

**What We Can Do with Words:
Essays on the Relationship Between Linguistic and
Non-Linguistic Theorizing**

by

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CHAPTER I

Grammatical Evidentiality, Norms of Assertion, and Context-Sensitivity

Assertion is one of the primary ways we communicate information to one another. Given this central role in our communicative lives, it is unsurprising that gaining a clearer understanding of assertions has garnered a great deal of attention within philosophy. Much of this attention has been placed on the norms that govern assertion with an emphasis on felicity norms; that is, when it is that an assertion can felicitously be uttered. The purpose of this paper is to show that the natural language phenomenon known as evidentiality gives us reason to think that norms that govern assertion are far more complex than has traditionally been conceived.

The paper will proceed as follows. §1.1 will briefly overview the current state of the debate about norms of assertion. Specifically, I'll explain the knowledge norm of assertion as a main test case before briefly touching upon related norms of assertion. §1.2 will outline the linguistic phenomena of evidentiality in order to highlight a class of utterances within Cuzco Quechua that have all the hallmarks of assertions yet do not commit their speakers to the at-issue content of their assertion.¹ I will show that

¹Throughout the Quechua subsection I will be using the following Cuzco Quechua morphosyntactic glosses: 1 = first person, 1O = first person object recipient, 2 = second person, 3 = third person, 3s2O = third person subject to second person object, ACC = accusative case, BPG = best possible grounds, DIM = diminutive, DISC = discontinuous, ILLA = illative, IMP = imperative, LIM = limitative, LOC = locative case, NEG = negative, PL = plural, PROG = progressive, PST1 = past

the same phenomena is found in Cheyenne ² but not in English.³ §1.3 will show how this class of assertion causes problems for the norms discussed in §1.1. I will then go on to argue that the adoption of a context-sensitive norm of assertion, in which evidential markers modify the norm that is operating, is needed to account for the linguistic data. The final section will explore three possible implementations of the context-sensitive approach. The first holds that a familiar norm of assertion, the knowledge norm for example, acts as the default norm and all modification is from it. This implementation is not adequate in the end but leads us to the two other implementations. One that also holds that there is a default norm of assertion but that it is to be couched in terms of the evidence a speaker has that bears on the proposition that they are asserting instead of being in terms of a mental state like knowledge or belief. The final implementation argues that there is no default to be found. The felicity condition for each potential assertion is entirely determined by the contextual factors affecting that very assertion. In the end, adjudication between these two final implementations will require further research into the nature of and the extent to which we see explicit and implicit norm modification in English and cross-linguistically.

tense 1, PST2 = past tense 2, SURP = surprise, and TOP = topic.

²Throughout the Cheyenne subsection, I will be using the following Cheyenne morphosyntactic glosses: 1 = first person, 2 = second person, 3 = third person, AN = animate, CNTR = contrastive, INAN = inanimate, NEG = negation agreement suffix, PL = plural, RPT = reportative evidential, SG = singular, and WTN = direct/witness evidential.

³The linguistic data to be presented in §1.2 comes from work done by Martina Faller and Sara Murray. The data was collected during fieldwork with native speakers of Cuzco Quechua and Cheyenne respectively. See FALLER (2002) and MURRAY (2010) for more on the methodology used to collect the data. In all cases in this paper, unless otherwise indicated, I am directly quoting the data that they have presented and following their translation scheme. The one consistent departure is that I have not used their numbering but will continue on with the one that has been started in this paper. For all of the Quechua examples in their initial numbering, see FALLER (2002). For the Cheyenne examples in their initial numbering, see MURRAY (2010).

1.1 Knowledge, meaning, and assertion norms

Assertions play a large role in communication and we are all fairly adept at identifying one when we hear it. In English, an assertion is the default speech act when one has uttered a sentence in the indicative or declarative mood. For example, it's easy for us to be able to identify the following as assertions:

1. Ottawa is the capital of Canada.
2. Hikaru should be at the party.
3. Assertions play a rather large role in our communicative lives.

