring.[33] This

[31] See Friedman (2013). Carruthers (2018) and Whitcomb (2010) also defend the view that inquiry is question-directed. A similar challenge from paradoxical assertions is raised by Whitcomb (2010); he uses it to motivate the view that knowledge is the normative aim of inquiry, on which inquiry goes awry if it goes beyond knowledge. My cases also challenge that thesis.

[32] The third-personal versions sound less problematic even without making explicit *why* the agent double-checks. This is plausibly because we can easily imagine that Riley knows that p but does not know (or believe) that they know. Cf. Archer (2018) on wondering what you know.

[33] Millson (2020) persuasively defends the claim that confirmation is a form of inquiry, and he offers several arguments for thinking that we are permitted to: seek confirmation that p at t and

data raises a challenge for views on which knowing while double-checking is descriptively impossible or normatively suspect. More specifically, these points put further pressure on the claim that inquiry entails interrogative attitudes, such as suspension. If this were true, then (3)–(5) should be either infelicitous or systematically false; they appear to be neither.

Second, insofar as there is any tension between claiming to know while double-checking, this is alleviated by adding an explanation for why the agent double-checks. More precisely, when they cite the *epistemic* reasons why double-check—such as increased sensitivity—any apparent tension between knowing and double-checking dissolves. Here's an explanation for this: in most contexts, knowledge is the highest epistemic standard agents are reasonably expected to strive for, and most inquirers don't attempt to go beyond it. However, just because knowledge is a standard we ought to strive for doesn't mean it's also where we must stop. In other words, although knowledge is a natural stopping point, it is not a mandatory one.[34] One is at least permitted to seek out further epistemic accolades. More generally, sometimes it's odd, unexpected, or surprising when someone does what's optional or supererogatory. (Consider a student's bewilderment when she sees her classmate completing *all* the optional readings and assignments!). But that doesn't render it impermissible. I suggest that a parallel phenomenon explains why double-checking while knowing sometimes seems odd. In most contexts, knowledge is enough and all we strive for, yet that doesn't mean one can't go further.

This observation also helps explain the infelicity of a wider range of utterances, including those that don't explicitly involve interrogative attitudes. For example, Bradley Armour-Garb and Jeremy Fantl and Matthew McGrath observe that it sounds odd to assert, "I know that p, but I shall/better check that p."[35] I agree that there is some tension, but we can dissolve it using the same trick as before. Consider:

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believe that p at t. He also offers helpful linguistic counter-data problematizing the claim that we are not permitted to simultaneously *believe* and inquire, which I return to in §4.2.1. However, unlike me, he supports Friedman's claim that inquiry requires interrogative attitudes. I defend the view that inquiry does not require interrogative attitudes at greater length elsewhere, where I show that the motivations for this view in the first place do not transfer over to cases of *further inquiry*. Falbo (2021) also appeals to cases like those discussed in §3 to reject the view that inquiry requires interrogative attitudes. Instead, inquirers can have what she calls *propositional* inquiring attitudes, such as the desire to confirm that p. Here I agree with Falbo and intend my linguistic data to offer further support for this conclusion.

[34] Palmira (2020) makes a similar point.

[35] See, for example, Armour-Garb (2011, 673), Fantl (2018, 142), Fantl & McGrath (2012) and Fantl & McGrath (2014). They use this data to motivate contextualism—the view that agents who double-check cannot self-attribute knowledge—and interest-relative views of knowledge §4.2.2, respectively. Both views are *prima facie* in tension with SCT.

