

Knowledge, Time Constraints, and Pragmatic Encroachment

by

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## ABSTRACT

In this work, I provide two novel pieces of evidence in favor of the view that there is pragmatic encroachment on knowledge. First, I present an empirical case *via* the results of a series of recent experiments which indicate that folk-knowledge attributions may be sensitive to time constraints, even when the latter are construed in a non-truth relevant manner. Along the way, I consider some comments made by Jonathan Schaffer (2006) as it pertains to interpreting time constraints-sensitivity in a manner that supports contextualism, before offering reasons to resist such a treatment. I proceed by applying *interest relative invariantism* to adjudicate a conflict in the epistemology of testimony; namely, the positive reasons requirement *a la*, reductionism vs. non-reductionism. In particular, I highlight how whether an epistemic subject H needs positive non-testimonial reasons to be justified in accepting S's testimony that p, depends on what is at stake for H in believing that p and how much time H has in deliberating about p.

For my wife Katie, my most constant source of support and inspiration.

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## Section 1

### Time and Knowledge: When Less is More

#### Introduction

As temporal and finite beings our lives are constantly constrained 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 and high demand. I may endeavor to travel the world and visit every highly regarded restaurant along the way, but in addition to requiring a small fortune, 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. A close friend may have a duty to “be there for you” but we certainly don’t take this to mean that they should *at all times* be available. Likewise, in deciding between a range of job offers, it may be responsible 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 so barring some special status, seems no more inoculated from time constraints than any of our other doings. Moreover, knowledge seems (at least by many lights) to involve normativity and providing that normative considerations are sensitive to time constraints, we have reason to suspect that epistemic norms and duties if they exist, will follow suit. 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 years than I have left to live.<sup>1</sup>

One manner in which time constraints can affect our judgments about what a subject knows is by limiting the opportunities for the subject to conduct truth-conducive activities. Stated simply, it takes time to form beliefs and to gather evidence. If so, then we might suspect to judge that a subject who has more time to form a belief will be more inclined to know relative to a counterpart subject who has significantly less. This is because (at least regarding some propositions) the vigilant gathering and evaluating of evidence, thoughtful deliberation, and other truth-relevant work requires more time than quick, snap judgments; and according to conventional wisdom, it is the former process that seems to incline one towards truth over the latter at least in many situations. Relatedly, we may also favor the epistemic position of subjects who have relatively more time than those who have less because we imagine that holding a belief diachronically might provide some positive credit to its truth or at least the subject's epistemic position regarding it. This is because we suppose (barring strange circumstances) that a subject having had more time is more apt to have had opportunities to encounter defeaters than a

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<sup>1</sup> Admittedly, one might break epistemic norms blamelessly as some have suggested. But I am primarily concerned about epistemic expectations/norms as it regards justification and justification enough to confer knowledge. If we can know despite breaking epistemic norms because we do blamelessly due to practical features like time constraints, then I am interested in how practical features of this sort encroach on our knowledge attributions just the same. On the 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 practical considerations.

counterpart holding a belief, momentarily. Provided this subject retains her belief and confidence (and that she is being epistemically responsible in doing so), we might judge that such a person (who holds the belief through a longer period of time) has superior evidence than a counterpart who, due to maintaining the belief only momentarily, has not encountered and worked through the same challenges or potential defeaters.

Such considerations of time *vis-à-vis* knowledge, then construe the time constraints of an epistemic subject, epistemically or relevant in the right kind of way to the truth of the proposition in question albeit, indirectly. Considered in this light, time may affect the quality of one's evidence, the degree to which the S is confident in her belief, the kind of belief formation process employed and the like<sup>2</sup>. So conceived time constraints, if they affect our epistemic judgments would do so in a manner consistent with *epistemological purism*. Epistemological purism is the view that if S1 and S2 are in the identical epistemic position<sup>3</sup> regarding some proposition p, then it cannot be the case that one subject is in a position to know that p while the other is not<sup>4</sup> (where the extension of 'know' is invariant between utterances). Here, S's epistemic position in relation to p is defined purely in terms of truth-relevant features. Thus epistemological purism is the

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<sup>2</sup> I take these to be traditional epistemic or truth-relevant/conducive features.

<sup>3</sup> Note that one's epistemic position as used here can be affected by what most epistemologists have referred to as broadly truth relevant features such as the presence of fake barn facades.

<sup>4</sup> Contextualism as it is often formulated is consistent with purism, but uses a semantic maneuver to allow that for instance, in some situations it can be true that S1 knows that p while also true that S2 fails to know that p even when S1 and S2 are identical regarding their epistemic positions regarding p. The contextualist treats 'knows' as an indexical and then cites that in some circumstances practical features like stakes may shift the conversational context of the appraisers of the 'S knows that p' locution such that what counts as 'knows' in one conversational context may fail to do so in another.

view that non-truth relevant factors of S's situation cannot bear constitutively on whether S knows that p.

But what happens when we construe time constraints in a non-truth relevant manner? That is, suppose we consider the *mere* presence of time in an epistemic subject's circumstance. Can such time still influence whether S knows that p? Suppose that S1 has little time in her situation and so must (as a matter of prudence or utility) form a belief rather quickly which she does in virtue of evidence E. In contrast, suppose S2 is in everyway identical to S1 but has several months (rather than a few moments) to consider the truth of p. Still, S2 allows the months to pass without a thought to the matter and forms her true belief that p based only on E just as quickly as S1. Could this have any affect on whether S1/S2 knows that p? In fact, I believe that in certain circumstances we<sup>5</sup> judge that it does. If so, then this would be some indication that epistemological purism as a categorical doctrine might be contrary to our judgments about what constitutes knowledge.

This work is comprised of two chapters. In *Section 1*, I begin by presenting a pair of cases that I believe to draw out intuitions in favor of the view that our knowledge attributions are sensitive to the epistemic subject's time constraints even when these time constraints are construed in a non-truth relevant manner. I move to support this thesis with some recent experimental findings that I believe to provide some *prima facie*

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<sup>5</sup> That is, in employing our folk conception of knowledge.

evidence that the folk concept of knowledge<sup>6</sup> may involve (non truth relevant) time constraint considerations. This in turn provides some empirical evidence in favor of the view that knowledge is sensitive to practical features, at least as it pertains to the folk concept of knowledge. I continue in *Section 2* by applying pragmatic encroachment to a debate between reductionism and non-reductionism about testimonial justification. In particular, I consider the conflict over the matter of whether we need non-testimonial, positive reasons in order to justifiably believe an instance of testimony or whether we can be justified in virtue of an *a priori*, defeasible presumption in favor of testimony. I argue that a theory of testimonial knowledge that is sensitive to stakes and time constraints in the way that pragmatic encroachment predicts is able to provide some important insight into the matter. We need not view the positive reasons requirement as a categorical requirement upon all cases of testimonial justification; on the contrary, I argue that whether an epistemic subject must fulfill it or not depends in part on practical features of S's situation.

### Knowledge and Action

As of late, a growing body of literature in epistemology has explored the connection between the epistemological and practical domains. More specifically, a number of philosophers have proposed that an intimate relation exists between *what we know* and

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<sup>6</sup> I am open to the idea that there may be more than one concept of knowledge. Perhaps there is at least one specialized philosopher's notion and at least one folk-conception. Of course, being a philosopher doesn't preclude one from employing the folk conception; in fact, my suspicion is that philosophers often do since they must interact with non-philosophers on a daily basis, often employing the concept and a correlative term. In this paper, I am interested in exploring the folk-concept of knowledge.

the norms of *reasoning about what to do*. Stemming from our ordinary practice of using knowledge citations as a means of criticizing and defending actions, Fantl and McGrath (2007) have proposed the following Knowledge-Action principle (KA): *S knows that p only if it is rational for S to act as if p*. Worried that i) the principle gets the order of explanation in reverse (i.e., KA implies that S doesn't know that p in virtue of it not being rational to act as if p) and ii) that it fails to account for situations where it may be rational to act as if  $\sim p$  even though using  $\sim p$  in one's reasoning about what to do is inappropriate<sup>7</sup>, Hawthorne and Stanley (2008) present the Action-Knowledge principle (AK): Treat the proposition that p as a reason for acting only if you know that p. Ultimately they refine it to the following bi-conditional, Reason-Knowledge Principle (RK): *Where one's choice is p-dependent, it is appropriate to treat the proposition that p as a reason for acting, iff you know that p*. As Jessica Brown (2008) puts it, knowledge is thought to be necessary for rational action (AK), sufficient (KA) or both necessary and sufficient for action (RK). There are some principled arguments for each of these proposals that I will not have time to rehearse here. Nor will I attempt to adjudicate between them<sup>8 9</sup> though I will highlight

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<sup>7</sup> Hawthorne and Stanley provide the following example: I hold a lottery ticket that if a winner will yield at most 2 dollars. I have the opportunity to sell it for 5 dollars before the winning numbers are announced. If I sell it for 5 dollars, on grounds that I will lose then I do the correct action however, it would be inappropriate for me to use "I will lose the lottery" as a premise in my reasoning about what to do.

<sup>8</sup> For purported counterexamples to each of these principles see Jessica Brown (2008).

<sup>9</sup> Mark Schroeder (2012) argues that the weighing of evidence for and against some proposition p is not enough to guide us in determining whether we should believe p,  $\sim p$ , or crucially whether we should simply withhold belief. Since all p-relevant evidence will be either for or against believing p, and since it is sometimes appropriate to withhold assent, whether we ought to withhold belief in some proposition cannot be determined solely by evidential factors. Further, he argues that determining whether we should

Hawthorne and Stanley's RK for ease of composition. What is significant for our purposes is the point at which they intersect; each principle defines an important connection between knowledge and the norms of action or more generally between the practical and epistemic domains.

Fantl and McGrath (2007) go on to pair KA with the widely accepted fallibilist thesis (i.e., S can be in a position to know<sup>10</sup> that p despite having non maximal<sup>11</sup> justification for p) to argue against epistemological purism and for pragmatic encroachment. The latter, often referred to as *interest relative invariantism* (IRI),<sup>12</sup> makes certain predictions about the truth conditions of knowledge attributing and denying statements as well as how persons will respond to them. For instance, if whether S knows that p depends constitutively on practical features of S's situation (e.g., S's goals, desires, stakes) then the truth conditions of an S knows that p locution (and derivatively our judgments regarding them, barring incompetence) would likewise be sensitive to facts about practical features.

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withhold assent or give assent is a matter of epistemic rationality. Thus, epistemic rationality is not a purely evidential matter, which is to open the door to pragmatic encroachment.

<sup>10</sup> For my purposes I will use "in a position to know" and "know" interchangeably unless something significant hinges on it in which case I will distinguish between the two.

<sup>11</sup> That is, it fails to entail that p.

<sup>12</sup> Throughout this work, I follow Fantl and McGrath (2007), Sripada and Stanley (2012) and Stanley (2005) in using "IRI" and "pragmatic encroachment" interchangeably. However, strictly speaking, the terms may not refer to the same theory. One might for instance accept that contextualist semantics are in play regarding a pair of cases yet insist that knowledge is also pragmatically encroached upon concerning the very same cases. We visit this rather strange approach later in this work. On the other hand, an IRI reading of certain case pairs seems necessarily incompatible with the contextualist's interpretation.

IRI provides a rival explanation of various thought experiments to contextualism. Roughly, IRI can account for cases like Keith DeRose's bank cases (where there seem to be shifty intuitions)<sup>13</sup> by explaining that S doesn't know that p when the stakes are high, but knows when the stakes are sufficiently low despite bearing the same epistemic position regarding p in both scenarios. IRI theorists explain the asymmetry by appealing to the fact that practical features such as stakes for instance, despite being truth irrelevant, can defeat an epistemic subject's justification. Some proponents<sup>14</sup> of this controversial view, go on to cite that if knowledge is a norm for practical deliberation then it shouldn't be too surprising to find that the truth conditions of knowledge ascriptions are sensitive to practical features as presented by IRI.

