

# TIME CONSTRAINTS AND PRAGMATIC ENCROACHMENT ON KNOWLEDGE

JOSEPH SHIN

[joeshin@asu.edu](mailto:joeshin@asu.edu)

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## ABSTRACT

Citing some recent experimental findings, I argue for the surprising claim that in some cases the less time you have the more you know. More specifically, I present some evidence to suggest that our ordinary knowledge ascriptions are sometimes sensitive to facts about an epistemic subject's truth-irrelevant time constraints such that less (time) is more (knowledge). If knowledge ascriptions are sensitive in this manner, then this is some evidence of pragmatic encroachment. Along the way, I consider comments made by Jonathan Schaffer (2006) and Jennifer Nagel (2008, 2010) to construe a purist contextualist and a strict invariantist explanation of the data respectively, before giving reasons to resist them in favor of an account that indicates pragmatic encroachment. If successful, this may suggest a new way to argue for the controversial thesis that there is pragmatic encroachment on knowledge.

## I. INTRODUCTION

As finite beings our lives are constantly limited by time. Everything we do and hope to do will require a transaction of minutes, hours, and years – of which we are in limited supply. I may endeavor to travel the world and visit every highly regarded eatery along the way, but in addition to requiring a small fortune (and an insatiable appetite), I am in need of ample time. Not only do the constraints of time restrict what I *can* do, but (perhaps derivatively) also what is expected of me, and what I expect of others. That is to say, time seems relevant to considerations about what we *ought* to do. For example, in deciding between a range of job offers, it may be rational to carefully weigh each of the options, but one ought not to take so long as to let them all expire.

It may be of no surprise then that what we *know* might likewise interact in some important ways with how much time we have. Knowledge, after all, is an achievement resulting in part from a particular kind of intellectual activity and thus seems no more inoculated from time constraints than any of our other doings. Moreover, knowledge is thought to involve normative elements and so, provided that normative considerations are sensitive to time constraints, we might suspect epistemic norms to exhibit a similar sensitivity. I ought to form beliefs responsibly and this may involve careful consideration of a sufficient amount of the available evidence, but it is difficult to see how I should be expected to do so if it demands of me more time than I can offer.<sup>1</sup>

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1 One may break epistemic norms blamelessly. However, if one can know despite breaking epistemic norms because one does so blamelessly due to practical features like time constraints, then I am interested in how practical features of this sort encroach on knowledge (attributions) just the same. On the

One manner in which an epistemic subject's time constraints might affect our judgments about whether she knows that  $p$  is by limiting her opportunities to conduct epistemic activities in relation to  $p$ . Stated simply, it takes time to seek and weigh evidence and so it seems that subjects with more time might normally find themselves in a better position to know certain propositions. Thought of in these terms, time constraints may affect the quality of one's evidence, the reliability of the belief-forming process employed and the like, albeit indirectly. I follow Fantl and McGrath (2007, 2009) and DeRose (2009) in characterizing such features as being "truth-relevant".<sup>2</sup> Although the nature of truth-relevance is not entirely precise, Fantl and McGrath (2009: 27) give us the following account, "As a first stab, a dimension is truth-relevant iff the stronger you are positioned along it with respect to a proposition  $p$  the more probable  $p$  is in some suitable sense." Time constraints so construed, if they affect our judgments about whether  $S$  knows that  $p$ , would do so in a manner consistent with *epistemological purism*.<sup>3</sup> Purism as I am using it<sup>4</sup> refers to the following thesis: *whether  $S$ 's true belief is an instance of knowledge depends<sup>5</sup> exclusively on  $S$ 's standing along truth-relevant dimensions*.

But what happens when we construe time constraints in a truth-irrelevant manner? Suppose that  $S_1$  has only minutes in her situation and so must (as a matter of prudence

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other hand, if breaking certain epistemic norms can defeat knowledge, then I am interested in the nature of such norms and whether they are in part constituted by considerations of practical environment.

- 2 Stanley (2005) in speaking about *intellectualism* (what I call purism—see notes 3 and 4) makes use of the notion of *truth-conducive* features, which as DeRose (2009: 24) notes is distinct from the notion of *truth-relevance*. According to DeRose, the former pertains to those features that incline a subject towards a true belief, while the latter concerns features that *either* incline one towards a true belief or diminish this likelihood.
- 3 Note there seems to be at least two senses of purism (and impurism) in the air and I construe the notion (s) broadly to capture both of these senses in my use of the terms. For instance, Fantl and McGrath (2009: 35) state, "If one combines impurism with the rejection of contextualism one arrives at the subject sensitive invariantism (SSI) of Hawthorne (2004) and Stanley (2005)." However, in (2011: 562) they suggest that Stanley accepts pragmatic encroachment *without* denying purism. They write, "Stanley argues that variations in knowledge that  $p$ , due to pragmatic factors, give rise to variations in your standing along the truth-relevant dimensions ... If Stanley is right, then, on the one hand, epistemological purism is not threatened by pragmatic encroachment, but on the other epistemological purism doesn't deserve its name, because there are no purely truth-relevant dimensions of the relevant sort that come even close to providing a supervenience base for knowledge." One way to make sense of this apparent inconsistency is to think that there are two senses of purism/impurism (and their respective denials) in the literature; that is, a stricter construal (Fantl and McGrath) and a broader one (Stanley's intellectualism/anti-intellectualism). In personal conversation, Jeremy Fantl distinguished between "what most people take to be" purism and the stricter sense that he and McGrath had in mind in (2011). When I speak of the denial of purism (i.e., impurism) throughout this work, I mean the view that knowledge can supervene on truth-irrelevant features in *either* Fantl and McGrath's (2011) more restricted sense, or in the manner found in Stanley (2005). In either case, there is pragmatic encroachment (of one form or another) on knowledge.
- 4 Since I construe purism broadly (see note 3), also included in this view is what Stanley (2005), DeRose (2009), Beebe and Buckwalter (2010), Pinillos (2012), and Pinillos and Simpson (forthcoming) refer to as *intellectualism*. In fact, DeRose (2009: 24), Beebe and Buckwalter (2010: 481) and Jessica Brown (2014: 179) seem to equate purism with intellectualism.
- 5 Stephen Grimm (2011) points out that this notion of dependence is somewhat ambiguous before providing an insightful discussion of two different senses in which knowledge might *depend* on truth-relevant features. The first he calls *Realizer Intellectualism* and the second, *Threshold Intellectualism*. Grimm takes it that the former is uncontroversially the received theory in epistemology, but not the latter.

or utility) form a belief rather quickly which she does in virtue of evidence E. In contrast, suppose S<sub>2</sub> is in every way identical to S<sub>1</sub> but has several months to consider the truth of p. Still, S<sub>2</sub> allows the months to pass without a thought to the matter and forms her true belief that p based only on E just as S<sub>1</sub>. Could this have any bearing on whether S<sub>1</sub>/S<sub>2</sub> knows that p? In fact, I believe that in certain circumstances it does. If so, then this would be some indication that purism as a categorical doctrine is contrary to our judgments about knowledge.

In what follows, I begin in § 2.2 by presenting a pair of cases suggesting that knowledge ascriptions are sensitive to the subject's truth-irrelevant time constraints. In §§ 3.1–4, I support this claim with some recent experimental findings. In §§ 5–7, I consider how a purist might explain the data particularly focusing on the remarks of Jonathan Schaffer (2006) and Jennifer Nagel (2008, 2010). I then present some difficulties for these attempts before concluding that the results are best accounted for by pragmatic encroachment.

## 2. PRAGMATIC ENCROACHMENT

Pragmatic encroachment on knowledge (hereafter, PE) is the view that whether S knows that p can depend on truth-*irrelevant* features such as what is at stake for S in believing p. In short, it is the rejection of purism. A survey of the current literature reveals two general methods of supporting PE, which have primarily revolved around the potential role of stakes on knowledge attributions. The first strategy is to argue directly from intuitions about particular cases (e.g., DeRose's Bank Cases<sup>6</sup>).<sup>7</sup> As Fantl and McGrath (2011: 562) write, "There are cases of knowledge such that if we merely vary a pragmatic factor present in the case, and leave everything else the same (as much as possible), we arrive at a case of ignorance." A second approach is to devise an argument from a principle connecting knowledge to action such as the *knowledge-action principle*.<sup>8,9</sup> I will be taking the first approach<sup>10</sup> – that is, to argue from asymmetrical knowledge judgments about particular cases that vary only regarding some truth-irrelevant fact about the epistemic subject's practical environment. Specifically, I will be arguing that the following is true:

*Time-constraints-sensitivity:* With respect to some cases, all else being equal, people are more likely to ascribe knowledge to a subject with less time in her situation, than to a subject with comparatively more time.

6 Originally featured in DeRose (1992).

7 Stanley (2005), Sripada and Stanley (2012), Pinillos (2012), and Pinillos and Simpson (forthcoming).

8 Fantl and McGrath (2002) formulate the knowledge-action principle: If you know that p, then it should not be a problem to act as if p.