(6) I know that the boat is seaworthy, but I shall/better check, *just to be absolutely certain.*

In response, Fantl & McGrath (2012, 2014) would object that utterances like (3)–(6) only sound felicitous if we imagine that the speaker is vacillating or of two minds. I have two responses to this claim. First, it's not obvious to me that any vacillation is required: double-checkers might be clear-eyed about double-checking for the sake of further epistemic goods. Second, we can show that (6) involves *no* vacillation yet are still felicitous. We do this by translating it into an 'although p, q' construction, which controls for a mid-sentence change of mind.[36] Indeed, the following seems fine:

(7) Although I know that the boat is seaworthy, I shall/better check, *just to be certain.*

Finally, I granted that first-personal versions of these utterances sound odd when the agent does not specify *why* they're double-checking. Here's a further explanation for that. We typically self-attribute knowledge that p in order to justify *not* inquiring further, or to justify our acting on p.[37] But that doesn't mean that we don't know that p even though we want to seek out more evidence before acting on p. Insofar as some have found first-personal cases more troubling than third-personal cases, this would explain why.[38]

4.2 The Challenge from the Nature of Belief or Knowledge

In this section, I'll consider two further objections to the view that knowledge and double-checking are compatible. These appeal not to the nature of inquiring attitudes but rather to the nature of belief or knowledge. According to the first, belief is strong in a way that precludes double-checking. According to the second, the interest-relative nature of knowledge shows that double-checking while knowing is irrational. I discuss each objection in turn.

4.2.1 Belief is Strong

I've emphasized that I'm defending the *normative* thesis that it can be rational to double-check while knowing. However, the interest of this thesis would be limited if it were not even descriptively possible to double-check while knowing.

[36] Thanks to Guillermo Del Pinal for discussion.

[37] Cf. Fantl & McGrath (2007, 562): "[K]nowledge-citations play an important role in defending and criticizing actions."

[38] Contrast Armour-Garb (2011)'s explanation.

To flesh this out: according to some accounts of belief, double-checking seems descriptively incompatible with it. Assuming that knowledge entails *full* belief, then double-checking would be incompatible with knowledge. Such accounts include those on which full belief requires credence 1 (Greco 2015; Clarke 2013; Wedgwood 2012) or practical certainty (Huemer 2007; Owens 2000). On these views, full belief that p requires ruling out—at least for practical purposes—the possibility that $\neg p$. But, one might worry, when an agent genuinely double-checks that p, they *de facto* do not rule out the possibility that $\neg p$. Hence, an agent who double-checks that p cannot simultaneously believe that p by definition.

My responses come in two forms: critical and ecumenical. First, the critical remarks. If belief is strong, then we need an explanation for why (3) sounds felicitous, even true:

(3) I know that I bought the tickets, but I'm double-checking that I did, just to be sure.

If belief is strong, then (3) should describe an impossible state of affairs. But it seems neither impossible nor, I've argued, normatively problematic. Unlike belief self-ascriptions, knowledge self-ascriptions do not function as hedged assertions—to the contrary.

Second, Jared Millson (2020) offers further evidence for thinking that confirmation—which he describes as inquiring into a question while being cognitively non-neutral with respect to its answer—can involve confirming a *belief*. Believing is arguably one way of being cognitively non-neutral. He offers several persuasive arguments for this. For example, confirmation requests exhibit features of both askings and assertions. To use Millson's examples, if I ask, "Jim smokes, doesn't he?" I can be challenged with, "No, he doesn't. He quit last year." This same challenge is appropriate if I had simply asserted, "Jim smokes." Assuming that assertions express a speaker's beliefs, then so do confirmation requests. Moreover, arguments to the best explanation further support this conclusion: the view that the agent expresses a belief—rather than a past belief or something weaker—best accounts for the data.[39]

Finally, the assumption that it's *possible* to double-check that p while inquiring into whether p is widely shared in the inquiry literature.[40] Recall again that each of the cases we started with seemed possible. We are owed an error theory for why we are wrong in this assessment, or at least a plausible re-description. Moreover,

[39]Importantly, Millson notes that one could respond by arguing that confirmation requests express credences, but not beliefs, but this would require denying the Lockean thesis, which at least Clarke (2013) and Greco (2015) are committed to. This proposal also faces serious burdens, as he indicates. I am sympathetic to Falbo (2021)'s response to the puzzle he articulates.

[40]See, for instance, Friedman (2017, 309-10).

it seems like rational agents can distance themselves from their beliefs and subject them to scrutiny without thereby automatically giving up that belief.[41] Indeed, we saw reasons in §4.1 to think that there is some type of openness that is compatible with both belief and inquiry.