I offer a brief sketch of two important differences between IRI and its adversary, contextualism because we will return to the comparison in discussing Jonathan Schaffer's comments regarding time constraints<sup>15</sup> and knowledge, later in this work. First, while contextualism centrally depends on the variability of the truth conditions of knowledge ascribing statements (i.e., what makes 'S knows that p' true in one conversational context may not make it true in another), IRI is essentially invariantist. That is to say, IRI theorists are committed to the view that the truth conditions of an "S knows that p" token

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<sup>13</sup> I.e., we seem to judge that S knows that p in Low Stakes, but then judge that the same S fails to know the same p, in the High Stakes case despite S having the same evidence across conditions.

<sup>14</sup> For instance, Stanley (2005) and Hawthorne (2004) argue in this way.

<sup>15</sup> Note, Schaffer (2006) doesn't use the phrase "time constraints" but speaks of the amount of time an epistemic subject S has affecting our intuitions about whether she knows a relevant proposition.

do not vary from one context of utterance to another<sup>16</sup>. Secondly, and more significant to our purposes, contextualists often appeal to the salience of error possibilities as one of the key factors affecting our truth value appraisals of knowledge attributing locutions. On contextualism, error possibilities when called to our attention (as assessors of an ‘S knows that p’) may shift the conversational context and this can account for our vacillating intuitions about a range of cases. It is because one situation (perhaps involving high stakes) encourages me to entertain certain live counter-possibilities to p, that I am moved into a different high standards context such that it takes more for *S* *knows that p* to come out true. Thus, on this contextualist reading, in these circumstances, I am inclined to judge that ‘S knows that p’ is not true. On the other hand, IRI theorists believe that the epistemic subject’s practical features directly affect the truth conditions of knowledge attributions (regarding that subject) and do not employ the salience of error in the ways familiar to the contextualist.

### Time Constraints

As aforementioned, my main project is to present data in favor of IRI. A survey of the current literature on IRI reveals that there are two general methods of supporting the controversial thesis. The first strategy as employed by Stanley and Sripada (2012), Stanley (2005) and Pinillos (2012) is to argue from intuitions about particular cases (e.g.,

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<sup>16</sup> As DeRose (2009, 25) puts it, “according to SSI, like other forms of invariantism, given S’s situation, there’s a single set of standards which, at least as far as truth-conditions go, govern any speaker’s assertion about whether or not S ‘knows’ that p, regardless of those speakers’ conversational contexts”.



DeRose's Bank cases), including both the intuitions of philosophers as well as folk judgments. A second approach is to argue for a principle like AK, KA or RK, which takes knowledge to bear some deep connection to action. Armed with a plausible principle of this sort, intuitions about certain cases are thought to favor IRI.<sup>17</sup>

I will be taking the first approach<sup>18</sup>, that is, to argue from judgments about particular cases. Thus I will contend that the folk concept of knowledge is sensitive to time constraints even when presented in a non-truth-conducive manner. My first bit of data comes from considering the following pair of cases:

*High Time Constraints (HTC)*: 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

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<sup>17</sup> Fantl and McGrath in (2002), (2007) argue in this way.

<sup>18</sup> Keith Lehrer (2000) suggests that there may be situations in which it is inappropriate conversationally, to say "I know that p" even when one knows it. E.g., This might suggest that arguing from our intuitions about the relevant cases to the *truth conditions* of those cases may be a troubled approach. That is to say, for all we know, intuitions that 'S doesn't know that p' is false in a high stakes case may merely reveal conversational constraints and say nothing about the truth conditions of such locutions. I don't find this view very convincing primarily because I simply disagree with the main judgment, but will not have time to deal with it here. I get around this problem by making my project more modest; I do not think that the intuitions about cases (and the experimental data I present here) gives anything like definitive reasons to accept IRI, rather that it provides some *prima facie*, evidence in favor of the view.

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 true belief that C is the best treatment for Harry 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. Moreover, Sally did the right thing both in what she prescribed for Harry, but also (and perhaps more importantly) in using her belief that C is the best treatment of the three for Harry to inform her decision. Now compare this to the following:

*Low Time Constraints (LTC)*: 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 four months to arrive. So Sally has four months to choose the best treatment for Harry but she doesn't take advantage of the time. Instead Sally lets the entire four months go by without thinking at all about Harry or the medications. At the end of the four 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.*

I have italicized the lines in *LTC* that deviate from *HTC*. In *LTC*, Sally has significantly more time than in *HTC* to deliberate about Harry's treatment, but does not take advantage of this time and winds up having the same evidence for her true belief as Sally in *HTC*. But now there seems to be some considerable pressure to deny (so I judge) that Sally knows in *LTC*. This is despite the fact that apparently, Sally's epistemic position regarding the relevant true belief across the two vignettes remains fixed. As the vignettes stipulate, Sally is fully confident of her choice in both scenarios, has the identical

evidence and stakes. Yet there seems to be a sense in which her evidence is not what it should be in *LTC*.

It may be interesting to note that there also appears to be pressure to say that Sally's behavior is somehow inappropriate in *LTC* while the same cannot be said of *HTC*. In fact, it seems Sally acted quite appropriately in *HTC* as a health care provider given her situation (Harry is in a hurry). If we judge that Sally is more inclined to know in *HTC* than in *LTC* and we grant that across both conditions Sally's epistemic position (regarding the pertinent proposition) remains fixed, then it seems as though a non-truth-conducive feature namely, time constraints may in fact, affect our knowledge judgments—and this is precisely what IRI predicts. Incidentally, Jonathan Schaffer in (2006) presents a pair of cases (*Low-and-Slow* vs. *High-and-Fast*)<sup>19</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 but neglects to do more to ensure that p is true even while S knows that p in the situation where she has relatively less time<sup>20</sup>.

As I stated at the outset, I am interested in whether the folk concept of knowledge is sensitive to time constraints in a way that supports pragmatic encroachment/IRI. To

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<sup>19</sup> See below, in the portion titled “Schaffer and Time Constraints I present the cases.

<sup>20</sup> In fact, Schaffer thinks that the relevance of the subject's time constraints works to overturn the affects of stakes. I remain neutral on this prediction. Further, I ultimately disagree with his view about *how* time constraints might influence our thinking our knowledge attributions (a point I will address later in this paper), I agree with his general intuition here.

this end, we turn to findings from a series of recent surveys that I believe provide some initial support for this view<sup>21</sup>.

### Experiment 1

The first pair of experiments consisted of *HTC* and *LTC* as enumerated above. 110 subjects enlisted from MTURK were randomly assigned one of the two conditions. Participants were then presented 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. 29 subjects were excluded for missing one or more of the three comprehension questions. Among the decoy questions was a confidence question: “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. 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 *LTC* (relative to *HTC*) such that it might defeat Sally’s belief and subsequently knowledge, then this would be consistent with epistemological purism and thus would not support IRI. 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

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<sup>21</sup> In so doing, I buy into the controversial method of using empirical studies to determine folk judgments that are in turn used to inform philosophical inquiry.

ensure that participants were not varying stakes between the two conditions. Finally, I included a question about the appropriateness of Sally's action in order to see if knowledge attributions of the relevant proposition would be associated with judgments that Sally acted appropriately employing the same proposition in her reasoning about what to do. To do this I presented the following prompt:

In the story, Sally decides on treatment C because she believes treatment C is the best of the three options for Harry. If someone were to ask Sally why she went with C, she would respond that she believed it was the best of the three treatments for Harry. It turns out that she was right and C was in fact the best option.

This was followed by a question probing judgments about the appropriateness of the protagonist's deliberation about what to do:

To what extent do you agree/disagree with the following statement? "It was appropriate for Sally to use her belief (that C is the best treatment for Harry), to make the decision".

My prediction was that subjects would be more apt to attribute knowledge to Sally in *HTC* (where she has less time) than in *LTC* (where she has relatively more time). This prediction is what we would expect if IRI were true. Furthermore, in line with Stanley and Hawthorne's RK principle (where one's choice is p-dependent it is appropriate to treat p as a reason for acting *if and only if* you know that p) I predicted that knowledge attributions to Sally and verdicts on the appropriateness of her employing her true belief

to reason about what to do would rise and fall together. Both predictions were borne out. That is, to a statistically significant degree subjects were more inclined to attribute knowledge to Sally in *HTC* than in *LTC*. The results for the question asking about whether Sally knows<sup>22</sup> are as follows, *High Time Constraints (HTC)*: (N=38, Mean=3.55, SD= 1.655), *Low Time Constraints (LTC)*: (N=43, Mean=2.67, SD=1.476) T-test,  $t(79)=2.52$   $p=.014$  (two tailed). Cohen's  $d=.56$  (medium effect size)). There was also a slight to moderate correlation between the tendencies to attribute knowledge to Sally and to indicate that Sally acted appropriated in using her true belief (that C is the best treatment for Harry) to deliberate about what to do in *HTC* compared to *LTC*. *High Time Constraints (HTC)*: ( $r=0.306$ ), *Low Time Constraints (LTC)*: ( $r = 0.378$ ).

## Round 2

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 simply altered the seriousness of her patient Harry's condition. Whereas Harry in both *HTC* and *LTC* 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

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<sup>22</sup> The knowledge question began with a prompt to hedge off readings of "knows" that might be something like mere true belief.

The prompt: "At the time Sally chooses treatment C, she believes and feels fully confident that C is the best of the three options for Harry. This next question is about whether Sally knows that C is the best of the three options for Harry".

The knowledge question: "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 treatments for Harry?"

that will get worse (in terms of pain) for a time if the wrong medication is taken. Again 110 participants for MTURK were presented with one of the following two conditions:

*High Stakes, High Time Constraints (HS-HTC):* 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.

This condition was compared to a situation where the time constraints were manipulated but the high stakes left constant.



*High Stakes, Low Time Constraints (HS-LTC):* 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 four months to arrive. So Sally has four months to decide, but she doesn't take advantage of the time. In fact, she lets the entire four months go by without thinking at all about Harry or the medications. At the end of the four 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 same comprehension questions were used to filter responses and to ensure relevant facts were being tracked. I also used the same probes as before including the appropriateness of action (i.e., using *p* as a reason to act) and the knowledge question (with prompt). 28 of the 110 respondents were excluded for missing at least one of the decoy questions. 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. I made the following three predictions: (1) the (relatively) less time Sally has the more inclined participants would be willing to attribute knowledge to Sally; (2) participants would judge that it was more appropriate for Sally in *HTC* than in *LTC* to use her belief about the best treatment, in order to determine what to do; (3) that participants would be noticeably less inclined to attribute knowledge to Sally in either of the high stakes cases when compared to their correlating base pair vignette (where the stakes were relatively low). That is to say, I expected a stakes effect.

In raising the stakes, once again I found a statistically significant time constraints effect on knowledge attributions. Subjects were more apt to ascribe knowledge to Sally in *HS-HTC* (where she has only 2 minutes) than they were to her in *HS-LTC* (where she has 4 months). These were the results: *High Stakes High Time Constraints (HS-HTC)*: (N=39, Mean=4.23, SD= 1.55), *High Stakes Low Time Constraints (HS-LTC)*: (N=43, Mean=2.92, SD=1.98), T-test,  $t(76)=3.25$   $p=.017$  (two tailed). And as with the base pair (*HTC* and *LTC*), knowledge attributions positively correlated with the judgments that Sally acted appropriately (in using her true belief as a premise in her practical reasoning) in *HS-LTC*: ( $r=.712$ ). I did not find such a correlation in *HS-HTC* which yielded only

( $r=.026$ ). I attribute this to the fact that most all of the respondents indicated that it was appropriate for Sally to use her belief to make up her decision in *HS-HTC*. Since Sally has little time and is in a high stakes situation, perhaps participants judged that Sally should do something rather than nothing. Finally, I did not find a statistically significant difference when comparing *HTC* and *HS-HTC*, nor did I find one between *LTC* and *HS-LTC*. That is to say, no stakes effect was detected<sup>23</sup>.