9 Fantl and McGrath (2002, 2007) argue that the knowledge-action principle in conjunction with fallibilism entails that purism is false.

10 The *time-constraints-sensitivity* that I present evidence for is also consistent with some of the proposed principles connecting knowledge with action. For instance, in the more-time cases, it seems inappropriate for Sally to act as if C is the best medication because she does not know this to be the case. We could imagine her supervisor for instance, criticizing her for prescribing the medication based on such weak evidence. The supervisor might even say, "look, you got lucky this time, but you shouldn't have prescribed him medication C, *because* you didn't know it was the best of the three treatments." This would follow from a principle suggested by Hawthorne and Stanley (2008) namely, Action-Knowledge: *Treat the proposition that p as a reason for acting only if you know that p.*

As Pinillos and Simpson (*forthcoming*) notice, pragmatic sensitivity regarding knowledge ascriptions of this sort does not entail PE. However, the entailment emerges when combined with the plausible assumption that such ascriptions express true propositions. As such, purists will likely reject this assumption or else deny that the contrasted cases I present in this work are upholding the *ceteris paribus* clause (i.e., reject that the cases indicate *time-constraints-sensitivity*).

Before proceeding, it may be helpful to say a word about how this work is situated within the recent debates surrounding PE. To date, advocates arguing for the view on the basis of purported *stakes-sensitivity*<sup>11</sup> have been met with notable opposition. Among the prominent alternative theories is that of the contextualist (often citing the salience of error) and Jennifer Nagel's invariantism. Thus the pragmatic encroacher looking for support from the intuitions about cases will need to (at least) show that PE provides a favorable explanation to these main competitors.<sup>12</sup> In fact, I believe the considerations to follow will make it apparent that arguing for PE via *time-constraints-sensitivity* is advantageous to arguing for the thesis in terms of *stakes-sensitivity*<sup>13</sup> because the former is more resistant to these purist explanations.<sup>14</sup>

### 2.1 Time Constraints Cases

As previously noted, arguments for PE on the basis of *stakes-sensitivity* often begin with a pair of cases, which yields the judgment that a low-stakes subject knows that p, while a high-stakes twin fails to know that p.<sup>15</sup> This phenomenon is then thought to be best explained by PE and thus some indication that the theory is true. I begin in similar fashion by presenting a pair of cases, which suggests that knowledge ascriptions are sensitive to the subject's truth-irrelevant time constraints.

*Less-Time*: Sally is a medical student working in a hospital. Due to a radical shortage in hospital personnel, Sally is placed in charge of the care of a new patient, Harry. Harry has come in with a persistent cough that normal cough medicine has not been able to cure. Though a minor

11 Buckwalter and Schaffer (2013) characterize *folk-stakes-sensitivity* accordingly: "All else equal, people are less likely to ascribe knowledge to a high-stakes subject than to a low-stakes subject."

12 I am *not* arguing that my findings somehow show contextualism to be false. In fact, as Fantl and McGrath (2009: 35) note, PE is consistent with contextualism (note, I am not arguing for SSI which may directly oppose contextualism). Further, my cases are simply not designed to test directly for contextualism. See DeRose (2011) for an instructive account of just what contextualism, as DeRose sees it, predicts and what it may be silent on. What I *am* arguing is that PE fares better at explaining the results of my experiments than the *purist* contextualist (specifically appealing to the error of salience possibilities) and Nagel's strict invariantism.

13 Buckwalter and Schaffer (2013) distinguish between *folk-stakes-sensitivity* and *stakes-effect*. Both refer to the asymmetrical knowledge ascriptions between case pairs that vary with respect to what is at stake for the subject in having a belief. However, only the former contains a *ceteris paribus* clause making it the stronger of the two. As they see it, some purist contextualists will be inclined to accept a *stakes-effect*, but reject *folk-stake-sensitivity*.

14 Of course anything resembling a comprehensive engagement with competing views is simply not possible here. Instead I restrict my consideration to two purist theories inspired by Schaffer (2006) and Nagel (2008, 2010) specifically because both authors argue against PE as well as make mention of time-constraints. Note Schaffer (2006) does not use the label "time constraints" and Nagel (2009) uses "time pressures."

15 See Sripada and Stanley (2012), Pinillos (2012), and Pinillos and Simpson (*forthcoming*).

annoyance, Harry is in no serious danger. Sally has to choose among the following three new medications: A, B, and C; she can only choose one, as they cannot be taken together. If Sally chooses the wrong medication it is no big deal, as they will simply try a different one at another time. Unfortunately, she has no information about how well any of the medications work in comparison to the others.

Harry is in a hurry so a decision must be made within the next 2 minutes. Sally must think quickly. Suddenly, she remembers reading in a textbook that C is a very good treatment for the kind of cough that Harry has. Based solely on this, Sally believes that C is the best of the three medications and in fact, feels fully confident about it, and so she prescribes C for Harry. As it turns out, medication C is the best of the three options and cures Harry's cough.

Here, Sally appears to have a justified<sup>16</sup> true belief and is not in a Gettier situation. Accordingly, I believe the inclination is to judge that Sally knows that C is the best of the three options for Harry's condition. Now compare this to the following.

*More-Time:* Sally is a medical student working in a hospital. Due to a radical shortage in hospital personnel, Sally is placed in charge of the care of a new patient Harry. Harry has come in with a persistent cough that normal cough medicine has not been able to cure. Though a minor annoyance, Harry is in no serious danger. Sally has to choose among the following three new medications: A, B, and C; she can only choose one as they cannot be taken together. If Sally chooses the wrong medication it is no big deal, as they will simply try a different one at another time. Unfortunately, she has no information about how well any of the medications work in comparison to the others.

All three medications are currently on order and will take 4 months to arrive. So Sally has 4 months to choose the best treatment for Harry but she doesn't take advantage of the time. Instead Sally lets the entire 4 months go by without thinking at all about Harry or the medications.

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16 One might worry that Sally's evidence is simply not strong enough to give her knowledge conferring justification of the belief in question. This is because the proposition of interest is of a comparative nature (i.e., C is the best of the three treatments for Harry) while the protagonist's evidence is simply a recollection that C is a very good treatment for Harry. Thanks to the Editor for raising this concern. However, it is a prediction of pragmatic encroachment that there are pairs of cases where what is otherwise not enough evidence for knowledge in one situation can be knowledge conferring in another based solely on a difference in the subject's practical environment. Of course, one might insist that the evidence that Sally has is too weak in all and all situations. Here I have a different intuition. It seems to me that when Sally is under a severe time crunch (as in *Less-Time*), what might otherwise be weak evidence for the comparative proposition in question will be enough for her to know. However, I anticipated that there would be disagreement among philosophers about this matter and my intuitions could very well be biased. It is for this reason that in the following sections I pursue experiments to test folk intuitions. It is important to note the limited scope of this project, which is merely to show that the folk concept of knowledge is sensitive to truth-irrelevant time constraints. Here common sense judgments are of central focus. Furthermore, supposing that the epistemic subject (Sally) in my experiments always lacks sufficient justification for knowledge, we would hope for a plausible explanation of the results (i.e., the asymmetrical knowledge judgments between the cases). As I see it, this would involve either the view that as the folk have it, justification is not a necessary condition for knowledge, or an error theory about folk judgments concerning the vignettes. It seems to me neither of these options is very appealing. Instead, if we allow that the folk concept of knowledge is such as to allow that what may appear as weak justification in one environment can also be viewed as strong enough to know in another, we can account for the data while avoiding the two unsavoury alternatives.

At the end of the 4 months, Harry shows up to pick up his medication. Sally must think quickly. Suddenly, she remembers reading in a textbook that C is a very good treatment for the kind of cough that Harry has. Based solely on this, Sally believes that C is the best of the three medications and in fact, feels fully confident about it, and so she prescribes C for Harry. As it turns out, medication C is the best of the three options and cures Harry's cough.

In *More-Time*, Sally does not take advantage of her opportunity to do more research and winds up with the same evidence for her true belief as Sally in *Less-Time*. But now there seems to be considerable pressure to deny (so I judge) that Sally knows in *More-Time*. This is despite the fact that apparently, Sally's epistemic position regarding the relevant true belief seems unchanged from *Less-Time*. As the narratives stipulate, Sally is fully confident of her choice in both scenarios, has the identical evidence, stakes, and employs the same method of inquiry. Yet there seems to be a sense in which her evidence is not what it should be in *More-Time*.