Of course, my opponent would likely accept the Diachronic Compatibility Thesis that one can believe that p at t_1 and double-check that p at t_2. But doing so would require forfeiting one's belief. This would render beliefs unattractively unstable: simply raising the possibility of error would lead to a change in belief without any change in evidence. Yet, it seems like rational agents are not so fickle.[42] Moreover, this move would generate overly skeptical consequences: if we have to throw out our beliefs every time we double-check, we'd also have to give up some pieces of knowledge. For reasons raised in §2.2, choosing to double-check should not demand an epistemic loss.

Of course, some philosophers will deny that these skeptical consequences are problematic. For example, consider versions of contextualism, according to which facts about the context determine whether it is appropriate to attribute knowledge to agents. Contextualists often hold that the possibility of error being salient is one such fact.[43] Since we typically double-check when this possibility is salient, contextualists may claim that we cannot attribute knowledge to double-checkers. Indeed, Armour-Garb (2011) defends contextualism by arguing that double-checkers cannot attribute knowledge *to themselves*. The problem with such arguments is that they tend to be motivated by worries about seemingly paradoxical assertions, such as those discussed in §4.1.1 (Armour-Garb 2011). But we have seen reasons to question such data, and hence to deny the contextualist claim that *attributions* of knowing while inquiring are always infelicitous.

Undoubtedly, different philosophers will weigh the costs of skepticism differently. Fortunately, there are irenic responses available, insofar as strong views of belief can be rendered compatible with my thesis. First, suppose that belief (and thus knowledge) really does require either credence 1 or practical certainty. This would rule out some rationales for double-checking discussed in §3. However, it would not necessarily eliminate all of them, if one could genuinely inquire while

[41] Compare Leite (2018)'s observation that we can distance ourselves from our beliefs and subject them to scrutiny without thereby giving them up raises a challenge for a strong view of belief. For a further objection to the 'belief is strong' view, see Hawthorne *et al.* (2016).

[42] Cf. Ross and Schroeder's principle:

> **Stability**: A fully rational agent does not change her beliefs purely in virtue of an evidentially irrelevant change in her credences or preferences (Ross & Schroeder 2014, 277).

[43] See, for example, Lewis (1996).

being in these states. For instance, it would not preclude making one's beliefs sensitive to further sources of evidence or one's credences more resilient. For example, one might be practically certain that p but inquire to increase sensitivity to the possibility that the method used failed. Moreover, insofar as credence 1 and certainty can come apart, one might have credence 1 in p but double-check in order to attain greater certainty (Clarke 2013; Stanley 2008). Second, proponents of 'belief is strong' views may claim that double-checkers are fragmented, believing that p relative to one fragment but not another. If this fragmentation is not necessarily irrational, then the "belief is strong" view is compatible with SCT.[44] Third, if knowledge entails belief, but not *strong* belief, then we can accommodate the possibility of double-checking what one knows.[45] Of course, these are conditional claims, and more work would need to be done to support the antecedent. The upshot is this: either the phenomenon of double-checking challenges such views, rather than vice versa, or there are ways to reconcile our positions.

4.2.2 Interest-Relative Knowledge

Finally, one might worry that my thesis conflicts with principles posited by defenders of interest-relative theories of knowledge, according to which interests can affect whether one knows. Prominent knowledge-action principles connect knowing that p with being rational to act as if p. For example, Jeremy Fantl and Matthew McGrath propose the following:

> (KA) S knows that p only if S is rational to act as if p (Fantl & McGrath 2007, 559).

Given this condition, there are two intuitive ways to motivate a conflict between double-checking and knowing. First, suppose an act is rational only if it maximizes expected utility. Plausibly, if you already know that p, then double-checking does not have the highest expected utility. This is because double-checking always comes with some costs, either in time, resources, or energy. In addition, one risks gaining misleading evidence. If you know that p, it would be irrational to pay these costs.[46]

[44] Thanks to Roger Clarke for this suggestion. Indeed, both Clarke and Greco are sympathetic to the possibility of fragmentation. For a recent defense of rational fragmentation, see Yalcin (2021).