## Discussion

We just looked at two surveys indicating that (1) the folk are more inclined to ascribe knowledge to Sally when she has relatively less time to deliberate and (2) that there may be some positive correlation between folk knowledge ascriptions (e.g., Sally knows that *p*) and their judgments about the appropriateness of using the pertinent proposition in reasoning about what to do (e.g., it is appropriate for Sally to use *p* in deliberating about some *p*-dependent choice). (1) is a prediction of the view that knowledge is susceptible to practical interests that is, IRI. While (2) is of the related RK principle (Stanley and Hawthorne): *Where one's choice is p-dependent, it is appropriate to treat the proposition that p as a reason for acting if and only if you know that p*. If RK is true, we would expect to find that where participants judged that Sally knows that *p*, they might also tend

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<sup>23</sup> There could be a confound since one might think that the stakes were not different enough between HS and LS conditions. Although I think that the mention of the painful migraines that will increase with the wrong treatment as well as the explicit statement that 'the stakes are high' in the high stakes conditions should have sufficed to alter the stakes from the base pair. Since I was not concerned about testing for stakes sensitivity I did not carry out a further test; perhaps if the patient's life was on the line this would make for a more dramatic difference in the perceived stakes and might yield results.

to judge that it was appropriate for Sally to use p in her deliberating about what to do; there is some (admittedly slight) evidence of this per (2).

I now turn to attempting to explain the apparent time-constraints sensitivity that is indicated by the results. Recall that the evidence between the high time constraint conditions and their low time constraint counterparts remains exactly the same. Further, Sally is consistently described as being fully confident in her true belief in all vignettes. However, as hinted at previously in considering Sally's actions in the low time constraints conditions (*LTC* and *HS-LTC*) she seems open to certain criticisms that may not be applicable to her counterparts in the high time constraint situations. For instance, we might cite Sally in *LTC* and *HS-LTC* for being irresponsible, unscrupulous either in general or as a health care provider. Perhaps then a role-ought or a more general prudential-ought is being broken and driving the folk judgment that Sally fails to know when she has four months. Indeed, in the low time constraints conditions, Sally appears to needlessly place herself in a tough spot so that she will at a later time have to make a quick decision. Of course, we expect more of our health care professionals and would like to imagine that they do everything that they reasonably can to ensure that we get the best treatment. In part, this will involve spending ample time researching and deliberating about our prescriptions. On the other hand, I do not find the same objection against Sally to be very legitimate when she has only two minutes to prescribe the medication (*HTC* and *HS-HTC*) due to features beyond her control. In fact, in a situation where Sally were to be reprimanded for acting with haste or with not enough care in the high time constraint scenarios, we could easily defend Sally by citing how little time she

had to make up her mind; her situation “forces” her in some real sense to act quickly and thus to make up her mind in like fashion. Here we might even feel the proclivity to praise her for thinking quickly and on her feet.

Such an explanation of the asymmetry depends on the idea that practical norms may in some way inform our epistemic judgments. If folk knowledge ascriptions are sensitive to facts about whether the epistemic subject behaved in a manner that was broadly rational or appropriate, then this is consistent with the view that knowledge is sensitive to practical features of the epistemic subject’s circumstances. That is to say, it would appear that the folk judgments about whether S knows that p are influenced by features of S’s situation that are not connected in the right sort of way that the truth of p. On the other hand, one might argue that the violation occurring regards a purely epistemic norm (presumably one that is related to the truth of p in the appropriate manner) in which case it might not be clear that IRI is supported by my findings. I address this line of thought as well as a contextualist interpretation of the data in the section titled, *Schaffer and Time Constraints* below. There I present reasons to think that no viable purely epistemic norm can be responsible for folk-time constraints sensitivity as well as defend my take on the data against one contextualist response.

## Experiment 2

One might worry that there was something special about my vignettes since they involve medical personnel and medical/scientific beliefs<sup>24</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 a suggestion from Ángel Pinillos (2012) who in testing for stakes-sensitivity devised an evidence-seeking paradigm. The motivation for this design (as presented by Pinillos) is the worry that for instance, study participants might add their own backstories when assessing vignettes in particular having to do with the epistemic subject's evidence. For Pinillos the worry had to do with the disparity between high stakes and low stakes narratives; he wondered if subjects might be granting that the protagonist in a high stakes situation had more evidence than the subject in the low stakes case<sup>25</sup> in which case there would be a serious confound. Similarly, one might worry that test participants are not keeping the evidence fixed between the high time constraints conditions and their low time constraint counterparts. This is despite the fact that it is clearly stipulated in the conditions just what the evidence is that the subject uses to form her belief. In order to alleviate this concern, Pinillos provided a story of Peter, a college student who is about to turn in a two-page paper for a course he is taking. Pinillos asked participants to fill in the in the following sentence: "Peter has to proofread his paper \_\_\_\_\_ times in order to know that there are not typos".

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<sup>24</sup> See "Schaffer and Time Constraints..." of this work to understand why this might be a worry.

<sup>25</sup> Pinillos posed this worry was in light of the first wave of studies [see for instance, Feltz & Zarpentine (2010); May et al. (2010); Buckwalter (2010)], which failed to detect a stake-effect.

At first glance, the idea that participants might be projecting different degrees or qualities of evidence to Sally between the conditions in the time constraints surveys seems a bit odd given the results. Taking this concern seriously one would expect that participants would judge that Sally has better evidence in *LTC* than in *HTC* since in the former she has more opportunity to seek evidence. If so, then one would predict that subjects would be more likely to ascribe knowledge to Sally in *LTC* than in *HTC*, but as we have seen this is the reverse of my findings. Still perhaps participants had other motivations for varying the amount of relevant evidence between the two conditions. It could be that Sally's careless attitude in *LTC* (since she doesn't think about her patient's well being for four months) was somehow thought to weaken the quality of her evidence in *LTC*. Perhaps then participants interpret the recollection of what she read in the textbook (i.e., her sole evidence) to be somehow less vivid in *LTC* than the recollection that Sally in *HTC* goes on to form her belief. Or perhaps they thought that the textbook (the careless) Sally relied on in *LTC* was somehow not as reliable as that used by Sally in *HTC*. Thus, I incorporated Pinillos' vignettes *mutatis mutandis* to feature time constraints as the variable rather than stakes. I feature them below.

*Peter High Time Constraints (PHTC)*: 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 Low Time Constraints (PHS-LTC)*: Peter, a good college student, has just finished writing a two-page paper for an English class. The paper is due in two 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 attribution question 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 within the time frame he has. Participants were told to fill in the blank with an 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 general worry that the framing of the question implicates that Peter *can* know in the five minute condition. The concern then is that this might drive the intuition that whatever number of



times he can reasonably proofread the paper will *ipso facto* be sufficient for knowledge. Such a forced reply would not provide data about the truth conditions of knowledge attributions but might simply elucidate how participants judge the common rate of proofreading.<sup>26</sup> I also formulated the knowledge probe as a conditional due to a concern that Buckwalter and Schaffer presented in (2013). 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, which may be a potential confound.

As with the aforementioned time constraints experiments, I predicted asymmetrical responses between *PHTC* and *PLTC* such that *PLTC* would yield a higher mean number of proofreads. In fact, this is just what was found. *Peter High Time Constraints (PHTC)*: (N=27, Mean=3.07, SD=2.22), *Peter Low Time Constraints (PLTC)*: (N=31, Mean=5.90, SD=4.04), T-test,  $t(56)=3.23$   $p=.0021$  (two-tailed). On average, participants required Peter to proofread nearly 6 times in order for Peter to know that there were no typos in *LTC*, while only requiring just over 3 proofreads in *HTC*. I saw a statistically significant asymmetry (though less dramatic) when I ran an additional pair of time constraints conditions featuring Peter in relatively *low stakes* situations<sup>27</sup>.

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<sup>26</sup> Thanks to Ángel Pinillos for pointing out this worry.

<sup>27</sup> *Peter Low Stakes HTC*: (N=34 Mean=1.85, SD=.857); *Peter Low Stakes LTC*: (N=35, Mean=2.71, SD=1.29), T-test,  $t(67)=3.24$   $p=.0018$  (two-tailed).

## Discussion

Once again I take the data of *experiment 2* to support the view that folk knowledge ascriptions are sensitive to the pertinent time constraints of the epistemic subject. Since this is a prediction consistent with IRI, we have some evidence to suggest that IRI is true. With respect to *experiment 1*, recall that I explained the results in terms of some perceived violation of a practical norm. But how do we explain the findings of this second experiment since no norm is *actually* being broken?

I think a similar mechanism may be driving the judgment namely, something about a prudential or role norm being violated, but here involving subjunctive calculations. On this view, in considering the number of proofreads that are required for Peter to know it is free of typos, perhaps subjects are thinking according to the following manner: *If Peter were to proofread it X amount of times when Peter has 2 weeks to do so, then Peter would be acting irresponsibly as college student. Thus, Peter must proofread it more than X times in order to know that there are not typos.* I suspect that such calculations are used until the “correct” number is found. If so, we can maintain the same explanation to account for both sets of data, both of which seem to support IRI.

## Schaffer on Time Constraints and The Salience of Error

Jonathan Schaffer in his (2006) raises a number of objections against interest relative invariantism (IRI)<sup>28</sup>. Because IRI depends crucially on the stakes sensitivity of knowledge attributions (i.e., the view that our attributions are sensitive to the stakes of the epistemic *subject*) he aims to show that stakes sensitivity of this sort leads to a number of implausible views about knowledge. To consider his arguments would take us too far afield. Significant to our discussion is Schaffer's reflection of what I have been calling "time constraints" sensitivity in relation to knowledge attributions. He gives us the following narratives:

*Low-and-Slow*: On Friday afternoon, Sam is driving past the bank with his paycheck in his pocket. The lines are long. Sam would prefer to deposit his check before Monday, but he has no pressing need to deposit the check. He has little at stake. Sam remembers that the bank was open last Saturday, so he figures that the bank will be open this Saturday. He is right—the bank will be open.

As Sam is about to drive on, his car dies, right beside the bank. Now he has an hour to kill before the tow truck comes. He could easily deposit his check, or at least look at the hours posted on the door to confirm that the bank will be open this Saturday. But instead Sam just dozes in the backseat. So, does Sam know that the bank will be open this Saturday?

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<sup>28</sup> Schaffer refers to the view as subject sensitive invariantism (SSI).

*High-and-fast*: On Friday afternoon, Sam is driving past the bank with his paycheck in his pocket. The lines are long. Sam would prefer to deposit his check before Monday, and indeed he has pressing financial obligations that require a deposit before Monday. His entire financial future is at stake. Sam remembers that the bank was open last Saturday, so he figures that the bank will be open this Saturday. He is right—the bank will be open.

As Sam is about to stop to double-check the bank hours, he remembers that he promised to buy a present for his wife. She will be furious if he forgets—his whole relationship is at stake. The stores are about to close. Sam must choose. So Sam makes a split-second decision to drive past the bank and pick up a present for his wife instead, thinking that after all, the bank will be open this Saturday. So, does Sam know that the bank will be open this Saturday?