While all three of these are fairly straightforward, figuring out what warrants someone to make an assertion has been the aim of philosophers for some time. It has been argued that there is a connection between a speaker having knowledge that p and being warranted in asserting that p . I will go through English linguistic data that has been used to argue for this type of connection.

The first data point is a class of sentences that never seem to be acceptable to assert: Moore paradoxical sentences. These are conjunctive sentences where one affirms a proposition but also denies that they either believe or know that very same proposition. The following are all examples:

4. # Corgis are Welsh, but I don't know that they are.⁴
5. # Corgis are Welsh, but I don't believe that they are.
6. # I don't know that corgis are Welsh, but they are.
7. # I don't believe that corgis are Welsh, but they are.

Moore himself labelled these sentences as sounding "absurd" even though they might very well be true.⁵ When you utter a sentence like those found in (4)-(7), you assert

⁴Throughout this paper the '#' preceding a sentence will indicate that the sentence is infelicitous in some fashion.

⁵(MOORE, 1942, P.542-43), (MOORE, 1962, P.277)

in one conjunct a proposition that at least strongly implies that you know the content of the proposition, but you also deny in the other conjunct that you know, or believe, that very same proposition. This generates a type of contradiction between what one claims to know and what they represent themselves as knowing.

The next piece of data comes from a common way we go about challenging someone's assertion: the use of the question "How do you know?"⁶ It is exceedingly rare that this question is deemed to be inappropriate in response to an assertion. "How do you know?" is appropriate even though an asserter has said nothing at all about knowing that was assertion, like in the sentences (1)-(3). Also, the asserter is not seen as appropriately answering the question if they claim that they never claimed to know what they asserted. Lastly, the asserter who ends up saying that they don't know p or who modifies the original assertion by moving to "I think p " or "Probably p " is seen to have moved to a weaker claim than their original assertion. This data can be explained if there is some type of connection between asserting that p and the asserter knowing that p .

Due in part to the above, it has been argued that knowledge needs to play a fundamental role in any attempt to provide a rule governing the permissibility of asserting. A view that has grown popular in recent times is that knowledge, and only knowledge, warrants assertion. Views of this form have been come to be known as knowledge norms of assertion. One of the main proponents of the knowledge norm, Timothy Williamson, says that the view can be "... summarized in the slogan 'Only knowledge warrants assertion.'"⁷ John Hawthorne states, "[t]he practice of assertion is constituted by the rule/requirement that one assert something only if one knows it."⁸ Jason Stanley has this to say, "... assertion is... conceptually connected to

⁶This was originally pointed out in UNGER (1975).

⁷(WILLIAMSON, 2000, P.243)

⁸(HAWTHORNE, 2004, P.23)

knowledge... one ought only to assert what one knows.”^{9,10} A fleshed out version of these slogans leads us to the following:

kna: One must: assert that p only if one knows that p .

We can think of KNA “as giving the condition on which a speaker has the authority to make an assertion. Thus asserting p without knowing p is doing something without having the authority to do it, liking giving someone a command without having the authority to do so.”¹¹

It should be clarified that there are two distinct views that arise from KNA above. There is the constitutive side of the norm: what is it to be an assertion is to be guided by the knowledge norm. This means that if some utterance is not guided by KNA, then it is not an assertion. The other view has to do with characterizing assertions as “correct”, “justified”, “proper”, or “warranted.” As KNA makes the speaking knowing that p a necessary condition for asserting that p , any case where S does not know that p but nonetheless they go on to assert it will be a case of incorrect, unjustified, improper, or unwarranted assertion. Both of these versions of the norm will be challenged by the linguistic data found in the grammatical evidential languages.

It would be remiss of me if I didn’t point out that the knowledge norm is not without its critics. Many have argued that requiring knowledge for assertion is too strong and KNA needs to be replaced with a norm that uses a weaker doxastic. As all of these norms are in the same vein as KNA, and it has been described in detail, I will only state and briefly explain the other norms.