[45] See Myers-Schulz & Schwitzgebel (2013) for a defense of the stronger thesis that knowledge does not entail belief. Buckwalter *et al.* (2015) and Rose & Schaffer (2013) provide tools for a weaker thesis, such as that knowledge entails dispositional belief or 'thin' belief, respectively.

[46] Both Blackwell (1951) and Good (1966) demonstrated that if information is cost-free, then it always maximizes expected to gather more information. These results were later generalized by Graves (1989), Skyrms (1990), and Maher (1990). But my opponents will think that these results

However, there are two problems with this response. First, double-checking while knowing also has potential benefits, such as making your knowledge more secure. These ought to be factored in as well when determining what it is all-things-considered rational to do. Second, authors like Fantl and McGrath do not necessarily commit to the claim that rational action requires maximizing expected utility (Fantl & McGrath 2007, 559, n2). Indeed, Fantl and McGrath, in the context of their work on justification, reject views that over-emphasize the costs and benefits of inquiry (Fantl & McGrath 2002, 81–2). More generally, the relationship between epistemic appraisals and maximizing value is controversial.

There is a second way to motivate the conflict though, which will help us understand what it means to be rational to act as if p. A common test for whether an agent knows that p is whether they would act the same way unconditionally and conditional on, or assuming, p. Indeed, Fantl and McGrath gloss (KA) as follows: "S knows that p only if S is rational to do whatever S is rational to do on the assumption of p" (Fantl & McGrath 2007, 559). In other words, S knows that p only if whatever it is rational for S to do *in fact* (unconditionally) is the same as whatever it is rational for S to do given p. Similarly, Brian Weatherson claims that "[a]n agent knows that p only if the rational answer to a question she faces is the same unconditionally as it is conditional on p" (Weatherson 2017, 245).[47] To demonstrate a conflict between knowing and checking, it suffices to show that one prefers to double-check in fact but would not prefer to double-check conditional on p. To illustrate this strategy, consider the following example:

> **LIRR**: LeBron is trying to get to Manhattan from mid-Long Island using the Long Island Rail Road. He believes that the train on platform A is going to Manhattan, as opposed to Eastern Long Island. However, it's possible that trains going to Manhattan are now leaving from platform B. It would be a minor inconvenience for LeBron to get on the wrong train, but it would be even more minor an inconvenience to double-check that the Manhattan-bound train leaves from platform A.

do not apply, since they do not hold when checking is non-negligibly costly, as it almost always is. Moreover, these results are irrelevant when you assign probability 1 to what the result will be. For at least some authors, knowing that p will involve assigning probability 1 to it—at least for the purposes of decision-making (Weatherson 2012). In such cases, double-checking fails to have positive expected value. Nonetheless, I agree with the spirit of the proposal: as I mention below, we might argue that the potential epistemic benefits of double-checking outweigh the practical costs. However, how epistemic and practical values interact here is complicated. Thanks to an anonymous referee for encouraging me to engage with this literature.

[47] In previous work, Weatherson defended a similar condition on belief. (See, for example, Weatherson (2005).) He complicates this thesis about belief in Weatherson (2016), noting that updating does not always go by way of conditionalization.

LeBron in fact prefers to double-check, since the inconvenience of checking is not as great as the inconvenience of getting on the wrong train. So, unconditionally or in fact, LeBron prefers to check. However, conditional on his train leaving from platform A, he prefers not to check. Thus, according to the gloss we've just given of (KA), LeBron fails to know that his train is leaving from platform A, as opposed to platform B.

My aim is not to assess whether applying (KA) in a range of cases yields intuitive verdicts. The questions that concern me here are two-fold. First, do principles like (KA) show that double-checking while knowing is, in fact, irrational? Second, does the Synchronic Compatibility Thesis sever the important connection between knowledge and rational action?