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<sup>29</sup> predicts<sup>30</sup>" (2006, 91). As we've seen I share this intuition<sup>31</sup> and it would seem that the folk do too<sup>32</sup>—so far, so

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<sup>29</sup> SSI is often used interchangeably with IRI.

<sup>30</sup> Schaffer adds in a footnote that it is Hawthorne and Stanley's version of SSI, which would predict this judgment, but not Fantl and McGrath's.

<sup>31</sup> Of course, 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. He may or may not actually think that time constraints alone can make error possibilities salient.

<sup>32</sup> Of course, I did not test his vignettes per note 30 but it seems plausible to grant that the folk would judge as Schaffer predicts.

good. But Schaffer goes on to add, “Perhaps what is driving our intuitions in *Low-and-Slow* is the thought that Sam should have double-checked, which is suggestive to us of the possibility that Sam might be in error”.

For Schaffer the apparent influence that epistemic subject’s time constraints has on whether we judge that S knows that p, then is suitably explained via contextualism. This is because he thinks that time constraints sensitivity is in some way connected to certain error possibilities being made salient to the attributor, which in turn shifts the conversational context such that the truth conditions of an “S knows that p” locution reflect the higher standards context. Here I suppose that Schaffer might apply the same line of thinking to my aforementioned studies. Now it is not my intention to argue that my data clearly supports IRI rather than contextualism, but I do want to make some comments about why I think the former thesis is favored by the results. In the first place, it isn’t clear to me why Schaffer<sup>33</sup> suspects that the alleged time constraints-sensitivity is related to salience of error possibilities and subsequently how the former phenomenon supports contextualism. In what way might the mere amount of time that some S has in her situation make certain error possibilities relevant to the attributor?

In order to more fully understand the contention we should take a brief survey of 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 speaker and

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<sup>33</sup> Note I am imagining that Schaffer would have the same judgment about the cases featured in my experiment. But as mentioned before, his vignettes differ from mine in that he varies both stakes and time constraints, whereas my pairs of cases control for stakes but vary only time constraints.

hearers. First of all, we see a general characterization of the salience of error phenomena in the manner in which contextualists like 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*. Briefly, according to the rule of attention, if we as speakers and hearers of a given 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. 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". In both cases, where we as attributors are thinking about whether S knows that *p* is true, there are certain not-*p* possibilities that are in some fashion called to our attention. Obviously these not-*p* possibilities must be such that they fit the evidence that we have for *p* (i.e., the not-*p* possibilities are not ruled out by our evidence for *p*). With this general description in mind of how error possibilities may become salient, we turn now to two specific features of vignettes which according to Knobe and Schaffer (2010) encourage this phenomenon. In order to do so we consider DeRose's bank cases as well as some of Schaffer and Knobe's comments regarding them.

*Low:* My wife and I are driving home on a Friday afternoon. We plan to stop at the bank on the way home to deposit our paychecks. But as we drive past the bank, we notice that the lines inside are very long, as they often are on Friday afternoons. Although we generally like to deposit our paychecks as soon as possible, it is not especially important in this case that they be deposited right away, so I suggest that we drive straight home and deposit our paychecks on Saturday morning. My wife says, “Maybe the bank won’t be open tomorrow. Lots of banks are closed on Saturdays.” I reply, “No, I know it’ll be open. I was just there two weeks ago on Saturday. It’s open until noon.”

*High:* My wife and I drive past the bank on a Friday afternoon, as in [Low], and notice the long lines. I again suggest that we deposit our paychecks on Saturday morning, explaining that I was at the bank on Saturday morning only two weeks ago and discovered that it was open until noon. But in this case, we have just written a very large and very important check. If our paychecks are not deposited into our checking account before Monday morning, the important check we wrote will bounce, leaving us in a very bad situation. And, of course, the bank is not open on Sunday. My wife reminds me of these facts. She then says, “Banks do change their hours. Do you know the bank will be open tomorrow?” Remaining as confident as I was before that the bank will be open then, still, I reply, “Well, no. I’d better go in and make sure.”

Of the above cases, Schaffer and Knobe (2010, 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>34</sup> Thus one manner in which the error possibilities may become salient to the attributor according to Schaffer and Knobe is *via* the direct mentioning of a particular way that one’s belief (despite one’s evidence) might be turn out to be false. Again the explicitly mentioned error possibility must be such that it accords equally well with the evidence that one has for the mutually inconsistent belief in question.

A second way that the salience of error possibilities can arise is when error possibilities are described concretely rather than abstractly. In fact, Schaffer and Knobe contend that the failure of previous studies to detect a *salience of error effect* may be attributable to the presenting of error possibilities in too abstract a fashion. To see the difference, compare *Abstract* with *Concrete*<sup>35</sup>.

*Abstract*: Hannah and Sarah are driving home on a Friday afternoon. They plan to stop at the bank to deposit their paychecks. As they drive past the bank, they notice that the lines inside are very long, as they often are on Friday afternoons.

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<sup>34</sup> Italics mine.

<sup>35</sup> Schaffer and Knobe present these vignettes in (2010), but I have altered their titles and further have changed the control condition (Abstract) to fit my purposes.



Hannah says, “I was at the bank two weeks before on a Saturday morning, and it was open. So this is a bank that is open on Saturdays. We can just leave now and deposit our paychecks tomorrow morning.” Sarah replies, “Well, but you could be wrong.”

*Concrete*: Hannah and Sarah are driving home on a Friday afternoon. They plan to stop at the bank to deposit their paychecks. As they drive past the bank, they notice that the lines inside are very long, as they often are on Friday afternoons.

Hannah says, “I was at the bank two weeks before on a Saturday morning, and it was open. So this is a bank that is open on Saturdays. We can just leave now and deposit our paychecks tomorrow morning.”

Sarah replies, “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.”

Schaffer and Knobe (2010, 21) point out how *Concrete*<sup>36</sup> 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)”. So the thought is that relative to *Abstract*,

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<sup>36</sup> Schaffer and Knobe, for the purposes of their experiment compare what I have labeled here “concrete” with a control condition that does not make mention of any error possibilities unlike my “abstract” above.

*Concrete* is more likely to bring the considerations of error to the mind of the attributor in virtue of being more detailed in the right way.

Returning again to Schaffer's *Low-and-Slow* and my low time constraints conditions, I just don't see a not-p possibility presented. Nor do I see one that is stated more explicitly or concretely when compared to the corresponding high time constraint depictions. True, it is explicitly stated in *LTC* or instance, that Sally does not think at all about Harry's treatments over the four month period, but this is not a mention of a not-p possibility. In fact, the amount of time an epistemic subject has in her situation (as we are considering it) just does not seem *in itself* to be connected in the right manner to the issue of her having a true belief. So the mention of time constraints and what the protagonist does (or doesn't do) with the given time in *Low-and-Slow*, *LTC* and *HS-LTC* on my view, fails to resemble the enumerated features that contextualists tend to sight as the source of the salience of error. Of course, there may be other ways in which error possibilities become salient, but until we have a plausible account of such mechanisms (in particular regarding the time constraints cases) it is hard to take very seriously the idea that the source of the asymmetry of folk judgments regarding the time constraints cases is explained by salience of error for the ascriber.

Schaffer does go on to suggest "epistemic negligence" as the source of our intuition that S doesn't know in *Low-and-Slow*. Thus, Schaffer (2006, 91) writes, "...it seems to me that Sam does not know since he should have double-checked. He had all the time in the world. He was epistemically negligent". So perhaps Schaffer has in mind that our judgment that the epistemic subject has been epistemically careless makes certain

error possibilities salient. According to the considerations above, this would be a unique way in which salience of mistakes emerges when considering it against what philosophers who speak of the phenomenon (including Schaffer himself) tend to cite. But here again, if Schaffer takes a judgment about “epistemic negligence” as the mechanism responsible for the possibility of mistakes being called to our attention, then we remain in need of a convincing sketch about *how* this is occurring.

Still, Schaffer’s suggestion about *epistemic negligence* might be wielded by the epistemological purist to object to the view that the data concerning time constraints sensitivity is support for IRI. If there is some *epistemic* wrongdoing that our subject is guilty of in the low time constraints conditions and it is in virtue of this fact that subjects are judging that Sally fails to know (in those cases), then perhaps this is perfectly in line with purism. As I have already mentioned (in the *discussion* sections), I agree that there is a kind of carelessness (perhaps prudential or one pertaining to a role) that may be driving our judgments (and the folk intuitions) in my low time constraint conditions. But is it *epistemic* negligence that is driving folk judgments as Schaffer suggests and if so, how are we to construe it?

If the verdict that the subjects in the low time constraints conditions are being epistemically negligent is what is driving the folk judgment that Sally doesn’t know in *LTC* for example, then there must be some epistemic norm that she is in violation of. But what would the pertinent rule be? The norm would have to be such that it makes sense in light of the data that we have been discussing in this paper. Recall, that respondents are more inclined to attribute knowledge to Sally when she has only two minutes to form her

belief that C is the best treatment for Harry compared to, Sally in the low time constraint conditions who has four months. In both cases, Sally goes on the same evidence namely, what she recalls reading in a textbook about treatment C being a good treatment for the kind of condition that Harry has. So the only apparent difference is the mere presence of *more time* and the fact that Sally did not use this time to do more in the low time constraints situations when compared to the high constraints conditions. So if respondents are judging that Sally should have done more say, evidence gathering in the latter compared to the former simply because she had more time, then perhaps there is the following kind of rule at play:

*Can-Do-More-Ought-To-Do-More Principle of Epistemic Diligence:* If S can do more given her situation regarding gathering evidence for p, then S ought to do more.

Obviously this rule is too strong to be plausible. We may have good reasons (perhaps even entailing reasons) to believe that p, such that it would be superfluous to seek more reasons in favor of p. I certainly have the opportunity to gather additional evidence of necessary truths, but why would I *need* to in order to know them? If failing the requirements of the above principle can defeat knowledge, then skepticism looms. Suppose we weaken it in response:

*Weaker Can-Do-More-Ought-To-Do-More Principle of Epistemic Diligence:*

Provided S has less than entailing evidence for p, If S can do more given her situation regarding gathering evidence for p, then S ought to do more.

Unfortunately, this is hardly an improvement. So much of what we take ourselves to know (perhaps the vast majority) is on the basis of less than entailing evidence. Further, my situation does often allow me to do more research as it pertains to these propositions. That is, I certainly have the time (and resources) for instance, to confer with multiple people and various calendars in order to determine what today's date is, but that seems unnecessarily demanding. It looks like both principles present an implausible account relying on a problematic can-implies-ought relation.

These considerations might lead one to attempt to repair the weaker principle by adding something like a "within reason" clause. One might insist that it isn't that having the resources (or time) to do more evidence gathering implies that one must do so without restriction, but that there is some reasonable degree of further epistemic diligence expected of those that have say, more time to do so.

*Weaker-Can-Do-More-Ought-To-Do-More (within reason) Principle of Epistemic*

*Diligence:* Provided S has less than entailing evidence for p, If S can do more given her situation regarding gathering evidence for p, then S ought to do more (*within reason*).

We can ignore the ambiguity of the “within reason” addition for the moment. Suppose for now, that the “within reason” stipulation is such that it requires some degree of greater epistemic vigilance of the epistemic subject so as to fit with our judgments that a subject like Sally in the low time constraints conditions should be more epistemically vigilant. However, the restriction makes the demand sufficiently weak enough to keep widespread skepticism at bay. Still, the problem with this kind of revision highlights a serious problem with all of the above principles (for the imagined purist contender) namely, that each allows that practical features of the epistemic subject’s circumstances may partially constitute epistemic rules that the subject must abide by in order to know the relevant proposition. In other words, according to all three of the principles, it looks as though the amount of time that an epistemic subject has can in part determine the degree of evidence<sup>37</sup> that the subject must have in order to know a true proposition. But now this is just to concede to the pragmatic encroacher’s thesis— i.e., whether S knows that p depends in part on practical features of one’s circumstance.