A norm based on justified belief rather than knowledge will look something along the following lines:

⁹(STANLEY, 2005, PP.10-11)

¹⁰Others who endorse KNA are: DEROSE (2002), REYNOLDS (2002), SCHAFFER (2008), and TURRI (2010).

¹¹(WILLIAMSON, 2000, P.257)

jbna One must: assert that p only if you have a justified belief that p .

This norm is defended in one form or another by DOUVEN (2006, 2009), NETA (2009), KVANVIG (2009, 2011), GERKEN (2012, 2013), MCKINNON (2013), and COFFMAN (2014). All of these authors argue for different forms of a justified belief norm – some don't even call it by that name. Fortunately, the differences in the views will not be important to the purposes of this paper.

The next norm is the truth norm which is defended by WEINER (2005, 2007). The norm says the following:

tna One must: assert that p only if p is true.

It should be noted that this norm on its own doesn't require the speaker to believe the content that p but is often combined with a view that says that p is also believed in some fashion. This leads us nicely to the the belief norm of assertion:

bna One must: assert that p only if you believe that p .

This norm is explicitly stated and defended in BACH (2008).

The final norm is both stronger and weaker than BNA in that it doesn't require that the speaker believe the content that p but it does require p to be reasonable to believe and that any assertion of p is due to the fact that p is reasonable to believe. This is known as the Reasonable to Believe Norm and is defended in LACKEY (2007).

rtbna “One should assert that p only if (i) it is reasonable to believe that p and (ii) if one asserted that p , one would assert that p because it is reasonable for one to believe that p .”¹²

This norm is meant to capture what Lackey describes as “selfless assertions” where speakers makes assertions in accordance to their evidence but against their beliefs.¹³

¹²(LACKEY, 2007, P.18)

¹³These cases often involves someone who has good evidence for p but also has some psychological barrier from actually acquiring the belief. See RACIST JUROR, DISTRAUGHT DOCTOR, and CREATIONIST TEACHER in LACKEY (2007) for examples of these types of assertions.

RTBNA is unique in that it doesn't require the speaker to believe the proposition asserted but remains rather strong due to the reasonableness requirement.

The above represents the spectrum of views that are in the same vein as KNA. When we look to data from evidentiality all of these norms will predict that a felicitous assertion has to be infelicitous.

Before we can get to utterances in evidential languages, it will be important to clarify what asserting and knowing that p amounts to.¹⁴ Recent work in linguistics, which can be seen in SIMONS ET AL. (2010) and MURRAY (2010, 2011) among others, has shown that the meaning conveyed by an utterance of a declarative sentence S can be divided into three types: one, the **at-issue content** – which can be roughly characterized as the “main point” of the utterance or what is up for negotiation. Two, the **not-at-issue content** – the part of meaning that is non-negotiable and hence cannot be directly challenged or denied, such as conventional implicatures and presuppositions. Three, **illocutionary content** – this conveys information about the speaker's attitude towards the at-issue content of the utterance.¹⁵ It should be noted that the illocutionary content has to do with what the utterance is conveying and doesn't say anything about the actual doxastic state of the speaker. This distinction can be shown nicely with the following example:

Meaning conveyed by an utterance of S – e.g. *Nasim is home*

- a. **at-issue content** p ; the proposition that Nasim is home.
- b. **not-at-issue content** q ; the presupposition that Nasim has a home.
- c. **illocutionary content** r ; that the speaker believes/knows p .¹⁶

¹⁴Everything that will be said here will also apply to the other norms just discussed. I am only using KNA as a test case for ease of exposition.

¹⁵This is also non-negotiable and cannot be directly challenged.

¹⁶SIMONS ET AL. (2010) and MURRAY (2010, 2011) characterize the illocutionary content of a declarative sentence with the speaker believing p rather than the stronger claim that the speaker knows p . I have included both to be able to fall more in line with what the proponents of KNA believe.

It is actually relatively easy to distinguish between at-issue content and the other types of content. At-issue content is the only type of content that can be directly challenged, that can address the question under discussion¹⁷ and is embeddable under semantic operators like negation.¹⁸ These tests will be used in §2 on the Quechua and Cheyenne reportative sentences.