If we judge that Sally knows in *Less-Time*, but does not know in *More-Time*, and we grant that across both conditions Sally's standing along truth-relevant dimensions is fixed, then it seems that a truth-irrelevant feature, namely, time constraints may in fact affect our knowledge ascriptions. Provided that these attributions and denials reflect true propositions as they concern these hypothetical cases, this would provide some initial evidence for PE. Incidentally, Schaffer (2006) presents a pair of cases (*Low-and-Slow* vs. *High-and-Fast*)<sup>17</sup> where what I have here referred to as *time constraints* is one of the salient differences between the two conditions. Schaffer likewise reports that on his view, S fails to know that p when S has more time, while S knows that p in the situation where she has relatively less time.<sup>18</sup>

Now one might worry that I have an axe to grind and as a result have discussed the cases in a way that favors my own intuitions. In addition, judgments regarding *Less-Time* and *More-Time* might vary among philosophers. Here, I take it that employing the methods of experimental philosophy will be helpful insofar as it provides a means of collecting data about how people ordinarily<sup>19</sup> attribute knowledge.<sup>20</sup> I do so without denying the limitations of such tools or the ongoing controversy regarding the relevance of such findings to substantive philosophy. In the sections to follow, I present the results of a recent series of experiments, which provide some initial support for the hypothesis that folk knowledge ascriptions are sensitive to time constraints. That is to say, there is some evidence of *time-constraints-sensitivity*.

17 I say more about Schaffer's (2006) cases in § 5.

18 In fact, Schaffer (2006) thinks that the relevance of the subject's time constraints works to overturn the stakes-effect. I remain neutral on this prediction. Further, while I ultimately disagree with his view about *how* time constraints might influence our knowledge attributions (a point I will address later in this paper), I agree with his general intuition here.

19 DeRose (2009) for instance, takes it that support for contextualism comes from how ordinary speakers attribute (or deny) knowledge. He writes, "The best grounds for accepting contextualism come from how knowledge-attribution (and knowledge-denying) sentences are used in ordinary, non-philosophical talk ..." (47). Pragmatic encroachment and the associated subject sensitive invariantism, and interest-relative invariantism have traditionally been presented to capture the same folk intuitions without the shifty semantics.

20 See Pinillos and Simpson (forthcoming) for a good description of why such experiments might be helpful in shedding some light on the folk concept of knowledge.

### 3. EXPERIMENT I

The first series of experiments featured *Less-Time* and *More-Time* as enumerated above. At total of 110 subjects enlisted from Amazon's Mechanical Turk ([www.mturk.com](http://www.mturk.com)) were randomly assigned one of the two conditions. Participants were then presented with a number of questions where they were asked to indicate their level of agreement/disagreement along a 7-point Likert scale (0–6) to a number of statements. Twenty-nine subjects were excluded for missing one or more of the three comprehension questions.<sup>21</sup> Among these was a probe about the subject's confidence: "To what extent do you agree/disagree with the following statement: "at the time Sally chooses treatment C for Harry, Sally is fully confident that C is the best of the three treatment options for Harry." Participants who did not respond with either "strongly agree" or "agree" were excluded from the survey.<sup>22</sup> This was in anticipation of a worry that the confidence levels projected onto Sally might vary between the conditions. If participants perceived Sally as being less confident in *More-Time* (relative to *Less-Time*) such that it might defeat Sally's belief and subsequently knowledge, then this would be consistent with epistemological purism. Similarly, a question asking participants about the stakes for Sally (recall, the vignettes included an explicit statement that the stakes are low) should her belief turn out false was included in order to ensure that participants were not varying stakes between the two conditions.

My prediction was that subjects would be more apt to attribute knowledge to Sally in *Less-Time* than in *More-Time*. This prediction is what we would expect if PE were true and this is just what was found. Subjects were more inclined to attribute knowledge to Sally in *Less-Time* than in *More-Time*. The results<sup>23</sup> were statistically significant. *Less-Time*: (N = 38, Mean = 3.55, SD = 1.655), *More-Time*: (N = 43, Mean = 2.67, SD = 1.476),  $t(79) = 2.52$   $p = .014$  (two tailed). Cohen's  $d = 0.56$  (medium effect size).

In light of such positive results, I wondered what might happen if there was more riding on Sally's decision, that is, if we raised the relevant stakes of her situation. To do this, I altered the seriousness of Harry's condition. Whereas Harry in both *Less-Time* and *More-Time* came in with a persistent but merely annoying cough, the high-stakes pair of conditions describes Harry with a more serious condition, namely painful migraines that will get worse (in terms of pain) for a time if the wrong medication is taken. Again 110 participants from Amazon's Mechanical Turk ([www.mturk.com](http://www.mturk.com)) were randomly presented with either the *High-Stakes Less-Time (HS-LT)* or *High-Stakes More-Time (HS-MT)*.<sup>24</sup> The same comprehension questions were used to filter responses and to ensure relevant facts were being tracked. Twenty-eight of the 110 respondents were excluded for missing at least one of the comprehension probes. Among these was the question about the stakes of the situation and only those respondents that attributed Sally's situation as a high-stakes situation were included in the survey. Again I predicted that participants would be more apt to attribute knowledge to Sally when she has less time in her situation.

In raising the stakes from the base pair, again I found a statistically significant *time constraints effect*. Subjects were more apt to ascribe knowledge to Sally in *HS-LT* (where she

21 See Appendix for experiment probes.

22 While I use 'survey(s)' to denote the experiments employed in this work I do this only out of convenience and do not intend that the surveys of interest in this paper are equivalent to mere opinion polls, which may lack distinct experimental conditions.

23 That is, the difference between the obtained means was significant.

24 See Appendix for full vignettes.

has only 2 minutes) than they were to her in *HS-MT* (where she has 4 months). *High-Stakes Less-Time (HS-LT)*: ( $N = 39$ , Mean = 4.23, SD = 1.55), *High-Stakes More-Time Constraints (HS-MT)*: ( $N = 43$ , Mean = 2.92, SD = 1.98),  $t(76) = 3.25$   $p = 0.017$  (two tailed). Cohen's  $d = 0.74$  (medium effect size).

### 3.1 Discussion

In the low-time cases, Sally forms her belief based on what she remembers reading in a textbook: that treatment C is a very good treatment for the kind of ailment that Harry is suffering. Given that textbooks and our recollections are generally reliable, in the absence of defeaters, Sally seems to have sufficient enough evidence for her to know. However, in the *More-Time* situations where she has 4 months to deliberate and gather evidence, she seems to be negligent in not using this time to improve her epistemic position regarding her belief. Her evidence or the reliability of her belief-forming process seems insufficient for her to know. Apparently this is in virtue of her having more time and therefore, the opportunity to do more to improve her epistemic position. It is in accordance with PE that a subject's practical environment gives rise to an invariant standard of the epistemic position that an S must occupy regarding some true proposition  $p$  in order to know that  $p$ . For instance, where there is less-time for the subject to be epistemically vigilant, less evidence is required for her to know when compared with a twin subject who has more time to gather evidence.

In § 5, we will revisit this notion of negligence that Sally seems guilty of in the *More-Time* conditions. Ultimately, I will argue that it is most plausibly explained in terms of PE. For the time being, it will be enough to say that the asymmetrical results of the experiments between the *More-time* and *Less-time* conditions, despite (apparently) featuring no variation in the traditional (e.g., truth, belief) or truth-relevant dimensions of knowledge (i.e., Sally's epistemic position), provide us with some *prima facie* evidence that folk knowledge attributions are sensitive to the subject's truth-irrelevant time constraints. PE can account for this sensitivity in a straightforward manner without suggesting that folk judgments about the simple, hypothetical cases are mistaken. Whether S knows that  $p$  is not only a function of one's epistemic position regarding  $p$ , but also (at least in some cases) certain practical features such as how much time S has to deliberate about  $p$ .

## 4. EXPERIMENT 2

One might worry that there was something special about my vignettes since they involve medical personnel and medical/scientific beliefs, which may have a peculiar status. After all, such information is known to change at an unusually fast pace. As such, the concern might be that the data of experiment 1 is not suggestive of anything peculiar about knowledge *per se*, but rather only a special domain of knowledge.<sup>25</sup> Thus, in the spirit of seeking wider corroboration for my hypothesis, I conducted a second series of surveys. In setting up this next experiment, I borrowed from Ángel Pinillos (2012) who in testing for *stakes-sensitivity* devised an evidence-seeking paradigm. Pinillos' motivation for this design was the worry that study participants might attribute more evidence to the protagonist in the

25 Thanks to Steven Reynolds for raising this concern.

high-stakes case<sup>26</sup> than in the low-stakes condition. This might be because we generally expect subjects in high-stakes cases to gather more evidence than their low-stakes counterparts.<sup>27</sup> If participants were not keeping fixed the amount of evidence gathered by the subjects between the conditions, then this would be a serious confound for the experimenter testing the hypothesis that knowledge is encroached upon by the subject's practical environment (i.e., stakes or time constraints).<sup>28</sup>

In anticipation of this worry, I incorporated Pinillos' vignettes *mutatis mutandis* to feature time constraints as the variable rather than stakes. I feature them below.