Yet another approach might be to consider a domain specific norm<sup>38</sup>. Information about medical treatments and their successes or failures change quite frequently as new studies are constantly published. And I take it that most people are privy to this fact since news articles of this sort are ubiquitous. So perhaps there is a norm about the epistemic

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<sup>37</sup> Alternatively, one might think that subjects are criticizing the evidence gathering or belief-forming *process* employed by for example, Sally in LTC rather than the evidence or quality of S’s evidence. But this too seems a strange result for the imagined purist since here practical features such as having more time in one’s situation can undermine the reliability of the belief forming process that one uses.

<sup>38</sup> Thanks to Steven Reynolds for this suggestion.

practices of medical practitioners or potential knowers of medical knowledge. So here's a fourth sketch:

*Domain-Specific-Weaker-Can-Do-More-Ought-To-Do-More-Principle-of-Epistemic-Diligence:* Where  $X$  is a domain of potential knowledge such that the relevant evidence for  $X$ -relevant propositions changes quickly and often, and  $p$  is a proposition in question that belongs to  $X$ , if  $S$  is deliberating about  $p$  and her situation is such that she has a period of time  $t1 \dots tn$  to seek more evidence for  $p$  then  $S$  ought to.

Such a principle does not seem to have the widespread skeptical result troubling the preceding three principles but it too suffers the problem of eluding pragmatic encroachment, albeit regarding "medical knowledge". This is because this proposal still appears to remain sensitive to considerations about time constraints (i.e., practical features). Moreover, the suggestion depends crucially on the idea that there is something special about my time constraints cases such that they involve a particular domain that is governed by a special epistemic norm. But now this norm seems too specific to account for time constraints sensitivity in Schaffer's *Low-and-Slow* nor can it explain the folk judgments suggested by the evidence seeking experiments I included above (i.e., Peter proofreading for no typos). Presumably, knowledge that there are no typos in a paper or that the bank will be open Saturday (Schaffer's cases) are not domain-specific in the way that "medical-knowledge" if there is such a thing, might be. As it stands, we remain in

need of a viable epistemic principle that is supposedly being violated to account for time constraints sensitivity. The principle should not lead to a skeptical result nor should it be implausibly restrictive so that it cannot account for the findings of both of my experiments as well as the intuition arising from Schaffer's *Low-and-Slow*. Finally, and importantly, the principle if it is to make sense of our data (i.e., time constraints sensitivity) while remaining true to epistemological purism should construe these norms while appealing only to purely epistemic features (or truth-conducive features). At this point, I am doubtful that such a principle can be found.

Still, the contextualist inspired by Schaffer's comments and in the face of these considerations might insist that it remains consistent with contextualism that the relevant epistemic norms (as far as the folk are concerned) are sensitive to practical features of the epistemic subject of appraisal. In other words, the contextualist might accept that the participants of my studies accept<sup>39</sup> that certain epistemic norms (which when violated may prevent knowledge) are in part, constituted by practical features such as how much time there is for the epistemic subject in her situation. In turn, the violation of such a rule, when recognized by the speakers and hearers of the knowledge attribution, shifts the

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<sup>39</sup> Note: a further consideration would involve a distinction between descriptive and normative explanations or alternatively between competence and performance error theories. That is, perhaps a contextualist might cite that participants of my study incorrectly (as a matter of performance error) allow for pragmatic encroachment, which in turn leads to a shift in the conversational context via error possibilities or some other contextualist-friendly mechanism. The plausibility of this line depends on how friendly we are to the contextualist positing a further *error theory* regarding time constraints judgments? Indeed as Schiffer (1996) sees it, contextualism already implies an error theory since we don't readily recognize the shifty semantics at play.



conversational context, perhaps by making certain error possibilities salient, or something of the sort.

Ostensibly, this method looks like a marrying of contextualism and pragmatic encroachment. On this view, the epistemic norm(s) that must be followed (for S to be in a position to know that p) partially consists of non-truth relevant features of the epistemic subject's practical situation, but it is also the case that a violation of the rule (once recognized by the speakers and hearers) shifts the conversational context. Here, it is thought that knowledge is sensitive to the epistemic subject's practical features and yet the favored explanation to accounting for the asymmetrical intuitions elicited by the time constraints case pairs is that the truth conditions of "Sally knows that p" vary between utterances. But taking this route is once again to admit that whether S knows that p can in part, depend on non truth-relevant features. That is to say, to allow for pragmatic encroachment upon knowledge. Strictly speaking, there seems no logical incoherence here since contextualism is not necessarily the view that there is not encroachment of this sort on knowledge<sup>40</sup>. But if Stanley<sup>41</sup> (2005) is right in thinking that contextualism is inspired by the desire to maintain epistemological purism in light of asymmetrical intuitions arising from the consideration of certain pairs of cases (e.g., DeRose's bank cases), then it would be quite strange for the contextualist at this stage to admit that epistemological purism is false. Indeed, contextualism starts to appear superfluous if we

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<sup>40</sup> DeRose (2009, 189).

<sup>41</sup> Similarly, DeRose (ibid) remarks that one of the attractions to contextualism is that one can maintain "intellectualism" (i.e., epistemological purism) while accounting for the disparate intuitions about certain pairs of cases.

allow for pragmatic encroachment. Why should we accept the contextualist's shifty semantics and the accompanying complexities to account for our results (of the time constraints experiments) if such a move in turn requires pragmatic encroachment to be true?

On the other hand, the pragmatic encroacher provides us an elegant and straightforward way to explain the data while avoiding some of the problems that we have just considered. On IRI, in some cases, the amount of evidence or degree of justification that an S must have in order to know that p will depend on practical features (including whether certain practical norms are broken or not) such as how much time S's situation provides.<sup>42</sup> This is not to suggest that there are not attendant problems for a pragmatic encroacher of my stripe. After all, there remain questions about the nature of these practical norms. One might for instance, worry that just in the way that any *can-implies-ought* epistemic principle introduces skeptical worries, that any *can-implies-ought* principle of prudence or governing roles might lead to corresponding worries about what counts as acceptable actions. Certainly, more work will be required beyond the realm of epistemology to address these concerns.

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<sup>42</sup> Of course, there may be some worry about whether these practical features and practical norms are themselves parasitic upon epistemic facts and norms.

## Conclusion

In this section I presented a pair of cases where a practical feature like the epistemic subject's time constraints seem to affect our judgments as it regards whether S knows that p. This is even when the time constraints are construed in a non-truth relevant manner. In favor of this view, I presented two series of experimental surveys that seem to indicate that the folk intuition about knowledge is sensitive to time constraints considerations, which I believe to be in accordance with pragmatic encroachment and thus evidence for the thesis. In doing so I suggest some initial support against the orthodox view called epistemological purism. Finally, I defended the latter claim against what I imagined to be an epistemological purist's alternative reading of the data as inspired by some comments made by Jonathan Schaffer in his (2006).

So far I have presented the case that there is some *empirical* evidence in favor of pragmatic encroachment on knowledge. More specifically, it seems that the folk concept of knowledge is such that it is sensitive to time constraints construed in a non-truth relevant manner. In Section 2, I turn to some theoretical evidence for the same controversial thesis. To this end, in what follows I attempt to apply pragmatic encroachment (about knowledge) to a problem in the epistemology of testimony. If a theory helps us makes some progress in resolving an important debate, then I count it as a point in favor of the theory. To this end, I apply our considerations of time constraints from *Section 1* as well as the purported role of stakes as predicted by IRI, to the issue of whether we need positive reasons to be justified in accepting some instance of testimony.

## Section 2

### Testimonial Knowledge, Justification and Pragmatic Encroachment

#### Introduction

We know a variety of things on the basis of testimony. We know that in 1492, Columbus sailed the ocean blue, that a *light year* is a distance of about 6 trillion miles, and that an ostrich's eye tends to be larger than its brain. We know more mundane facts too, like the time of day, the whereabouts of the local pub, and the due date of a library book, often on the word of those around us, be it spoken or written. In an effort to account for such knowledge, much of the literature concerning the epistemology of testimony has centered on the debate regarding the conditions under which a belief that is derived from testimony is justified.

Traditionally, two opposing camps have emerged disagreeing *inter alia*, about whether H must have *positive reasons* in favor of p (or in S's reliability in reporting p), in order to be justified in believing p, on the basis of S's telling that p. The reductionist answers in the affirmative while non-reductionist,<sup>43</sup> disagrees. Further, the positive reasons required by the reductionist are to be derived from knowledge sources that are not based on testimony, such as induction, memory, and perception. It is in this way that the reductionist earns its name, since testimonial knowledge on this picture ultimately reduces to other ways of knowing. The non-reductionist instead, takes testimony to be in

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<sup>43</sup> Reductionists include Hume, Audi, Kusch, Lehrer, Lyons and Fricker while non-reductionists, Reid, Burge, Coady, Goldberg among others.

some way *a priori* justified<sup>44</sup> or presumed to be trustworthy until shown otherwise, and ultimately not reducible to the other sources of knowledge.

A recent trend<sup>45</sup> has been to try and move beyond defending one position (e.g. reductionism) against the other (e.g., non-reductionism). I proceed in similar spirit, as I believe our intuitions to be consistent with both theories to some extent, but only as they are applied to different epistemic situations. On some occasions, I shall argue, we are inclined towards the reductionist's account of justification, while in other instances we are not, depending on (in part) practical factors. More specifically, facts like what is at *stake* for the epistemic subject (should the relevant belief be held in error) or the kinds of *time constraints* placed on H by her situation, influence whether H knows (and is justified) in believing that p. That is to say, in response to the divide between reductionists and non-reductionists *vis-à-vis* the conditions of testimonial justification, I argue that neither theory is correct *in toto*. On the contrary, understood in light of a theory of knowledge that is sensitive to practical features, the reductionist and non-reductionist can be understood as offering what may be unique points along a continuum of epistemic standards, necessary for justification; our choice to favor one standard is potentially determined by practical factors relevant to the epistemic subject. Such a conception, I argue, provides a more nuanced approach to capturing our judgments about when an H knows and is justified in believing a testimonial report.

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<sup>44</sup> See Burge (1993).

<sup>45</sup> See for instance, Goldberg (2006), Lackey (2006), and Lehrer (2006).

## Reductionism and Non-Reductionism

As aforementioned, one of the central points of conflict between reductionists and non-reductionists concerns, what Lackey has coined the *positive reasons component*:

“justification is conferred on testimonial beliefs by the presence of appropriate positive reasons on the part of the hearer” (2006, 160). While proponents of both sides of the debate demand the absence of defeaters, the reductionist (but not the non-reductionist) requires further that H have positive reasons to believe S’s report that p, in order to be justified in believing that p, on the basis of S’s telling. Consequently, elsewhere Lackey (1999) casts non-reductionism in terms of an essential commitment to the following principle of justification:

JP. If S reports that p to H and H has no defeaters for S’s report that p, then H is justified in accepting that p on the basis of S’s testimony.<sup>46</sup>

In contrast, the reductionist finds JP insufficient for justification and accordingly for conferring knowledge when paired with true belief. More is needed. H must fulfill the positive reasons component in order to be justified, yielding something like the following principle:

JP\*. If S reports that p to H, H has no defeaters to S’s report that p, and H has positive reasons to accept S’s report that p, then H is justified in accepting that p on the basis of S’s testimony.<sup>47</sup>

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<sup>46</sup> Lackey (2006, p. 474)

Recently, Greco (2012)<sup>48</sup> has criticized this characterization of the reductionist and non-reductionist camps, as he believes it mistakenly conflates a number of separate issues that do not necessarily belong together. I take it that those who have considered the debate in these terms including, but not limited to Fricker (1994) and Lackey (2006),<sup>49</sup> are representing the distinction between the Reidian account and the received Humean<sup>50</sup> position in referring to non-reductionism and reductionism, respectively. In following with Fricker et al., I should be understood throughout as depending on this latter gloss of the terms. Also when I speak of the reductionist's justification principle, I mean just JP\* while I use JP to refer to the non-reductionist's condition.<sup>51 52</sup>

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<sup>47</sup> Ibid.