While those working on norms of assertion have yet to make this distinction, one natural way to interpret KNA is that it must be concerned with the at-issue content of an assertion. One reason to think this comes from looking at what philosophers typically mean when they talk about the propositional content of an utterance, the proposition expressed, or the proposition conveyed. Talking about propositional content is a looser way of speaking than the distinction above but it should be clear that it is a way of discussing the at-issue content of an assertion. Consider, once again, the following utterance:

8. Nasim is home.

If we were concerned with the proposition that (8) expresses then we would be interested in its at-issue content. The proposition expressed by (8) is the proposition that Nasim is home. What is conveyed by the two other types of meaning would not be of concern. Given that the literature on the norms of assertion is couched in terms of ‘proposition expressed’ and ‘propositional content’ this is another reason that it is natural to interpret proponents of the norms above as being concerned with the doxastic state one must have towards the at-issue content of an assertion. It has to be conceded that not requiring knowledge of the at-issue content would be rather absurd.

There’s also reason for scepticism about requiring knowledge of the additional types of content has to do with difficulties that would come with requiring knowledge,

¹⁷See ROBERTS (1996, 2012) for more on the concept of a question under discussion.

¹⁸See TONHAUSER (2012)) for more on what type of contents project

or any of the weaker doxastic states, towards these. Having knowledge of the illocutionary content would require a speaker to know that they know the at-issue content p and that this is conveyed by their utterance of S . This type of iterative knowledge does not appear to be of the right type to be of concern for a norm of assertion. It is also far removed from the knowledge, or weaker doxastic state, that are discussed throughout the norms of assertion literature. Knowing the not-at-issue content of an utterance would require the speaker to know, at least, everything presupposed and conventionally implicated by their utterance. This appears to be an especially high bar for speakers to meet in order to make an assertion given the grand scope of what is actually presupposed and conventionally implied by utterances. Whether this high bar is unreasonable is yet to be seen but it should mean that we ought to be sceptical about requiring speaking to know it in order to felicitously assert.

In the end, what is important is that knowledge of the at-issue content is required for felicitous assertion regardless of what other pieces of knowledge are additionally tacked on top of this.¹⁹ The remainder of the paper will proceed under the assumption that this has to be correct. That is, knowledge of the at-issue content p is required to felicitously assert a sentence that has p as its at-issue content. Changing KNA to match this gets us the following:

kna[†]: One must: assert S with at-issue content that p only if one knows that p .

The linguistic data from the evidential languages to follow will be concerned about whether speakers need to know the at-issue content of their assertions.

1.2 Linguistic evidentiality

Certain natural languages are known as evidential languages. In evidential languages, every declarative sentence must specify the information source on which it is

¹⁹The problems that will be discussed in §1.3 are generated from the having knowledge towards the at-issue content alone so anything else that might also be required are beside the point.

based. The information sources include perception, inference, and some type of indirect means (like hearing it from another speaker), for example. Marking the source of information is obligatory in an evidential language in the same way that marking definiteness, number, and tense are obligatory aspects in English.²⁰ For example, if we were to look at a sentence containing a proposition learned perceptually, then we would have to see a grammatical marker within the sentence itself that indicates that the proposition was perceptually based. If there is no such grammatical marker then the sentence will be ungrammatical.²¹

To get an initial grip on the phenomena, it is worth observing the closest way that English – which isn't a grammatical evidential language – emulates evidentiality in a lexical rather than grammatical way. Consider epistemic uses of the modal 'must'. One feature that's been observed about this modal is that it can only be uttered felicitously in certain evidential contexts. In particular, "must ϕ " can only be uttered felicitously when ϕ is based on indirect evidence.²² Consider the sentence "it must be raining" in the following two scenarios:

Outside

Shikoba is walking outside when it suddenly starts pouring. While dripping wet outside, Shikoba utters:

9. # It must be raining.