*Peter-Less-Time (P-LT)*: Peter, a good college student, has just finished writing a two-page paper for an English class. The paper is due in five minutes. Even though Peter is a pretty good speller, he has a dictionary with him that he can use to check and make sure there are no typos. There is a lot at stake. The teacher is a stickler and guarantees that no one will get an A for the paper if there is a typo. Peter needs an A for the class to keep his scholarship. If he loses the scholarship he will have to leave school, which would be devastating for him. So it is extremely important for Peter that there are no typos in the paper.

*Peter-More-Time (P-MT)*: Peter, a good college student, has just finished writing a two-page paper for an English class. The paper is due in 2 weeks. Even though Peter is a pretty good speller, he has a dictionary with him that he can use to check and make sure there are no typos. There is a lot at stake. The teacher is a stickler and guarantees that no one will get an A for the paper if there is a typo. Peter needs an A for the class to keep his scholarship. If he loses the scholarship he will have to leave school, which would be devastating for him. So it is extremely important for Peter that there are no typos in the paper.

The knowledge probe asked participants to fill in the following blank so as to make the statement true. "If Peter proofreads his paper \_\_\_\_\_ times, then he will know that there are no typos (fill in the minimum number of times)." Also included was the option to indicate that Peter might not be able to read the paper enough times (to know that there are no typos) within the allotted time frame. Participants were told to fill in the blank with a "X" followed by whatever number they had in mind if this was their judgment. This option was provided so that test subjects did not feel pressure to fill in a number that merely indicates how many times Peter *can* read the paper, given his time constraints. There is a worry that the framing of the question implicates that Peter *can* know in the 5-minute condition. The concern then is that this might drive the intuition that whatever number of times he can reasonably proofread the paper will be sufficient for knowledge. Such a

26 Pinillos posed this worry in light of the first wave of studies (see for instance, Buckwalter 2010; Feltz and Zarpentine 2010; May *et al.* 2010), which failed to detect a stake-effect. Also see Buckwalter and Schaffer (2013) for further worries regarding Pinillos' evidence seeking paradigm and Pinillos and Simpson (forthcoming) for a response.

27 See Nagel (2010) for more on this worry.

28 Similarly, one might worry that test participants attribute to Sally a careless attitude in *More-Time* (since she doesn't think about her patient's well-being for 4 months) and further conclude that this somehow weakens the quality of her evidence. Perhaps then participants interpret the recollection of what she read in the textbook (i.e., her sole evidence) to be somehow less vivid in *More-Time* than the recollection that Sally in *Less-Time* goes on to form her belief. Or they may have thought that the textbook the careless Sally relied on in *More-Time* was somehow not as reliable as that used by Sally in *Less-Time*.

forced reply would not shed light on the concept of knowledge but rather might suggest how participants judge the common rate of proofreading.<sup>29</sup> I also formulated the knowledge probe as a conditional due to a concern that Buckwalter and Schaffer raised (2013).<sup>30</sup> They presented some evidence to suggest that asking participants about how many times Peter *has to* or *must* proofread the paper (Pinillos' knowledge probe) may elicit a deontic modal,<sup>31</sup> which may be a confound.

As with the first series of experiments, I predicted asymmetrical responses between *P-LT* and *P-MT* such that the latter would yield a higher mean number of proofreads. In fact, this is just what was found. *Peter-Less-Time (P-LT)*: (N = 27, Mean = 3.07, SD = 2.22), *Peter-More-Time (P-MT)*: (N = 31, Mean = 5.90, SD = 4.04),  $t(56) = 3.23$   $p = 0.0021$  (two-tailed). Cohen's  $d = 0.87$  (large effect size). On average, participants required Peter to proofread nearly six times in order for Peter to know that there were no typos in *P-MT*, while requiring just over three proofreads in *P-LT*. I saw a statistically significant asymmetry when I ran an additional pair of time constraints conditions featuring Peter in relatively low-stakes situations.<sup>32</sup>

The results indicate that subjects require more evidence (i.e., proofreads) of Peter to know that there are no typos when he has more time to do so. In other words, the thresholds for how much evidence is good enough to know is higher for Peter when he has more time, which is consistent with PE. Moreover, since experiment 2 regarded knowledge about the absence of typos, it seems unlikely that the results can be attributed to something special about the domain of knowledge involved in the first series of experiments. Presumably, knowledge that there are no typos, on the basis of proofreads, is a rather mundane kind of knowledge. Still, the pragmatic encroacher faces a number of opponents and so in the remaining sections I consider some purist explanations of the data before considering some difficulties facing them. For ease of exposition, I will from this point forward, focus my discussion primarily on experiment 1 (the Sally cases) although what is said of the former should generalize to the second series of experiments.

## 5. SCHAFFER ON TIME CONSTRAINTS, EPISTEMIC NEGLIGENCE AND THE SALIENCE OF ERROR

Jonathan Schaffer (2006) raises a number of objections against PE.<sup>33</sup> Significant to our discussion is Schaffer's reflection on what I have been calling *time-constraints-sensitivity*.

29 Thanks to Ángel Pinillos for raising this concern.

30 In fact, Schaffer (in conversation) has suggested that this may be a promising way around the issue raised in Buckwalter and Schaffer (2013).

31 Pinillos (2012) uses the following knowledge probe: "How many times do you think Peter has to proofread his paper before he knows that there are no typos? \_\_\_ times." Buckwalter and Schaffer (2013) replaced 'know's' with 'hopes' and 'guesses' and found a significant stakes effect. They argue that this casts doubt on the idea that participants in Pinillos' experiments were tracking knowledge judgments. Instead Buckwalter and Schaffer (14) suggest that participants may be reading the probes as asking how many times the protagonist *should* proofread the paper given his goals and interests. Also see Pinillos and Simpson (forthcoming) for a response to these criticisms.

32 *Peter-Low-Stakes-Less-Time*: (N = 34 Mean = 1.85, SD = 0.857); *Peter-Low-Stakes-More-Time*: (N = 35, Mean = 2.71, SD = 1.29),  $t(67) = 3.24$   $p = 0.0018$  (two-tailed). Cohen's  $d = 0.79$  (large effect size).

33 Actually, Schaffer argues against subject sensitive invariantism (SSI), but provides a purist contextualist account as an alternative explanation of the intuitions about his cases.

He provides a pair of cases *Low-and-Slow* and *High-and-Fast*. In *Low-and-Slow*, Sam has little at stake regarding whether the bank will be open on Saturday. He also has plenty of time to check to see if the bank will be open on Saturday but neglects to do so (he takes a nap instead of checking). On the other hand, in *High-and-Fast*, Sam must (for pragmatic reasons) decide quickly about whether the bank will be open Saturday and the stakes are high. Schaffer's intuition is that Sam knows in *High-and-Fast*, but fails to know in *Low-and-Slow*. He writes, "... I doubt anyone will intuit that the subject knows in *Low-and-Slow* but does not know in *High-and-Fast* – which is what SSI predicts"<sup>34</sup> (2006: 91).

As we have seen I share a similar judgment<sup>35</sup> and it would seem that the folk do too<sup>36</sup> – so far, so good. But Schaffer (91) adds, "Perhaps what is driving our intuitions in *Low-and-Slow* is the thought that Sam should have double-checked, which is suggestive of the possibility that Sam might be in error".<sup>37</sup> Further, he states, "... it seems to me that Sam does not know since ... He had all the time in the world. He was epistemically negligent." Here, I suppose that the purist contextualist<sup>38</sup> (inspired by Schaffer's remarks) might apply the same line of thinking to the cases featuring Sally. This would be to deny that the experiments indicate *time-constraints-sensitivity* by raising doubts that all relevant features are fixed between the less-time conditions and their *More-Time* counterparts. Specifically, the purist contextualist might argue that the cases also differ with respect to whether Sally is judged to be epistemically negligent. Given that Sally in the *More-Time* cases is subject to blame for her lack of inquiry during the 4 months (i.e., she should have gathered more evidence), this makes certain error possibilities salient to the ascriber (the experiment participants). In turn, when asserted of Sally in the *More-Time* cases, the truth conditions of "S knows that p" reflect a higher standards context. It is for this reason that subjects are apt to deny knowledge to Sally when she is described as having more time. Accordingly, the purist contextualist can account for the asymmetrical knowledge attributions. However, it is doubtful that the time constraints cases have the right kinds of features to vary what error possibilities are made salient in this way. In order to better understand this concern, we will briefly consider some of

34 Schaffer adds in a note that it is Hawthorne and Stanley's version of SSI predicting this judgment, but not Fantl and McGrath's. While Fantl and McGrath do not argue specifically for SSI in general, they do favor accounting for asymmetrical intuitions about certain pairs of cases via PE and so seem to be opposed to a purist contextualist's treatment of the very same cases.

35 Schaffer's vignettes vary both *stakes* and *time constraints* among other things, and so I am taking liberties to idealize Schaffer's view as if it were applicable to cases where time constraints are isolated. In fact, after the writing of this manuscript, Schaffer in personal communication has confirmed that he would take a purist contextualist approach in explaining to the results of my experiments. In particular, he is inclined to cite either moral valence or sympathy with the protagonist/mental simulation as triggering a salience of error effect. See note 48 for a brief discussion of the moral valence approach.