<sup>48</sup> As Greco (2012) sees it, views concerning the nature of testimonial knowledge can disagree along three independent lines based on the answers they give to the following questions: i) is testimonial knowledge a distinctive kind? ii) is testimonial knowledge reason-dependent? iii) does testimonial knowledge involve default justification? Greco complains that some philosophers have wrongly grouped the separate issues together for instance, he cites that Fricker and Lackey characterize reductionism as the conjunction of a) testimonial knowledge is not a distinctive knowledge kind, b) it is reason-dependent and c) testimonial knowledge is not a case of default justification.<sup>48</sup> I table Greco's contention, given that much of the literature has parsed the dispute in the way Fricker and Lackey have.

<sup>49</sup> E.g., James Van Cleve (2006) and Peter Graham (2006) also use the terms in this way.

<sup>50</sup> Note, Gelfert (2010) and others have argued that the received Humean view does not fairly represent Hume. He attributes the received view to C.J. Coady.

<sup>51</sup> As Greco (2012) argues, the way he applies 'reductionism' and 'non-reductionism,' a reductionist might not require positive reasons, but simply says that testimonial knowledge is no special kind of knowledge over and above inductive, memorial, and perceptual knowledge. See, footnote 6.

<sup>52</sup> As mentioned earlier, reductionism (as Lackey casts) is not merely a commitment to the positive reasons component, but further requires these reasons to be at least partly,

Now, if the reductionist requires that H possess positive reasons for believing S's assertion that p, (i.e., to satisfy the positive reasons component) even while the non-reductionist does not, then clearly the two sides of the dispute hold H to the satisfaction of different epistemic conditions with regard to being justified in believing (and in a position to know) p. But in what way(s) do they vary? I contend that we may plausibly construe JP and JP\* as differing with respect to the relative strictness of epistemic standards (or the strength of epistemic position) that must be met by H in order to be justified in believing p.<sup>53</sup> In other words, reductionism requires that our hearer satisfy more stringent epistemic criteria in justifiably believing S's testimony that p, while the non-reductionist requires comparatively less, so it seems to me at any rate.

To see this more clearly, consider the most common complaints against both the reductionist and non-reductionist accounts of justification. The reductionist's demand of the fulfillment of JP\* (i.e., the positive reasons component) has been thought to rob us of a great deal of what we take ourselves to know by way of testimony. For example, Lackey has suggested, "with many reports, such as those involving complex scientific, economic, or mathematical theories, most of us simply lack the conceptual machinery needed to properly check the reports against the facts" (2006:161-62). Still, we want to affirm that we know a plethora of just these kinds of facts and by the testimony of others.

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non-testimonial. But here I focus only on JP and JP\* which marks an essential difference between reductionism and non-reductionism on this gloss. It seems to me, that if positive reasons are not required, in some cases (as I shall be arguing) then *a fortiori*, positive reasons *that are non-circular* are also not required in these same situations.

<sup>53</sup> Lackey (2006) speaks of it in terms of "epistemic burden". Her dualism while still requiring positive reasons for p for the hearer to be justified in holding that p, makes these positive reasons somewhat easier to satisfy.



I take myself to know that the sun is approximately 93 million miles from the earth, that the U.S. national debt is over 16 trillion dollars, and that there are some 18 species of penguins in the world. I know these facts based on what I have either read or been told, despite being in no position to directly verify these facts myself, let alone to inquire into the trustworthiness of the diverse sources of such facts. Further, many of us want to grant that small children, though having limited cognitive abilities, know a significant number of propositions on the basis of testimony.<sup>54</sup> Requiring JP\* appears to be asking too much, for it would deprive young children and adults of a significant portion of what we suppose them to know. In brief, JP\* introduces worries of skepticism.<sup>55</sup>

On the other hand, to confer justification *sans* positive reasons to hearers of testimony seems to suggest that testimonial knowledge may come too easily, at least as it pertains to some cases. That is, ostensibly there are epistemic situations where we find H to lack knowledge that p (based on S's telling of p) because H fails to meet the reductionist's demand for positive reasons (JP\*). Indeed, we can easily come up with situations where a hearer might be lied to, but having no positive reasons to doubt the testimonial report of the speaker, gets fooled on the presumption that testimony is trustworthy.

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<sup>54</sup> Van Cleve (2006) notes that a reductionist may allow that children have knowledge, but it must be something akin to what Sosa has called "animal knowledge". Van Cleve says such knowledge is without justification.

<sup>55</sup> Van Cleve (2006) argues that we do in fact verify (or are in a position to) firsthand, some of what we initially believe from testimony. Still he concedes that such instances of firsthand verification make up "only a minuscule fraction of all the instances" where something is believed on testimony.

Thus critics of non-reductionism have commonly cited that a presumption of the trustworthiness of testimony seems to render us as hearers overly credulous<sup>56</sup> or gullible.

In an effort to flesh out this difference between JP and JP\* further, we turn to a couple of examples. First, consider how being told by a stranger, that I do not have the winning lottery ticket (even if true) seems insufficient to give me knowledge of this fact (despite my chances of losing being exceedingly high). Even if he swears to me emphatically that he has just read the paper and recites the “winning numbers” that happen not to match mine, I think it would be crazy for me not to “check for myself”<sup>57</sup> before throwing my ticket away. Why? In large part, because I don’t *know* that I have lost, on his word (at the very least, I’d better gather a lot more information about him). At the same time, I take it that I can know that the Cowboys beat the Cardinals should the same stranger tell me so. Likewise, consider the following:

Billy is a business major who has just applied to a number of top MBA programs. His first choice is Y-University – a prestigious institution. Today, a rejection letter from Y-University has just arrived to his dorm room and his new roommate John unknowingly has opened the letter thinking it was his. John reads that Billy has been rejected, but then misplaces the letter on accident. When Billy returns home,

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<sup>56</sup> See Lackey (2006, 166-169).

<sup>57</sup> Admittedly, checking would likely involve the reports of others including newspapers, and television reports. But these sources are generally thought to be in some way, directly connected to lottery drawings and particularly authoritative and trustworthy as it concerns reports of this kind. Moreover, the issue that I am concerned with is whether we require positive reasons beyond just recognizing a telling of *p qua* testimony, in order to be justified in believing it.

John tells him that he accidentally read the letter from Y, which has now been misplaced and that it was a rejection letter.

I think there is considerable pressure to *deny* that Billy *knows* he has been rejected from Y. Rather than merely taking John's word for granted, he should be more epistemically vigilant, and look for reasons to trust that his roommate is quite sure and reporting truthfully. In fact, we might even require Billy to contact the school directly.<sup>58</sup> This is evidenced by the fact that, if Billy were to simply take John's word as final and try to move on with his life, we would likely criticize him by citing that he doesn't *know* that he has been rejected. If he were to respond, "Look, I'm just taking for granted that John is telling me the truth" it would not weaken our objection to him. So it seems Billy cannot know that he has been rejected simply on the presumption that his roommate's testimony (or testimony in general) is reliable, but rather needs positive reasons to accept John's testimony.<sup>59</sup> But now suppose we alter the narrative so that Billy has been automatically enrolled into a bookmark contest at this school and that he doesn't particularly care about winning. Again, John read's Billy's letter which states John has not won the bookmark and then misplaces it. Upon seeing John, Billy reports the news. Further add that Billy has no relevant information about John, as they have not even spoken until this incident,

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<sup>58</sup> Note, if Billy calls the school directly to verify John's testimony, then he may come to know that p directly, so one might worry that he no longer comes to know p via John's testimony. But strictly speaking, it seems Billy would be gaining positive reasons to accept John's upon verifying p directly. Admittedly, this would be a case of overdetermination of evidence, but I take this to be consistent with JP\*. Thanks to Steven Reynolds for pointing out this concern.

<sup>59</sup> I presume that our inclination to deny that Billy knows has to do with his lacking justification since he is not in a Gettier case.

due their busy schedules. Still, it would appear that Billy would be in a position to know (and justified in believing) that he has not won the bookmark, based solely on John's report of this fact.<sup>60</sup> Attempting to object to Billy on the same grounds as in the previous scenario seems inappropriate. "You never know Billy, John could be a liar or could have misread the letter" seems out of place. I take this to be so even if Billy simply believes on the mere *presumption* that John's word is trustworthy. So it seems that H knows (and is justified in believing) that p, on S's telling *only if* H has positive reasons for accepting S's testimony (i.e., JP\*). But at the same time, H knows that p despite not fulfilling JP\*. A plausible theory will make sense of both of these apparently inconsistent intuitions.

If these considerations are right, it appears that JP and JP\* are not suited to apply to all situations of testimonial belief. My suggestion then is to conceive of JP and JP\* as two points on a continuum of varying epistemic standards. Some *H knows that p* situations will demand the lesser, JP while others the more stringent, JP\*, in order to accord with our judgments. Moreover, since JP\* doesn't specify the degree of positive reasons that would be sufficient for knowledge, JP\* may admit to a number of modifications, making for the addition of finer points along our scale.<sup>61</sup>

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<sup>60</sup> The issue is not whether Billy accepts John's testimony based on something like the following background belief, "on average people tell the truth" both reductionists and non-reductionists can grant this. The views differ on whether such a background belief can simply be presumed (JP), or whether there must be positive reasons for holding it (JP\*), in order for testimonial beliefs to be justified. I am contending that Billy knows that he has lost the bookmark contest even if he accepts John's testimony on the basis of the presumption that "on average people tell the truth." Thanks to Ángel Pinillos for suggesting this clarification.

<sup>61</sup> We might also accommodate Lackey's dualism (2006) within our continuum as something of a moderate justification requirement.

But what kinds of factors are to determine whether JP is appropriate rather than JP\* or vice-versa? Note, how in the story we just considered, should Billy *falsely* believe that he has been rejected from Y-University, there will be considerable practical costs. Believing in error that he has not been accepted, he will fail to contact the school to accept their offer and will perhaps miss out on an invaluable opportunity. However, in the case involving the bookmark contest, the practical costs are relatively low. It would appear that *what is at stake* for Billy determines to some extent, the standards that we apply (either JP or JP\*) in assessing Billy's position relative to his belief. Incidentally, a number of philosophers have explored this very notion in a thesis called, *interest relative invariantism* (IRI). Proponents of IRI, argue that knowledge is interest-relative,<sup>62</sup> in that whether S knows that p, depends in part on practical factors relevant to the subject. In the remaining sections, we explore the reductionist and non-reductionist debate as it pertains to the positive reasons component, (i.e., JP vs. JP\*) in light of IRI, and so I shall have more to say about the theory in what follows.