Inside

Shikoba is in an interior room with no windows. Two colleagues walk into the room with wet umbrellas. Shikoba utters:

9. It must be raining.

²⁰AIKHENVALD (2004)

²¹Evidential languages include: Bulgarian, Central Alaskan Yup'ik Eskimo, Cherokee, Cheyenne, Cuzco Quechua, Japanese, Korean, Lillooet (also known as St'át'imcets), Tibetan, and Turkish.

²²See VON FINTEL AND GILLIES (2010) and SWANSON (2015) for more about the evidential feature of the epistemic modals.

(9) is not felicitous to utter in **Outside** because Shikoba has direct evidence for the prejacent whereas the indirect nature of the evidence in **Inside** means that (9) is felicitous. The way in which the evidence source is marked in (9) is akin to evidential languages but true evidential languages will have a type of evidential marker in every grammatical sentence.

The main evidential language that I will be focused on is Cuzco Quechua but I will also briefly mention Cheyenne as it patterns identically to Quechua. In both of these languages a speaker is able to assert a sentence with the at-issue content that p without even believing p .

1.2.1 Cuzco Quechua

In Cuzco Quechua, evidentiality is marked by the use of one of three enclitics.²³ Only one of them is crucial for the arguments to be made in the remainder of this paper, the reportative evidential *-si*.²⁴ It is used when the speaker is reporting information that she has obtained from someone else, which includes secondhand and thirdhand information, general hearsay/rumour, folktales, and the content of dreams. The following is an illustration of the use of *-si*:

10. Marya-qa yachay wasi-pi-s ka-sha-n.
 Mayra-TOP know house-LOC-**si** be-PROG-3

at-issue content p : Marya is at school

evidential contribution: speaker was told that p ²⁵

²³An enclitic is a clitic closely connected in pronunciation with the preceding word and not having an independent accent or phonological status. A clitic is a morpheme that has syntactic characteristics of a word, but depends phonologically on another word or phrase.

²⁴The others are *-mi* and *-cha*. *-mi* is the direct evidential and is used to indicate that the speaker bases his or her statement on direct evidence such as perception. *-cha* is the conjectural or inferential evidential and is used for information that the speaker “acquired” by reasoning. This includes mere speculations, assumptions, hypotheses, as well as deductive, abductive, and inductive inferences.

²⁵The semantic analysis of *-si* proposed in FALLER (2002) argues that the evidentials do not act at the propositional level but at the speech act level: “the reportative meaning of *-si* does not contribute to the proposition expressed” (196). The exact details of her view are not needed for the purposes of this paper as the evidential not contributing to the proposition expressed – that is,

According to FALLER (2002), (10) would be a typical response to the question “Where is Marya?” when the speaker learned about Marya’s location from another person.

The interesting characteristic of *-si* is that a speaker does not convey that the **at-issue** proposition is “possibly or necessarily true with respect to what (s)he knows or with respect to what (s)he has been told.”²⁶ Due to this, we see felicitous Moore Paradoxical-like and even contradictory sounding sentences within Quechua when *-si* is present in one of the conjuncts. The following is an example of the latter of these:

11. Pay-kuna-s ñoqa-man-qa qulqi-ta saqiy-wa-n,
 (s)he-PL-**si** I-ILLA-TOP money-ACC leave-1o-3
 mana-má ni un sol-ta saqi-sha-wa-n-chu.
 not-SURP not one Sol-ACC leave-PROG-1o-3-NEG
 “They left me money [reportative] but they didn’t leave me one *sol*.”

first conjunct at-issue content *p*: They left me money

first conjunct evidential contribution: speaker was told that *p*

second conjunct at-issue content *q*: They didn’t leave me one *sol*

second conjunct evidential contribution: speaker has perceptual evidence for *r*

The first conjunct of (11) contains the reportative *-si*. This means that the speaker does not have to be committed to the truth of the at-issue content “they left me money.” In English, it will always be infelicitous to utter “ ϕ , but not ϕ ” as this is a type of Moore Paradoxical sentence; this is not the case in Quechua.