36 I did not test Schaffer's vignettes, but predict that isolating time constraints from stakes would yield that folk knowledge attributions exhibit a time-constraints-sensitivity.

37 A series of recent experiments report failing to find a significant salience of error or stakes effect. See Knobe and Schaffer (2012) and DeRose (2011) for a good summary of a number of these studies and for criticisms against these experiments. Also see Jessica Brown (2013) for an argument that these failures to detect folk sensitivity to salience of error/stakes cause more trouble for contextualism than for SSI/PE.

38 While Schaffer is a contrastivist, I take it that his point about salience of error here is general enough to be employed by more standard forms of contextualism.

the common sorts of features (of certain pairs of cases) that philosophers have tended to cite as the mechanism responsible for making error possibilities salient to the speakers and hearers of a knowledge attribution.

To begin, we see a general characterization of the salience of error phenomenon in the manner in which contextualists such as David Lewis (1996) and Stewart Cohen (1988) respond to the problem of skepticism. By Lewis's lights, "S knows that p iff, S's evidence eliminates every possibility in which not-p – Psst! – except for those possibilities that we are properly ignoring (554)." Lewis restricts the not-p possibilities (i.e., possibilities of error) that S must rule out (in order to know that p) by various rules such as, the *rule of attention*.<sup>39</sup> Similarly, Stewart Cohen writes (1988: 108), "In effect, skeptical arguments make alternatives relevant by forcing us to view the reasons in a way that makes the chance of error salient." Thus, where we as attributors are thinking about whether "S knows that p" is true, there are certain not-p possibilities (not ruled out by S's evidence for p) that may in some fashion be called to our (the speakers and hearers) attention.

With this general description in mind, we turn now to two specific features of vignettes, which according to Knobe and Schaffer (2012) encourage the phenomenon. Based on DeRoses' bank cases, Knobe and Schaffer (2012: 20) write, "In High there is *explicit* mention of the possibility that the bank might change its hours ("Banks do change their hours"), while no such possibility is mentioned in Low."<sup>40</sup> Thus one manner in which the error possibilities may become salient to the attributor according to Knobe and Schaffer is *via* the direct mentioning of a particular way that one's belief (despite one's evidence) might be false.

A second way that error possibilities might become salient is when possibilities of error are described concretely and vividly (rather than abstractly and pallidly). In fact, Knobe and Schaffer contend that the failure of previous studies to detect a salience of error effect may be attributable to the presenting of error possibilities too abstractly. Using a variation of DeRose's Bank cases, Knobe and Schaffer (2012: 21) give us a concrete and abstract description before pointing out how the former brings out the possibility of the bank changing its hours "in an especially concrete and vivid way (through a personal anecdote invested with emotional force)." That is, the concrete condition features one of the characters saying, "Well, banks do change their hours sometimes. My brother Leon once got into trouble when the bank changed hours on him and closed on Saturday. How frustrating! Just imagine driving here tomorrow and finding the door locked" (695). Thus, it is thought that in virtue of being more detailed in the right way, the concrete presentation is more likely (compared with the abstract depiction) to bring the considerations of error to the mind of the attributor.

Returning again to the *More-Time* conditions featuring Sally, what is missing is any mention of how the evidence that she depends on might be defeated. Nor are any such possibilities mentioned more explicitly or concretely when compared to the corresponding less-time depictions. True, it is overtly stated in *More-Time* that Sally does not think at all about Harry's treatments over the 4-month period and that she does not use this time to think about the options, but this is not the mention of a not-p possibility. So the reference

39 Briefly, according to the rule of attention, if we as speakers and hearers of a given conversational context are attending to a not-p possibility, then it is one that must now be ruled out by the S's evidence for p, in order for "S knows that p" to be true.

40 Italics mine.

to time constraints and what the protagonist does (or does not do) with the given time in *Low-and-Slow*, *More-Time* and *HS-MT* on my view, fails to resemble the features that contextualists tend to cite as the source of the salience of error phenomenon. Given that Knobe and Schaffer (2012) attribute the failure of previous studies (in detecting a *salience of error effect*) to the fact that the vignettes lacked some of these very features, I find it unlikely that the time constraints cases (lacking *all* of these features) would be enough to elicit the effect.<sup>41</sup>

What about Schaffer's suggestion about epistemic negligence? Could the judgment that the subject is epistemically negligent plausibly drive the salience of error possibilities? Perhaps, but we should expect the contextualist of this approach to provide a convincing story of just how the two are related. Why should we think that the depiction of Sally's failure to improve her epistemic position, despite having the time to do so, makes us as speakers and hearers entertain certain possibilities of error?<sup>42,43</sup> It is important to notice that the stakes cases discussed by Knobe and Schaffer (that failed to detect a *salience of error effect*) also seem to vary with respect to whether the subject is epistemically negligent or not. For instance, Keith in the high-stakes bank case should have double-checked the bank's hours and his failure to do so plausibly yields an attribution of epistemic negligence. But once again, these vignettes featuring facts about the subject's stakes (including the bank cases) did not produce a detectable *salience of error effect* (or more generally, a *stakes-effect*). So even in light of the purported difference in negligence judgments, between the *Less-Time* and *More-Time* cases, there is cause for doubt that *salience of error to the attributor* is what accounts for the asymmetrical knowledge ascriptions in the time constraints experiments.

More importantly, we should inquire into what it is that is eliciting the judgment that Sally is epistemically negligent (in the *More-Time* cases) in the first place. The determined purist must explain why only Sally in the *More-Time* conditions is judged to be epistemically negligent even though she is described across all conditions as confidently believing the same proposition in virtue of the same evidence and belief-forming process. The most natural account seems to be that it is in virtue of Sally having more time to do so. For example, Sally in the *More-Time* situations needs additional evidence, or should have

41 Of course, this is ultimately an empirical matter and so my claim is not that this is a decisive objection. Rather, I take such considerations as *prima facie* reasons to doubt that the purist contextualist can successfully account for the data.

42 Compare this situation to the contextualist's story about DeRoses' high stakes, Bank Case where it is suggested by Keith's wife (in the story) that the bank might change its hours. Here, we have an explicit suggestion of how Keith's belief might be false despite his evidence.

43 This is not to say that the contextualist is limited to the salience of error possibilities in accounting for the results in a purist-friendly way. For instance, DeRose (1992: 914–15) suggests that in addition to the direct *mentioning* or *consideration* of error possibilities, "One might think the requirements for making a knowledge attribution true go up as the stakes go up." Now the presence of high stakes might vary the truth conditions of the knowledge ascription in virtue of making certain error possibilities salient to the speakers or it might do so independently (i.e., either by directly serving as the context shifting mechanism or by means of another feature). Supposing that high stakes can have this effect on the truth-conditions of knowledge ascriptions (i.e., in some way independently of making error possibilities salient) we still need plausible reasons to think that the subject's time-constraints, the judgment that Sally is negligent (during the 4 months), or some other feature of the more-time cases alters the extension of "knows." I leave it to the purist contextualist to offer such a story.

formed her belief via a more reliable process<sup>44</sup> (compared to Sally in the *Less-Time* cases) because she had more time to do so. Her failure to comply explains why she may be subject to blame for her belief. If so, the judgment that Sally is epistemically negligent in the *More-Time* cases appears to be sensitive to facts about Sally's time constraints. Now if Sally's epistemic negligence bears *directly* on whether she knows, then this is tantamount to PE, since whether S knows that p partially depends on how much time S has in her situation to investigate matters pertaining to p. Of course, the contextualist following Schaffer's suggestion must account for the judgment of epistemic negligence, but in a way that does not ultimately support PE.<sup>45</sup>

I find the prospects of such an approach unpromising. Provided that the ascription of epistemic negligence is sensitive to facts about the subject's time constraints, the purist must insist that this does not bear directly on whether Sally's true belief is an instance of knowledge. Instead, the perceived epistemic negligence alters the semantics of the knowledge ascription due to the *salience of error* or some other mechanism. However, it seems implausible that an attribution of epistemic negligence would *not* have a direct bearing on whether Sally is judged as knowing. Finding Sally worthy of epistemic blame in the *More-Time* situations regarding her belief seems sufficient enough to elicit an attribution of ignorance all by itself without the influence of the salience of error and the shifty semantics proposed by the contextualist<sup>46</sup>. Provided that the purist contextualist is willing to grant that the epistemic negligence attribution is sensitive to facts about Sally's time constraints, I take it to be a cost for her theory to then deny that this is connected to the ascription of ignorance in a straightforward manner. Of course, in the end, these are empirical matters that will require further investigation. However, as it stands, we have some initial evidence against the purist contextualist explanation of the results.<sup>47</sup>

44 One might suspect that Sally's merely putting forth more effort to improve her epistemic position would have sufficed, but this is doubtful. To see why, imagine that Sally, in all sincerity, consults a psychic or tea leaves for additional evidence. This seems to provide no help. Thus it seems that what we require of Sally in order to know (in the *More-Time* situations) is that she either gather more evidence, or pursue more reliable processes.