### Pragmatic Encroachment

Some recent work in epistemology has highlighted the relationship between the practical and epistemological domains. For instance, Williamson (2000), Hawthorne (2004) and DeRose (2009) have argued that *knowledge* provides a norm of assertion, Fantl and McGrath (2007) defend a *knowledge-action principle* and Hawthorne and Stanley (2008) have proposed the *action-knowledge principle*. In each case, certain actions are to some

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<sup>62</sup> See Hawthorne (2004).

extent restricted by what we know. For some,<sup>63</sup> considerations of this sort have been informed by the *pragmatic encroachment* thesis. Advocates of pragmatic encroachment depart from *epistemological purism*, also known as *intellectualism*, the view that only truth relevant factors<sup>64</sup> influence whether S knows that p. In contrast to the customary account, Fantl and McGrath argue for a view that is *anti intellectualist* by proposing what they believe to be a plausible *practical condition of knowledge* KA,

KA: S knows that p only if S is rational to act as if p.<sup>65</sup>

Among other things, Fantl and McGrath argue that adopting something like KA makes sense of the role that knowledge seems to play in criticizing and defending the actions of agents; e.g., we often cite the lack of knowledge as the reason for why a given action was inappropriate. In similar fashion, Hawthorne (2004) has noticed, when you sell your lottery ticket for a penny before coming to learn the winning numbers, it seems quite appropriate for me to object to your behavior accordingly: “You shouldn’t have done that! After all, you don’t *know* that you will lose!”<sup>66</sup> Thus by Fantl and McGrath’s lights, with KA we can in a rather straightforward fashion make sense of the intimate

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<sup>63</sup> The notion that knowledge and action are closely related does not imply that one subscribe to anything like pragmatic encroachment. As Johnathan Kvanvig in (2011) notes, Williamson holds to the former but not the latter. Further DeRose (2009) accepts the knowledge-assertion norm but is an intellectualist about knowledge.

<sup>64</sup> Keith DeRose (2009) states truth relevance can be construed broadly to include the high occurrence of fake barn facades in Carl Ginet’s famous example.

<sup>65</sup> Fantl and McGrath (2007).

<sup>66</sup> Hawthorne (2004)

relationship between knowledge (the epistemic)<sup>67</sup> and action (the practical). This is because whether one knows, depends directly on facts like what is at stake for the subject should the subject's belief turn out false. Accordingly, as some pragmatic encroachers have said, *knowledge is interest relative*. Whether S knows that p depends on certain practical features of S's situation.

Sripada and Stanley<sup>68</sup> are among the recent philosophers<sup>69</sup> who have presented experimental findings that may support pragmatic encroachment (they call it IRI). As Sripada and Stanley put it, IRI (about knowledge) is the view that, "how much is at stake in a situation does potentially have a direct impact on whether a participant in the situation knows something at the time at which the situation occurs" (2012:3). To provide some evidence<sup>70</sup> in favor of this view the two philosophers have conducted a series of experiments using the following vignette:

#### *Low Stakes*

Hannah has a gene that causes her to experience a slightly dry mouth when she eats pine nuts. Hannah is very much aware of this, and has known this for a very long time. One evening, Hannah and her sister Sarah are at a new restaurant that

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<sup>67</sup> Indeed, Fantl and McGrath have recently extended their account to other cognates. See Fantl and Mcgrath (2012).

Thus in (2012) they argue that the phenomenon of pragmatic encroachment is present even regarding warrant for belief.

<sup>68</sup> Sripada and Stanley (2012).

<sup>69</sup> See also Pinillos (2012).

<sup>70</sup> Note, there are also *a priori* grounds for accepting IRI, namely, it's explanatory power to explain our intuitions about various thought experiments, and philosophical puzzles like the Lottery paradox. See the next part of the paper, titled "What's My Motivation."

has just opened. Hannah orders a plate of noodles. When her food is brought to the table, Hannah notices something that looks like nuts sprinkled on her noodles and wonders what it is. Sarah says, ‘The noodles may be topped with pine nuts.’ Hannah notes that the menu says her dish does not contain pine nuts. Based on this, Hannah forms the belief that the noodles are not topped with pine nuts. If it turns out that the noodles are topped with pine nuts, then when Hannah eats the dish, her mouth will get a little dry. Since Hannah has plenty to drink with her meal, it does not matter very much whether or not the noodles are topped with pine nuts.

Supposing Hannah truly believes that there are no pine nuts, Sripada and Stanley asked participants to indicate the degree to which they agreed/disagreed with the statement, “Hannah knows that there are no pine nuts in her salad.” Additionally, they had subjects evaluate the strength of Hannah’s evidence for her belief. This condition was then contrasted with High Stakes<sup>71</sup> where presumably the only difference is that Hannah has (and knows that she has) a severe pine nut allergy that “will cause her to go into shock and die” if she should eat even one pine nut (p. 9,10).

In Low Stakes, if Hannah wrongly believes that there are no pine nuts, she suffers a dry mouth, which is easily treated by her drink. In High Stakes, the same epistemic error is extremely costly. So IRI predicts that persons would be more inclined to judge that Hannah has better evidence, and thus is more likely in a position to know in Low

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<sup>71</sup> See Appendix A for High Stakes condition.



Stakes as compared to Hannah in High Stakes. In fact, some recent experiments yield some *prima facie* evidence in favor of this view. Sripada and Stanley (2012) found that subjects, to a statistically significant degree, indicated that Hannah is more inclined to know and has stronger evidence in Low Stakes compared to High Stakes, despite the evidence (with which she believes that p) remaining fixed across conditions.<sup>72</sup> IRI provides an elegant explanation of the data. It is because knowledge is sensitive to stakes that Hannah in High Stakes is in a worse epistemic position regarding p and thus less inclined to know than Hannah in Low Stakes.

What's My Motivation?

Being that my strategy is to employ a pragmatically sensitive theory like IRI in order to make sense of our judgments regarding the conditions of testimonial justification (i.e. JP vs. JP\*), one might worry about what might motivate such an approach. To address this concern, we look to what has prompted others to make a similar maneuver. Traditionally, philosophers have appealed to IRI to try and account for our intuitions regarding particular thought experiments and arguments that have been addressed by a rival theory, *attributor contextualism*. These include DeRose's (2009) Bank Cases, Cohen's (1999) Airport Cases, the Lottery Paradox<sup>73</sup> and Cartesian skeptical arguments. For instance, DeRose (2009) notices when assessing whether *S knows that the bank will be open on Saturday* (where the stakes are high for S), we feel pressure to deny knowledge to S even

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<sup>72</sup> See Buckwalter and Schaffer Knowledge, Stakes and Mistakes (2013) for a study that challenges Sripada and Stanley's as well as Pinillos' studies.

<sup>73</sup> See Hawthorne (2005).

while when the stakes are sufficiently low we tend to judge that the same *S* knows, all other things being equal. He goes on to explain these seemingly inconsistent intuitions by employing contextualist machinery.<sup>74</sup> Likewise, IRI proponents like Stanley (2005) have proposed alternative explanations for these kinds of judgments.<sup>75</sup> Further, Hawthorne (2004) has proposed *subject sensitive invariantism* (often thought to be IRI by a different name), to account for the Lottery Paradox<sup>76</sup>.

After objecting to David Lewis' (1996) attempt to treat Gettier cases with contextualism, Cohen in (1999) instructs us that contextualism seems more suitable for cases where our intuitions about whether S knows that p are unstable.<sup>77</sup> Although he specifically has Cartesian skeptical arguments in mind, I think we see this very tendency (i.e., shaky intuitions) also elicited by the thought experiments just enumerated. It would appear that unstable judgments of this sort, in relation to whether S knows that p, have served as grounds to suspect that applying a single set of epistemic standards *across*

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<sup>74</sup> Briefly, on Contextualism 'S knows that p' varies in content between utterance tokens, based on features relevant to the speakers and hearers of a particular context of appraisal. When 'S knows that p' is asserted in one context, it implies one set of truth conditions while the same locution in another context may imply a different set of conditions. Part of what constitutes these varying truth conditions are different epistemic standards that must be met by the subject of appraisal. Some of these standards are easier to satisfy than others.

<sup>75</sup> Advocates of IRI insist that the semantics of 'knows' doesn't shift from one utterance to the next, but rather that practical features such as the relevant stakes of S's situation determine a fixed set of standards needing to be met for S to truly know that p. In one situation S knows that p requires that S fulfill epistemic standards X, while in another S must fulfill Y.

<sup>76</sup> David Lewis (1996) gives the lottery paradox a contextualist treatment.

<sup>77</sup> Cohen objects to Lewis' (1996) contextualist treatment of the Gettier problem because he argues that we do not have instable intuitions when thinking about them. Cohen takes we firmly deny knowledge of S if S is in a Gettier situation relative to p.

situations is problematic. As I have suggested above, JP and JP\* may plausibly be viewed as unique points along a continuum of degrees pertaining to the epistemic standards requisite for justification. When considering whether Billy is justified in believing his roommate's reports without fulfilling the *positive reasons component*, it seems we want to answer both affirmatively and negatively, depending on the specifics of the situation. When there is much at stake (i.e., his missing out on his dream school) we are inclined to say that he does not know that p, but when the stakes are low (i.e., his missing out on a bookmark), it seems easier to allow that he knows even on the mere presumption that his roommate's word is trustworthy. Similarly, my intuitions become shaky when I attempt to provide a straightforward answer to the question, *must H have positive reasons to believe S's testimony that p, in order to be justified in believing p?* The appropriate response seems to be, that it depends much in the same way that whether *S knows that the bank will be open on Saturday* (based on her having been there 2 week ago on a Saturday)<sup>78</sup> also depends.

A further incentive to applying IRI to the matter of JP vs. JP\*, is the fact that some of the very thought experiments to which IRI (and contextualism) has been applied, involve an instance of testimony (on the basis of which S believes that p). For example, Cohen's (1999) Airport Cases<sup>79</sup> as well as Sripada and Stanley's (2012) vignettes, involve testimony as the primary means by which the subject comes to believe that p.

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<sup>78</sup> DeRose (2009) in his Bank Cases describes Sarah as coming to believe that the bank will be open on Saturday on the basis of her having been there two weeks ago to see that it was open.

<sup>79</sup> Cohen's vignettes feature S truly believing that p, on reading that p on an airline itinerary.

Therefore, not only are these cases readily available to probe our judgments as it pertains to testimonial knowledge, but it would appear that a significant amount of literature relevant to our discussion already exists. These considerations lead me to believe that applying a pragmatically sensitive treatment like IRI to the matter of adjudicating between JP and JP\* will be promising.

### Time Constraints

Having considered IRI and the apparent phenomenon of stakes sensitivity, I want to suggest a further (perhaps novel) practical feature that I suspect might influence whether S knows that p, even as it regards testimonial knowledge. Admittedly, proponents of IRI and their critics have focused their attention on the possible role of stakes, but I think it is consistent with IRI that a number of other pragmatic factors relevant to the epistemic subject, may likewise affect whether we judge some S to know that p. To this end, I hypothesize that the amount of *time* that S has to deliberate about p may also influence our judgments about whether S knows that p. I call this alleged phenomenon, *time constraints sensitivity*. Of course, if a subject uses a particular amount of time to cognize or gather evidence with respect to a belief, we would not be speaking of time in a non-truth-conducive manner. It would then be of no surprise that considerations of time would factor into our epistemic assessments. However, my thesis coincides with IRI inasmuch as I argue, that even when time constraints are considered in a truth-irrelevant manner, our judgments about whether S knows that p, in certain cases, may be influenced by our considerations of them.

Recently, with the help of Ángel Pinillos, I conducted a series of experiments suggesting (*prima facie*) that knowledge attributions are sensitive to time constraints in just the way that I have postulated here. The experiment consisted of the following narrative:

*High Time Constraints (HTC):*

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.

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.<sup>80</sup>

In the contrast condition, *Low Time Constraints*, Sally has four months (rather than two minutes) to decide on Harry's medication (between A, B, and C) because each treatment is on order and will take that long to arrive. Aware of this, Sally does not think about Harry or the treatments at all, allowing that the four months pass without a further thought about the matter. At the end of the four months, Harry shows up for his prescription and now Sally must think quickly. She decides on C based on the very same evidence namely, the recollection of what she read in the textbook about treatment C's efficacy.