(11) also helps us to see that the speaker of a sentence containing *-si* does not need to believe the at-issue content of that sentence. The speaker of (11) believes not contributing to the **at-issue** content – is all that is needed. Very roughly, Faller argues that *-si* introduces a condition into the set of preconditions for making the utterance. The condition is that the speaker heard the information from some other individual before making the utterance.

²⁶(FALLER, 2002, P.193)

that she hasn't been left any money and not that she has been left money. This is because “-*si* is simply silent about the speaker's beliefs regarding the truth of *p*.”²⁷

This can be shown explicitly in the following example:

12. Para-sha-n-**si**, ichaqa mana crei-ni-chu.
rain-PROG-3-**si** but not believe-1-NEG
“It is raining [reportative] but I don't believe it.”

first conjunct at-issue content *p*: It is raining but I don't believe it.

first conjunct evidential contribution: speaker is/ was told that *p*

second conjunct at-issue content *r*: I don't believe that it's raining.

second conjunct evidential contribution: speaker has perceptual evidence for *r*

The Quechua data above all involves Moore Paradoxical like sentences. But as Faller notes, “sentences containing the CQ [Cuzco Quechua] Reportative can take on all the speech act functions... assertive sentences in English can take on, but without sharing their sincerity condition that the speaker believes the proposition expressed.”²⁸ This means that Quechua will allow felicitous utterances of at-issue content that *p* without the speaker being committed to believing that *p* in non-conjunctions as well. For example, one could utter the first conjunct of (11) or (12) without believing that they had been left money or that it is raining.

When it comes to the data presented above, I have merely stated that the semantic contribution of -*si* is not to be found in the at-issue content but I have yet to provide evidence for this claim. As mentioned in §1, there are linguistic tests that can be used to distinguish between at-issue content and the other types of content. When we apply these tests to -*si* it's clear that it is not making an at-issue contribution.

²⁷FALLER (2007)

²⁸(FALLER, 2007, P.223-224)

The first test is called the challengeability test and can be described in the following manner:

Challenge

Check whether the meaning of the element in question can be questioned, doubted, rejected or (dis)agreed with. If yes, then it contributes to the at-issue content of the proposition expressed, otherwise, it does not.²⁹

Only at-issue content can be challenged directly, which means that the truth or falsity of the content is challenged as such. If *-si* cannot be challenged directly, it does not make an at-issue contribution. The following example shows this is the case:

13. a. Inés-qu quynunchay ñaña-n-ta-s watuku-squ.
 Inés-TOP yesterday sister-3-ACC-**si** visit-PST2
 “Inés visited her sister yesterday [reportative].”

at-issue content *p*: Inés visited her sister yesterday.

evidential contribution: speaker was told that *p*

- b. Mana-**n** chiqaq-chu #Mana-**n** chay-ta willa-rqa-sunki-chu.
 not-BPG true-NEG #not-BPG this-ACC tell-PST1-3S2O-NEG
 “That’s not true. #You were not told this.”

- c. Mana-**n** chiqaq-chu Manta-n-ta-lla-**n** watuku-rqa-n.
 not-BPG true-NEG mother-3-ACC-LIM-BPG visit-PST1-3
 “That’s not true. She only visited her mother.”

The first sentence in (13b-c) is challenging (13a). This challenge cannot deny that (13a) has a reportative source, though, as shown by the impossibility of making the evidential basis explicitly the target of the denial in (13b). In contrast, we see in

²⁹For more on the challengeability test, see: LYONS (1977), PAPAFRAGOU (2000), AND FALLER (2002).

(13c) that it is felicitous to deny the propositional content explicitly. This is the first test that shows that *-si* is not at-issue.

The second test looks at the linguistic environments the element in question can find itself in. If the element is at-issue, then it should be able to be embedded in the antecedent of a conditional. The antecedent of conditionals is an ideal candidate for this test because it is not an illocutionary force bearing environment; the illocutionary force *S* has outside of a conditional will disappear when *S* is in an antecedent.³⁰ Using this test we see that *-si* cannot be embedded in an antecedent.