45 Alternatively, the purist may wish to abandon the pertinent sense of negligence in favor of a different mechanism.

46 If epistemic negligence does not directly bear on whether S knows that p, then in principle, S can be in a position to know that p even when S is (or has been) epistemically negligent with respect to p. However, this seems obviously infelicitous and not for reasons that the contextualist is apt to cite. Presumably, epistemic negligence is roughly, not doing what one should do in a suitably epistemic sense. That is, being subject to criticism about one's epistemic practices with respect to a belief. However, it seems strained to insist that one could be subject to this kind of criticism in relation to p, even when one is in a position to know that p.

47 Since the writing of this manuscript, Schaffer (in personal communication) has suggested a moral valence effect responsible for triggering a salience of error effect. Roughly, perhaps participants judge Sally in the *More-Time* cases as being subject to moral blame, which makes error possibilities salient. The idea that moral valence can influence folk judgments in surprising ways is of course something that is substantiated by previous work as in the famous Knobe-effect or the epistemic-side-effect-effect found in Beebe and Buckwalter (2010). However, one thing to note is that both Knobe (2003) and Beebe and Buckwalter (2010) feature a harm case where the protagonist (the CEO) makes a decision that clearly brings about a harmful side-effect (the environment is damaged). Presumably, it is not merely what *might* have happened, but the fact that harm *actually* occurred that influences the folk judgments about either intentionality or knowledge (respectively) in these studies. But the time-constraints cases have no such side effect. Even in the *More-Time*

## 6. EPISTEMIC VIRTUE, DOING THE BEST ONE CAN, AND ACCESSIBILITY

In light of Schaffer's (2006) comments, we considered the idea of epistemic negligence as it relates to the asymmetrical knowledge ascriptions between the *Less-Time* and *More-Time* cases. In this section, we briefly discuss some related notions suggested by Linda Zagzebski (1999), Hilary Kornblith (1983), Gilbert Harman (1973), and William Lycan (1977) that might seem initially promising to the purist as a means of explaining the results of the time constraints experiments. In particular, each author discusses a unique condition of knowledge (or justification) that could explain why Sally knows in the *Less-Time* cases, but not in the *More-Time* conditions. However, I will argue that insofar as these concepts are cited to account for the data, they suggest PE.

Some virtue epistemologists, more specifically, responsibilists,<sup>48</sup> take it that facts concerning the epistemic subject's character such as her motivations in forming a belief (e.g., whether she desires to aim at truth) or whether she is open-minded or intellectually careful, may be epistemologically significant. Linda Zagzebski (1999) takes such considerations as a novel means to elucidate the conditions for knowledge, which on her view is to be understood in terms of an act of intellectual virtue (i.e., what an intellectually virtuous person would do). Perhaps what Sally is guilty of in *More-Time* is failing to be epistemically virtuous. She had more time, but her failure to take advantage of this time to improve her epistemic position is indicative of some epistemically vicious trait and it is on this basis that she fails to know. Thus it looks as though Sally in the *More-Time* conditions is not properly twinned with the Sally featured in the corresponding *Less-Time* cases. This is because only Sally in the *More-Time* situations instantiates behavior suggestive of a relevant vice such as a lack of motivation for the truth.

Now we should note that virtue responsibilism of this sort is itself a controversial thesis that challenges the orthodox tradition in epistemology. Thus whether the former is ultimately less controversial than PE will be a matter of debate. More importantly, even if one finds something like Zagzebski's account amenable, it is not clear that when applied to the cases involving Sally, it is free from PE. After all, we should inquire into just what determines whether or not Sally's behavior is indicative of an epistemic vice. If what counts as intellectually virtuous is a function of one's behavior in relation to one's time constraints (i.e., Sally's practical environment in *More-Time* requires more of her in order to be intellectually virtuous), then it would appear that this form of epistemic excellence<sup>49</sup> is pragmatically encroached upon. Moreover, if epistemic excellence of this kind is a necessary condition of knowledge, then strictly speaking, whether S knows that p, can partially depend on practical features such as how much time S has to deliberate about p – that is, PE is true.

Similarly, Hilary Kornblith (1983: 46) construes epistemic justification in terms of “doing the best one can [epistemically] in light of the innate endowment one starts

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vignettes, Sally ultimately forms a true belief and accordingly prescribes a treatment that cures her patient's ailment. Secondly, there doesn't seem to be any moral judgments associated with the Peter Typo cases (Experiment 2) and so Schaffer's suggestion does not seem equipped to account for the results of these experiments. Thus citing moral valence as the mechanism for making error possibilities salient is not without difficulties.

48 See Lorraine Code (1987), James Montmarquet (1992), and Linda Zagzebski (1999).

49 Anne Baril (2012) argues that certain theories of epistemic excellence depend on a pragmatic condition on epistemic excellence.

from ...” He supports this notion by providing a case of Jones, the headstrong physicist, who after having presented a paper to his peers ignores the trenchant objections of a senior colleague. Jones manages to entirely ignore (he does not even hear) the counterevidence to his beliefs (i.e., the objections raised against his paper) because he cannot take criticism and is expecting only praise. Assuming that he has evidence for his view, his stubbornness makes it so that he encounters no doxastic defeaters. As Kornblith sees it, Jones is not justified in believing his doctrines, despite the absence of doxastic defeaters, because his persistent belief is partially due to epistemically irresponsible conduct (Jones does not do the best that he can). Applying this notion to our cases, we need to ask what it is that determines that Sally is too epistemically irresponsible to know in the *More-Time* cases? If her knowledge (justification) precluding, epistemic irresponsibility is a function of her epistemic conduct relative to her time constraints, then again this is an indication of PE.

Gilbert Harman (1973: 142–9) presents a number of cases<sup>50</sup> where a subject purportedly fails to know on the basis of evidence that she does *not* possess. These cases are contrasted with counterparts where there is counterevidence that the subject does not possess, but where it seems that the subject (according to Harman) maintains the pertinent knowledge. William Lycan (1977) hypothesizes that it is the *accessibility* of the counterevidence that is the most salient feature of Harman’s original cases. That is to suggest that counterevidence that one does not possess may undermine one’s knowledge on condition that it is *readily accessible* to the subject. To apply something of the sort to Sally in the *More-Time* cases, we would need to amend the condition. This is because in the *More-Time* vignettes featuring Sally, there is no *actual* counterevidence. At best the possibility exists that Sally might encounter counterevidence had she investigated more thoroughly. However, such a revision would make for a principle that turns out to be too strong. It is one thing to insist that I might fail to know on the basis of counterevidence that is in the air, and quite another to insist that I might not know because it is *possible* that such counterevidence is so. Tabling this concern, notice that the notion of accessibility itself does not seem unsullied when applied to the time constraints cases. If the difference in time pressures between the two cases is what makes (potential) counterevidence more accessible for Sally in the *More-Time* cases, then what counts as epistemically accessible is sensitive to the subject’s truth-irrelevant time-constraints. Provided that the failure to rule out accessible counterevidence of this sort precludes one’s true belief from being a case of knowledge, it would appear that PE is true.

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50 Here is Lycan’s (1977) paraphrase (for the sake of brevity) of one of Harman’s cases:

Example II: My friend Donald has gone to Italy. He told me he was going, I saw him off at the airport, etc.; I have every reason to believe he is in Italy and absolutely no reason not to believe so. However, as a practical joke or whatever, Donald has written some letters purporting to have been written in California, and has sent them to a cooperative friend in California and had the friend mail them on to me from there. They have arrived, and are sitting on my hall table with my other mail, though I have not yet looked at any of the mail.

According to Harman (143–7), I do not know that Donald is in Italy because the presence of the letters on my table undermines my knowledge. However, he adds that if we alter the story so that Donald merely wrote, but did not send the letters, then the letters no longer undermine my knowledge. Note Lycan doubts that the subject in the original case has knowledge.

## 7. JENNIFER NAGEL'S INVARIANTISM

As I've already stated, the pragmatic encroacher arguing from intuitions about cases does not only face opposition from the contextualist, but also Jennifer Nagel's (2008, 2010)<sup>51</sup> strict invariantist account. Nagel's primary aim in these works is to argue for a purist account of the apparent *stakes-sensitivity* of knowledge attributions while avoiding the shifty semantics of contextualism. However, in Nagel (2008) she makes some passing remarks regarding the potential influence that time-pressures may have on a subject's epistemic conduct. In doing so, she depends on the work of Kruglanski and Webster (hereafter, K&W) (1991, 1996)<sup>52</sup> which indicates that epistemic subjects in high time-pressure (i.e., less-time) situations tend to think more heuristically and feel stronger negative attitudes against dissenting opinions. K&W (1996: 266) explain the phenomena by appealing to the theory that a perceived impending deadline (for coming to a decision) heightens in the subject the *need-for-closure* where closure marks the "crystallization" of an outright belief. It is in response to experiencing a greater motivation to close inquiry that subjects tend to use cognitive shortcuts, limit inquiry, and exhibit greater resistance to counterevidence. Quite surprisingly, and most relevant to our discussion, is the fact that according to K&W (1991: 216) subjects of high time-pressure (less-time) situations were inclined to report feeling more confident in their conclusions than their low time-pressure (more time) counterparts.