This experiment was a between subjects design in that each test participant was randomly assigned only one of the conditions. The narratives were followed by a number of questions including, "To what extent do you agree/disagree with the following statement: 'At the time Sally decides on treatment C, Sally knows<sup>81</sup> that C is the best of the three options for Harry?'" My prediction was that there would be evidence of time constraints sensitivity, such that participants would be more inclined to attribute the relevant knowledge to Sally in High Time constraints, than in Low Time Constraints. In

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<sup>80</sup> For the full Low Time Constraints condition, see Appendix.

<sup>81</sup> Note, the question about knowledge began with the following prompt: "*At the time of her decision, Sally believes and is fully confident that C is the best of the three treatments for Harry. This next question is about whether Sally knows that C is the best treatment for Harry*". This was to try and hedge off readings of 'knows' that might be roughly equivalent to 'confidently believes'.

fact, this is just what was found.<sup>82</sup> It would appear that in certain situations, persons are more inclined to ascribe knowledge of a proposition to an epistemic subject S when S has *less* time relative to a situation where S has more time.

What could be driving such an asymmetry? Why are the folk inclined to judge that Sally knows in HTC but doesn't know in LTC? As discussed in *Section 1* of this work, it seems to me that Sally in LTC is subject to certain criticisms that her counterpart in HTC is not. In HTC, we cannot really expect Sally to do more to improve her epistemic position. If she were to try, she might make her patient Harry (who is in a hurry) late. In other words, Sally in HTC seems to act more appropriately as a health care provider in *not* doing more to improve her epistemic position. But in LTC, Sally seems to exhibit a kind of careless attitude that we find imprudent and not becoming of someone in charge of a medical decision. This judgment that Sally should have done more in LTC, might be what is causing the folk to question the justificatory status of her belief (that C is the best treatment for Harry) and thus leading to the denial of knowledge. These considerations seem consistent with what IRI predicts. If knowledge is in part constituted by practical features (including the epistemic subject's time constraints) then the asymmetrical knowledge judgments between HTC and LTC are just what we would expect.<sup>83</sup>

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<sup>82</sup> Subjects were asked to indicate their level of agreement/disagreement with a knowledge attribution, on a 7-point Likert Scale (0-6). 0 = strongly disagree, 3 = neutral, and 6 = strongly agree. The results were as follows: High Time Constraints: N=38, Mean=3.55 SD= 1.655, Low Time Constraints: N=43, Mean=2.67 SD=1.476, T-test,  $t(79)=2.52$   $p=.014$  (two tailed). Cohen's  $d=.56$  (medium effect size).

<sup>83</sup> For additional data from other studies refer to *Section 1*.

## IRI and Testimony: Stakes and Time Constraints

Applying considerations of stakes and time constraints to adjudicate between JP and JP\* will take something of the following form, although undoubtedly further refinement will be required. As I have so far argued, our intuitions aren't strictly consistent with reductionism's requirement of JP\*, nor are they fully amenable to JP (the non-reductionist's condition). Instead, in some situations we feel that an H must be more epistemically diligent in order to be said to know p (where H believes p on the basis of S's testimony). These situations tend to be ones where much is at stake should H come to believe p falsely, or where H has more time, in comparison to situations where H has little at stake, or little time to gather evidence, or to deliberate. On the other hand, requiring H to seek out positive reasons for believing an instance of testimony where the stakes are sufficiently low, or where there is very little time to do so may be gratuitous.

Returning to Hannah and the pine nuts, suppose we vary Hannah's situation in the Low Stakes scenario so that rather than being benignly allergic to pine nuts, she simply doesn't like the taste of them. Further, suppose that instead of reading it off the menu she inquires by asking the server. If she forms the true belief that there are no pine nuts in her salad on the basis of the server's testimony, it is hard to imagine that we would deem that she does not know that there are no pine nuts in her salad. Suppose Sarah her dinner companion says, "Hannah, are you sure you should trust the server's word? After all, you don't know anything about her. Maybe she is mistaken or worse a pathological liar." I find the appropriate response at this point, for Hannah is to question the source of her friend's paranoia. Here JP\* appears needlessly demanding while JP accords quite well



with our judgments. But now suppose Hannah is questioned by her friend in the same way in High Stakes. Recall in this vignette, Hannah is deathly allergic and will surely die if she is wrong about there being no pine nuts in the salad on the menu's (or on the server's) word. We might even increase the stakes by saying that Hannah is a single mother of three and is currently expecting a fourth. Sarah's demand for further epistemic vigilance and a good degree of incredulity appears not only quite appropriate but a responsible thing to do.

If this is right, in some cases where the stakes are sufficiently low we are inclined to ascribe knowledge of *p* to *H* even solely at the word of some *S*. This is despite the fact that *H* has no positive reasons for believing *p* on *S*'s testimony (of course, there must be no *p*-defeaters). Thus granting that knowledge entails justified belief, it seems that in particular low stakes cases, our judgments are most consistent with JP. That is, we seem to favor the non-reductionist's condition. In these circumstances denying the non-reductionist's presumption to accept the word of another (i.e., denying that JP is sufficient for justification) feels improperly skeptical. However, when considering situations where there is a great deal at stake for *H* in relation to *p*, satisfying JP seems inadequate and we expect more of our hearer. We might then be inclined to deny that *H* knows that *p* because given her high stakes situation, a more demanding epistemic standard must be satisfied for her to know that *p*; she now needs positive reasons to accept the speaker's word, that is to say, she must fulfill JP\*.

Likewise in the case of time constraints, I contend that there is a similar determination of epistemic standards based on salient practical features of our epistemic subject's situation. Consider the following pair of vignettes:

*Harold-High Time Constraints:*

Harold is headed to a meeting. Due to his alarm clock failing to ring this morning, Harold is running behind schedule. But it is extremely important that Harold get to the meeting on time, as his client is a stickler about punctuality. Harold is within the vicinity but doesn't know precisely how to get to the office where the meeting is being held. As it stands he has only about thirty seconds to figure out where he is going if he is going to make it on time. Thus Harold grabs the first stranger he sees walking by and asks for directions. The stranger tells him to take a left and then the first right down at the corner of Lemon and Rural. On the basis of the stranger's directions he comes to confidently believe that that is where the office is.

*Harold-Low Time Constraints:*

Harold is headed to a meeting. It is extremely important that Harold get to the meeting on time, as his client is a stickler about punctuality. Harold is within the vicinity but doesn't know precisely how to get to the office where the meeting is being held. But Harold is in no rush and has about five hours to kill. He finds a nearby coffee shop, locates a sofa and takes a nap not giving a second thought about how to get to his meeting. Five hours have passed and his alarm clock rings.

He wakes up, realizing that he must get to his meeting soon. Harold immediately grabs the first stranger walking by and asks for directions. The stranger tells him to take a left and then the first right down at the corner of Lemon and Rural. On the basis of the stranger's directions he comes to confidently believe that that is where the office is.

Suppose that the stranger's directions are correct, confidently believed by Harold and further that the relevant stakes are invariant between the two vignettes (in both, the stakes are high). Does Harold know that *p*? There seems to be considerable pressure to grant Harold knows in Harold-High Time Constraints, but not in Harold-Low Time Constraints. Now much like in the cases of Sally the medical student, it seems easier in Harold-Low Time Constraints to point out that Harold should have called the office building, checked a map, or perhaps followed the stranger's directions ahead of time. Harold seems to have acted carelessly and this is not the attitude we would expect of him given that he must get to an important meeting in a timely manner. This might be why we judge that Harold doesn't know that *p*. In Harold-Low Time Constraints, we ostensibly demand more of Harry much like JP\* does. It doesn't seem enough for Harold to presume that the testimony of the stranger is trustworthy. Perhaps he needs positive reasons to believe *p* in order to be justified in believing that *p* on the stranger's word. On the other hand, in High Time Constraints, these same criticisms seem more difficult to apply to Harold. Perhaps then we are more inclined to say that he knows *p* (and is justified in believing that *p*). If

so, he seems justified in believing that p, on the stranger's telling, even if Harold does not fulfill the positive reasons component and so merely satisfies JP.

## Conclusion

In this section, I argued that the reductionist's justification principle JP\* may plausibly be understood as describing a more stringent epistemic requirement needing to be fulfilled in order for S to know (thus justified in believing) that p, relative to the non-reductionist's JP. Citing what I believe to be wavering intuitions in our application of the two principles, to cases of testimonial belief, I argued that there is reasonable motivation to apply a pragmatically sensitive theory such as IRI in order to adjudicate between JP and JP\*.

Along the way, I presented recent experimental findings including my own, to suggest that there may be some *prima facie* reason to accept that stakes as well as time constraints may influence knowledge attributions. In doing so, I have argued that JP and JP\*, rather than being viewed as competing accounts of testimonial justification may better be perceived as tools specific to particular situations of epistemic appraisal as determined in part, on practical features such as the stakes and time constraints placed upon the H that is said to know that p, on S's report.

Thus in *Section 1*, we looked at some experimental results, which seem to support IRI. That is to say, the folk concept of knowledge seems to be sensitive to considerations about the epistemic subject's time constraints even as these time constraints are construed in a truth-irrelevant manner. I further defended this view against a contextualist interpretation of time-constraints sensitivity, based on some comments made by Jonathan

Schaffer. Finally in *Section 2*, I applied IRI-friendly stakes-sensitivity and time constraints-sensitivity to the debate about whether non-testimonial positive reasons are required in order for an epistemic subject to be justified in believing a bit of testimony. It is my hope that I have presented two plausible strands of evidence for pragmatic encroachment on knowledge.

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APPENDIX A  
ADDITIONAL VIGNETTES

## APPENDIX A

### High Stakes (Sripada and Stanley)

Hannah has a gene that makes her seriously allergic to pine nuts. Eating only a single pine nut will cause her to go into shock and die. Hannah is very much aware of this, and has known this for a very long time. One evening, Hannah and her sister Sarah are at a new restaurant that has just opened. Hannah orders a plate of noodles. When her food is brought to the table, Hannah notices something that looks like pine nuts sprinkled on her noodles and wonders what it is. Sarah says, ‘The noodles may be topped with pine nuts.’ Hannah notes that the menu says her dish does not contain pine nuts. Based on this, Hannah forms the belief that the noodles are not topped with pine nuts. If it turns out that the noodles are topped with pine nuts, then when Hannah eats the dish, she will go into shock and die. Since eating even a single pine nut will cause her to die, it matters a lot whether or not the noodles are topped with pine nuts.

### Low Time Constraints (Shin)

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, but he is in no serious danger, the cough is just a minor annoyance. 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.

Unfortunately, she has no information about how well any of the medications work in comparison to the others. Seeing as Harry is in no serious danger, there isn't a lot at stake with Sally's decision. If she chooses the wrong medication, they will simply try another one. All three medications are currently on order and will take four months to arrive. As such Sally doesn't think at all about which medication is best for Harry. In fact, she lets the entire four months go by without thinking about Harry or the medications.

At the end of the four months, Harry shows up to pick up his medication. Sally must now think quickly about which of the three options is best for him. Suddenly she remembers reading in a textbook that medication 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 treatments and in fact, now feels fully confident about this, and so she prescribes C to Harry.

## PREFACE

This work is designed so that it can with minimal changes stand as two independent articles (*Section 1* and *Section 2*). Consequently, there are a few minor points of repetition for which the author apologizes for in advance. Specifically, both sections feature some introductory discussion on the connection between knowledge and action just as they provide similar remarks about the pertinent notion of time constraints. Further, they report the data of some of the same experiments and overlap to some extent on the discussion of the data.