Let's suppose for now that the second gloss we've given on (KA) is correct. Then, to answer the first question, we need to ask whether (at least some) double-checkers would still prefer to check whether p conditional on p, given especially that there is always *some* cost to further inquiry. (We already know that double-checkers prefer to double-check *in fact*.) I think the answer is yes. For example, Riley might prefer to double-check their answer both conditional on $x = 15$ and in fact, for Riley is seeking a strong epistemic state. Furthermore, Riley must, in some sense, assume their answer in order to plug it in and check. Similarly, Carla prefers to check that dense bodies exist conditional on them existing, for she wants to further corroborate this result. Indeed, in some sense she must *assume* that dense bodies exist *to corroborate* this. In short, we can handle some cases of double-checking by claiming that double-checkers prefer to—and thus are rational—to check that p both conditionally and unconditionally on p. In such cases, there is no conflict between SCT and principles like (KA).

Unfortunately, this will not work for all cases of double-checking. Consider, for instance, Deming, who double-checks whether the door was locked. Would she really want to waste her time conditional on the door being locked? It's not obvious that she would. Indeed, if she still prefers to check that the door is locked, one might worry that this is out of mere obsessiveness or epistemic anxiety and thus does not constitute genuine inquiry.[48]

There are two ways for me to respond to this objection. The first, more concessive, is to simply note the implication: if we want to accept principles like (KA), then on some interpretations of it, there will be *fewer* cases of rational double-checking while knowing than I started with. However, there will not be zero. Since I am merely arguing that there are *some* cases where double-checking is compatible with knowledge, this is enough to establish my thesis.

However, there are less conciliatory responses available. First, note that there

[48]Cf. Hawthorne & Stanley (2008, 588).

is an intuitive sense in which (KA)—as initially presented—does not conflict with SCT. That is, there is an intuitive sense in which I can agree that Deming is rational to act as if p given that she knows that p. The key, once again, is to distinguish between rational requirements and permissions. To flesh out this response, it'll be helpful to turn to our second question concerning the relationship between SCT and knowledge-action principles. One motivation for positing principles like (KA), or for defending interest-relative theories of knowledge more generally, is that they seem to capture the important link between knowledge and rational action. Importantly, SCT does not sever this connection. It is compatible with the following knowledge-action principle: "If S knows that p, then S is *rationally permitted* to act as if p." It is only incompatible with the stronger thesis, "If S knows that p, then S is *rationally required* to act as if p."[49] But, as defenders of interest-relative theories will agree, this latter principle is far too strong. The reasons for not acting as if p are vast, e.g. it may be unethical or insensitive to act on one's knowledge that p. Thus, I conclude that SCT, in virtue of making merely a permissibility claim, is compatible with plausible knowledge-action principles.[50]

We can generalize my response to interest-relative theories as follows. Either such theories conflict with SCT or they do not. If they do not, then there is no issue. If they do, then so much the worst for interest-relative theories of knowledge. Indeed, one might think that interest-relative theories suffer problems similar to those we saw in §4.2.1. First, some philosophers have argued that double-checking poses problems for SCT, rather than vice versa.[51] Hence, we could appeal to the rationality of double-checking in cases like Deming's to show that principles like (KA), rather than SCT, have to go. Second, if acting as if p entails discounting the possibility that p is false, then it seems to require a very strong view of belief.[52] Finally, several authors have criticized interest-relative theories on the grounds that they make knowledge unattractively unstable (Anderson 2015; Reed 2010). Indeed, Charity Anderson and John Hawthorne have recently argued that double-checking cases pose a problem for principles like (KA), adding that they lead to surprising instabilities in knowledge across time (Ander-

[49] In Fantl & McGrath (2009), Fantl and McGrath defend (KJ): if S knows that p, then p is warranted enough to justify S in ϕ-ing, for any ϕ (p. 66). On this view, if S knows that p, then p is available as a reason for ϕ-ing. There is plausibly some connection between reasons on the one hand and permissions or obligations on the other, but it's hard to know how to make this connection precise. Thanks to Matt McGrath for discussion.

[50] Note that it is also compatible with Hawthorne and Stanley's Action-Knowledge Principle, which states: "Treat the proposition that p as a reason for acting only if you know that p" (Hawthorne & Stanley 2008).