Using these findings, the Nagelian might suggest that the participants of my studies are merely attributing varying confidence levels (to Sally) between the *More-Time* and *Less-Time* vignettes. This is because they conceive of the subject with less time as experiencing a higher need-for-closure. Provided that they regard Sally in the *More-Time* cases as being sufficiently less confident than her counterpart (so as to prevent outright belief), it would be no wonder she is thought to be less inclined to know. Thus it would appear that the Nagelian is able to account for the asymmetrical results of the knowledge judgments without compromising purism. On such a view *time-constraints-sensitivity* is not necessary to account for the asymmetrical knowledge judgments. The difference in time constraints between the cases has an indirect affect on knowledge attributions by varying the attributions of credence levels, which in turn affects the judgments of whether Sally outright believes.

However, given that *full* confidence was stipulated of the subjects across conditions and that each survey included a confidence-tracking probe, this seems an unlikely explanation. Still, the Nagelian might insist that the stipulated confidence creates a further feature, which can be exploited by the purist to explain the apparent time-constraints-sensitivity of knowledge. The story might go as follows. Subjects with a low need-for-closure (i.e., those in the *More-Time* cases) are normally expected to experience less confidence in their conclusions than subjects with a high need-for-closure (i.e., subjects in *Less-Time*

51 Nagel depends on the notion of *epistemic anxiety* to account for stakes-sensitivity in this work. To support this account, she cites studies (e.g., McAllister *et al.* 1979) showing that we tend to expect an increase of epistemic anxiety in subjects facing high-stake situations. However, I do not explore how attributions of epistemic anxiety might be employed by the Nagelian to account for the time-constraints-sensitivity of interest here because I know of no studies (to date) that have drawn any connections between time-pressures and epistemic anxiety.

52 In speaking of the high-need-for-closure, Nagel (2008: 288) also mentions Mayseless and Kruglanski (1987). However, I do not address these here since they did not test for time-pressure effects.

cases). But Sally in the *More-Time* cases is described as being fully confident which is to go against the predicted behavior. Consequently, the participants must think that there is something epistemically deficient about Sally (in the *More-Time* vignettes) to account for this fact. This deficiency might be something like haste, distraction, or wishful thinking, which are (in their own right) knowledge-defeating, due to unreliability.<sup>53</sup> A subject that forms a belief in virtue of such vices would fail to know not only in a *More-Time* situation, but also in any circumstance. Thus it is the very fact that Sally is described as being fully confident despite being in a *More-Time* scenario (where she is expected to be less-confident) that accounts for the judgment that she fails to know. On this reading, Sally's ignorance in the *More-Time* cases is due to her failing along some truth-relevant dimension such as forming her belief on the basis of a compromised method or process. Consequently, the asymmetrical judgments arising from the time-constraints cases are accounted for without positing *time-constraints-sensitivity* and orthodoxy is preserved.

Fortunately, for the pragmatic encroacher there are reasons to resist this account. One thing to notice about the Nagelian approach is its dependence on K&W's theory of the need-for-closure as well as the associated studies suggesting that time-pressure may heighten this motivation thereby, boosting the subject's confidence in her belief. As such, salient differences between K&W's experiments and those featured in this work would prevent a straightforward import of the results from the former into an explanation of the latter. This is how I intend to argue against the Nagelian account suggested here.<sup>54</sup> If successful, this should suffice to remove a strong motivation for the Nagelian theory of the data.

The first difference between K&W's experiments and the time constraints surveys featured in this work is that the former tested only *first-person* attributions (of confidence) while the latter focuses on judgments about *third-person* knowledge attributions. In K&W's (1996) studies, participants were asked to form the relevant belief (under time-pressures) and then asked about their views about dissenting opinions, how they felt about the one offering the dissent, as well as their own confidence levels in their conclusions. However, it is unclear how they would have responded in assessing the mental states of an epistemic subject in an imagined time-constraints scenario. It is one thing to experience a heightened need-for-closure and an attendant sense of confidence in one's conclusion when facing time-pressures and quite another to expect such states in another person perceived to be in similar circumstances. Since the time constraints experiments featured in this work test for third-person knowledge attributions, the purist invariantist wishing to employ the works of K&W needs further evidence indicating that we tend to expect a greater need-for-closure and subsequently an increased level of confidence (in the pertinent belief) in subjects in *Less-Time* cases. In fact, this strikes me as unlikely. The fact that K&W's subjects reported greater confidence in light of having less time to deliberate is a very surprising finding rather than an expected one.

Secondly, even if the Nagelian were to overcome the first-person/third-person attribution issue, K&W's findings are insufficient in themselves to account for the asymmetrical knowledge attributions found in my studies. This is because the Nagelian of this approach must insist that the expected difference (of the third-person attributions) in confidence levels (between the *More-Time* and *Less-Time* Sally) is significant enough to merit the

53 Nagel suggests a parallel account (2010) involving epistemic anxiety and stakes.

54 I have attempted to construe what I take to be the most promising Nagelian approaches based on the writings of Nagel (2008, 2010), but this is by no means an exhaustive exploration.

attribution of an epistemic vice to our more-time Sally. It isn't clear however, why this should be granted.<sup>55</sup> The fact that Sally in the *More-Time* cases is more confident than is expected does not itself suggest that she is epistemically vicious. Certainly, *one* explanation for why she might be more confident than expected would be that she is motivated by wishful thinking, haste or distraction, but this is no exhaustive list of the plausible options. After all, some people are naturally more confident than others in their conclusions, but this need not be suggestive of epistemic viciousness. Furthermore, the stipulated confidence, even if suggestive of an epistemic vice, doesn't obviously indicate that the subject has formed the pertinent belief *in virtue* of this vice. In fact, it is clearly stipulated across all conditions that Sally forms her belief solely on the basis of her evidence (the recollection of what she read in the textbook). So it seems unmotivated to insist that the study participants conceived of her as forming her belief *on the basis* of some epistemic vice rather than the evidence.

Lastly, supposing that study participants are inclined to attribute an elevated need-for-closure to subjects facing high time-pressures, it isn't clear how this fact should be applied to the cases involving Sally and Harry. What is common in both the *More-Time* and *Less-Time* conditions is the fact that *ultimately*, Sally is described as needing to "decide quickly." That is to say, there does not seem to be any sense in which Sally would have a higher motivation to close inquiry in the *Less-Time* cases when compared with the *More-Time* cases. Even in the *More-Time* cases where she has had 4 months, upon her patient's return, Sally must make a quick decision. The fact that she obliges, that is, she acts in a manner consistent with this heightened need for closure even in the *More-Time* cases, seems to support this supposition. Thus, provided that the attributions of the need-for-closure are positively associated with different degrees of confidence, it is not clear why participants would expect different credence levels for Sally between the contrasted conditions. In other words, we need convincing reasons to think that (as the participants see it) Sally in the *More-Time* conditions would experience a different degree of the need-for-closure, than Sally in the *Less-Time* cases.<sup>56</sup>

Now couldn't the Nagelian simply forego reliance upon K&W's studies? After all, it might be argued that we normally expect subjects with more time to deliberate to

55 In fact, K&W (1991) found that even the *Less-Time* group reported less than full confidence in their conclusion: (mean = 5.13 on a 1–7 point scale, compared with a mean of 4.34 and 3.85 for the *More-Time* cases). Thus, if study participants were tracking something like K&W's findings as the basis of their third-person judgments, then we might expect them to find it equally troublesome that Sally is described as fully confident in the *Less-Time* scenarios. If epistemic vices are in turn attributed and knowledge defeating, we might expect the same response to Sally in the *Less-Time* cases.

56 K&W's (1991) studies differ in this respect. They involve a group of subjects directed to reach a consensus between two options. At some point in the discussion they are interrupted by a dissenting opinion. In the early conditions (low time-pressures/more time), the deviant view is expressed early on so that the deadline is further from view. In the late condition, it is expressed closer to the deadline, and so later in the discussion. Immediately following the interjection of the deviant view, an experimenter then announced how much time was left until a consensus (the conclusion) needed to be reached. Accordingly, we might think of the announcement of the impending deadline (following the confederate's appeal) as making salient to study subjects the pertinent time-pressure rather than the initial time that is given to each group (which was fixed between conditions). However, in my experiments involving Sally, while there is the mention of time constraints at the outset (i.e., 2 minutes or 4 months) Harry's return to pick up his treatment in the *More-Time* cases would plausibly heighten his need-for-closure.

deliberate more. Sally's failure to meet this prediction in *More-Time* in conjunction with her full confidence might be enough to yield the judgment that Sally is epistemically compromised. In fact, Nagel (2008: 290), in speaking about Schaffer's (2006) *Low-and-Slow* case (which features a subject in a low-time case), writes, "... the suggestion that a subject is deliberately avoiding available evidence is enough to generate a concern that his belief is ill-formed on any theory." So it could be argued that the folk judgment that Sally fails to know in the *More-Time* conditions is to be explained in terms of this general expectation. But it would be too quick to apply this line to the Sally cases. In the first place, there is not any mention of any actual evidence that Sally is avoiding in the *More-Time* vignettes. More importantly, it should be stressed again that Sally is described in each of the conditions as forming her belief *solely* on the basis of her evidence (i.e., what she remembers reading in a textbook). However, as we saw earlier, the presence of an epistemic vice (in the subject) should be linked to the formation of the pertinent belief in the right way for it to defeat the subject's knowledge in accordance with purism. That is to say, the mere presence of an epistemic vice (at some point or other) in Sally of the *More-Time* situations doesn't seem enough to prevent her from knowing.<sup>57</sup> Instead it must be judged that in the *More-Time* cases, Sally forms her belief (at least to a significant degree) on the *basis* of the very defect.<sup>58-59</sup>

In fact, turning to the *More-Time* vignettes, if there is a vice in Sally, it seems most plausible to construe it as influencing her choice to put off the matter for 4 months or as affecting her *deliberations* about *which belief-forming process to use to form her belief about Harry's treatment options*. In other words, it is not the case that Sally formed her belief (about the best of the three medications for Harry) on the basis of wishful thinking, haste or the sort, but rather that her decision to neglect the inquiry until her patient's return or else her choice to depend solely on her memory to settle the matter was in part, a result of some epistemically<sup>1</sup> compromising desire. But now it appears dubious to say that Sally's belief-forming process regarding her conclusion about Harry's treatment, is an unreliable one. On pain of formulating an implausibly strong condition on knowledge (or justification) we should resist a view that requires that Sally must not exhibit any epistemic vice even in determining *which evidence-gathering strategy she would use to form her belief*. The problem for the Nagelian then is to locate the epistemic defect and to provide convincing reasons to believe that (as the folk see it) the particular role that it is thought to be playing in Sally's coming to hold her belief undermines the reliability of her belief-forming process. It will not be enough that Sally is employing an evidence-gathering strategy that departs from what is expected of her, and that this is best explained by the presence of some epistemic vice.

57 Fantl and McGrath (2009: 46) raise a similar point against Nagel's invariantist move regarding DeRoses's (2009) bank cases.

58 Nagel (2010: 419) writes, "For example, if someone is in a high-stakes situation and declines to pursue readily available evidence on a question that should be provoking high epistemic anxiety, it would be natural for us to attribute to him some desire or condition overshadowing his natural desire for increased cognitive effort. *If we see this condition as the basis of his belief*, then his judgment should naturally seem less reliable than the judgment of his low-stakes counterpart" (emphasis mine).

59 Admittedly, one could suggest an error theory here. For instance, it might be argued that the folk are simply conflating *the presence of the vice* (at some point or other) with *forming the belief via the vice*. However, I take it as a weakness in the Nagelian view to do so without good independent evidence.

One moral emerging is that applying Nagel's invariantism to account for the results of our studies will be no easy task. The proposal we have just been considering predicts that the participants of my studies have gone through a rather complicated process in thinking about Sally's mental states and dispositions. Here, PE (on the basis of *time-constraints-sensitivity*) seems preferable in its elegance.

## 8. CONCLUSION

We began by looking at a pair of cases where a practical feature, namely, the epistemic subject's time-constraints seems to affect our judgments as it regards whether S knows that p. This is even when the time-constraints are construed in a truth-irrelevant manner. We then considered the results of some recent experiments, which provided empirical support for the hypothesis that folk knowledge judgments are affected in this way. PE provides a straightforward explanation. On this view, whether S knows that p depends not only on S's standing along truth-relevant dimensions, but also on facts about how much time S has in forming her belief. I then construed both a purist contextualist reading of the data as inspired by Jonathan Schaffer (2006) and a strict invariantist's account inspired by Nagel (2008, 2010) before presenting reasons to resist these treatments. I concluded that we have some initial evidence to accept that knowledge ascriptions are sometimes sensitive to the subject's truth-irrelevant time-constraints and that this is an indication that PE is true.

As I have only provided some initial experimental data of *time-constraints-sensitivity*, more work is needed. Still, given that the phenomenon seems more resistant to some of the main purist accounts when compared with the apparent stakes-sensitivity of knowledge, this work may suggest a new and promising avenue of research regarding the matter of whether there is pragmatic encroachment on knowledge.<sup>60</sup>

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60 I am indebted to Ángel Pinillos for his invaluable help with the experiments featured in this work and for many useful comments made on earlier drafts. I am also grateful to Steven L. Reynolds, Joshua Knobe, as well as the associate editor and an anonymous referee for their well-placed suggestions on previous versions. Many thanks to Jonathan Schaffer, Jeremy Fantl, Steven Nemes, Paul Henne, Shea Musgrave, Hyung Rae Noh and Kurt Blankschaen, for helpful discussions (either in person or via email) about many of the issues addressed in this paper.

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## APPENDIX

*High-Stakes, Less-Time (HS-LT):* Sally is a medical student working in a hospital. Due to a radical shortage in hospital personnel, Sally is placed in charge of the care of a new patient, Harry. Harry has come in with a migraine that normal medicine has not been able to treat; he reports that they come and go frequently and that they are quite painful. Sally has to choose among the following three new medications: A, B, and C; she can only choose one, as they cannot be taken together. Also, if Harry takes the wrong medication his headaches will get even worse for a while and so there is a lot at stake for Sally to make the right choice. Unfortunately, she has no information about how well any of the medications work in comparison to the others.

Harry is in a hurry and is asking for a prescription so a decision must be made within the next 2 minutes. Sally must think quickly. Suddenly, she remembers reading in a textbook that medication C is a good headache treatment. Based solely on this, Sally believes that C is the best of the three medications and in fact, feels fully confident about it, and so she prescribes C for Harry. As it turns out, medication C is the best of the three options and cures Harry's condition.

*High Stakes, More Time (HS-MT):* Sally is a medical student working in a hospital. Due to a radical shortage in hospital personnel, Sally is placed in charge of the care of a new patient, Harry. Harry has come in with a migraine that normal medicine has not been able to treat; he reports that they come and go frequently and that they are quite painful. Sally has to choose among the following three new medications: A, B, and C; she can only choose one, as they cannot be taken together. Also if Harry takes the wrong medication his headaches will get even worse for a while and so there is a lot at stake for Sally to make the right choice. Unfortunately, she has no information about how well any of the medications work in comparison to the others.

*All three medications are currently on order and will take 4 months to arrive. So Sally has 4 months to decide, but she doesn't take advantage of the time. In fact, she lets the entire 4 months go by without thinking at all about Harry or the medications. At the end of the 4 months, Harry shows up to pick up his medication.* Sally must think quickly. Suddenly, she remembers reading in a textbook that C is a good headache treatment. Based solely on this, Sally believes that C is the best of the three medications and in fact, feels fully confident about it, and so she prescribes C for Harry. As it turns out, medication C is the best of the three options and cures Harry's condition.

The Probes for Sally and Harry Experiments:

1. To what extent do you agree/disagree with the following statement: "In the story, Sally is a nurse"?
2. To what extent do you agree/disagree with the following statement: "At the time she chooses treatment C, Sally feels fully confident that C is the best of the three treatments for Harry"?
3. In the story, at the time Sally decides on treatment C, Sally believes that treatment C was the best treatment for Harry and is fully confident about her decision. This next question is about whether Sally knows that C is the best option at the time she made her decision.

To what extent do you agree/disagree with the following statement: "At the time that Sally chooses treatment C, Sally knows that C is the best of the three possible treatments for Harry"?

\*4. "If Sally chooses the wrong treatment, it will be a very costly mistake, so the stakes are high."

\*Included only in the conditions where the stakes were manipulated.

Probes for Peter and the Proofreads experiments:

1. To what extent do you agree/disagree with the following statement: "It isn't important that Peter has no typos in his paper. Even if there are some typos, it won't matter much."
2. How long is Peter's paper?

- a) 1 Minute
- b) 1 hour
- c) 5 minutes
- d) 2 weeks
- e) 1 month

3. Use the box below to fill in the blank to make the following sentence true:  
“If Peter proofreads his paper \_\_\_\_\_ times, then he will know that there are no typos.”  
(Please enter the minimum number of times).

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JOSEPH SHIN is currently a graduate student at Arizona State University. His primary areas of research are epistemology, philosophy of language, and experimental philosophy.

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