[51] Consider, for example, the discussion of double-checking in Goldberg (2019) and Anderson & Hawthorne (2019). Fantl and McGrath respond in Fantl & McGrath (2019).

[52] Thanks to Keshav Singh for this point.

son & Hawthorne 2019).[53] Adjudicating these responses is beyond the scope of this paper. Fortunately, as in §4.2.1, both concessive and defensive responses are available to me here.

5 Is Double-Checking Ever Required?

Throughout this paper, I've argued for the thesis that double-checking while knowing is sometimes *permissible*. I've suggested that the best way to understand these agents who permissibly double-check despite knowing is that they are particularly responsible or performing something epistemically supererogatory. However, one might think that double-checking, along with knowledge, is a more central part of our epistemic lives than this picture suggests. Is there a way to motivate a stronger thesis, namely that there are cases where an agent is rationally required to double-check despite knowing?

Though I won't endorse the view here, the considerations adduced in §3 and §4.1.1 offer us the resources for rehabilitating the stronger claim. Here are two ways in which the stronger claim may be true. First, if something stronger than knowledge is the standard for belief in (for example) high-stakes contexts, then there will be cases where double-checking despite knowing is *required*. Consider, for example, Jessica Brown's case of the surgeon who double-checks her notes to make sure that the patient's left kidney is the one to be removed (Brown 2008). Brown argues that the surgeon knows that it's the patient's left kidney but is required to double-check the patient's chart given the stakes. In a similar vein, Williamson considers the view that higher-order knowledge is the standard for belief in high-stakes contexts (Williamson 2005, 234). While I am sympathetic to views on which different contexts or stakes demand different epistemic standards, defending it would require arguing against interest-relative theories more broadly.

In response to surgeon-style cases, one might want to deny that the sense in which the surgeon *should* double-check that chart is epistemic; perhaps the *should* in question is purely practical or role-based and carries implications for what one epistemically ought to do. This response distinguishes between two different types of 'should's.' On this view, an agent can be required to double-check while knowing that p if the sense of 'required' is non-epistemic. Alternatively, one might disagree with Brown's claim that the surgeon is required to double-check, given that she knows.[54] Instead, one might think that it would be better,

[53] See also Goldberg (2019).

[54] Armour-Garb notes this option in a similar context, but wrongly infers that if we deny that S should continue to inquire, then it follows that "it is neither reasonable nor rational" for S to do

in some sense, for the doctor to double-check, but strictly speaking she is not required to do so given that she knows.[55]

A second way to motivate the view that sometimes agents are required to double-check is if they have higher epistemic standards *for themselves* than others, perhaps in certain contexts. If epistemic 'should's' can be partly sensitive to one's own standards or values so long as these themselves are rational, then perhaps such agents can know while still being required, by their own lights, to double-check. For example, perhaps Cartesian-style infallibilists really *should* double-check things they know until they are certain. One might worry that this proposal would presuppose an overly relativistic conception of epistemic normativity, on which what one *should* epistemically do is relative to one's own epistemic aims.

It is beyond the scope of this paper to defend either of the two strategies sketched here. My point is simply that claiming one should sometimes double-check despite knowing is not nearly as paradoxical as it has seemed. First, I have argued that this combination only looks puzzling if we neglect the importance and value of epistemic goods beyond knowledge. Second, as noted in §4.1.1, once agents highlight the reasons why they double-check despite knowing, then any apparent tension between knowing and double-checking dissolves. That said, I am content with seeing all double-checkers who know as behaving in epistemically supererogatory ways, going above and beyond the duty to acquire knowledge. To suggest otherwise is to myopically treat knowledge as hegemonic, to the detriment of other epistemic goods.

so (Armour-Garb 2011, 673). This is false. To deny that someone *should* ϕ does not entail that one *should not* ϕ. One can still be rationally permitted to ϕ, and indeed be praised for doing so.

[55] In addition, my view focuses on a much broader array of cases than Brown's and so is less vulnerable to piecemeal objections. In addition, I am focusing not just on conditions for knowledge but also inquiry.

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