14. (Sichus) Pidru-cha ña iskay t'anta-ta-ña-(*-s)
 (if) Pedro-DIM already two bread-ACC-DISC-***rep**
 mikhu-rqa-n chayqa ama huq-ta qu-y-chu
 eat-PST1-3 then not other-ACC give-IMP
 “If Pedro already ate two rolls, don’t give him another.”

The ***-s** at the end of the antecedent is indicating that *-si* can’t be embedded in that position if the antecedent is to remain grammatical. If *-si* was at-issue, then it should be able to be embedded in that position.

The last test looks at what scope interactions between *-si* and negation. If *-si* is at-issue then it should be able to take narrow scope under the negation. If this isn’t possible, if *-si* must always take wide scope, it is an indication that is not at-issue.³¹ When we look at the interaction between *-si* and negation, we see that this is the case:

15. Ines-qa **mana-s** qaynunchaw ñaña-n-ta-**chu** watuku-rqa-n.
 Inés-TOP **not-rep** yesterday sister-3-ACC-**neg** visit-PST1-3
 “Inés didn’t visit her sister yesterday [reportative].”

³⁰For more on the embedability test, see DE HAAN (1999).

³¹For more on the negation test, see IFANTIDOU-TROUKI (1993).

available reading: Speaker has reportative evidence that Inés did not visit her sister

unavailable reading: # Speaker does not have reportative evidence that Inés visited her sister.

If *-si* were at-issue we should be able to get the reading that means that the speaker does not have reportative evidence for Inés’s visit, but this is never available; *-si* can only take the narrow scope reading. These three tests together give us definitive reason to believe that the Quechua evidential *-si* is not acting at the at-issue level.

1.2.2 Data in other languages

Before moving on to show how the above data affects the norms of assertion discussed in §1.1, I will quickly show that the Plains Algonquian language Cheyenne exhibits the same linguistic behaviour for its reportative evidential that we just saw in Quechua. I will also briefly show that a nearby English analogue of the reportative evidential is importantly different from Quechua and Cheyenne.

The reportative evidential in Cheyenne behaves extremely similarly to the way that the reportative works in Quechua.³² In particular, the Cheyenne reportative does not commit its speaker to the at-issue proposition. The speaker could believe that the at-issue content is true but they can also fail to believe it or believe it to be false. This can be shown in the following example:

16. É-hoo’kòhó-**nèse** naa oha ná-sáa-oné’séomátséstó-he-Ø.
3-rain-RPT.SG.INAN and CNTR 1-neg-believe_{INAN-NEG_{AN}-WTN}
“It’s raining (they say) but I don’t believe it.”

first conjunct at-issue content *p*: It’s raining

first conjunct evidential: speaker was told that *p*

³²For more information on the Cheyenne evidential system, see MURRAY (2010).

second conjunct at-issue *r*: speaker doesn't believe it's raining

second conjunct evidential: speaker has direct evidence for *r*

The speaker can explicitly deny that she believes what it put forth in the reportative in Cheyenne in the exact same way that we saw in examples (11) and (12) in Quechua.

Cheyenne reportative utterances also displays the same behaviour as their Quechua counterparts when it comes to the challengeability test.

17. a. Méave'ho'eno é-héstàhe-**séstse** Mókée'e.
Lame Deer 3-be.from-RPT.3SG Mókée'e
“Mókée'e is from Lame Deer [reportative].”

- É-sáa-hetómèstovè-hane- \emptyset . É-sáa-héstàhe-he- \emptyset
3-neg-be.true-NEG_{INAN}-WTN 3-neg-be.from-NEG_{INAN}-WTN
b. Méave'ho'eno
Lame Deer
“That's not true. She's not from Lame Deer.”

- # É-sáa-hetómèstovè-hane- \emptyset . Né-sáa-néstimóné-he- \emptyset .
3-neg-be.true-NEG_{INAN}-WTN 3-neg-hear_{INAN}-NEG_{AN}-WTN
b'. “That's not true. # You didn't hear that.”

- # É-sáa-hetómèstovè-hane- \emptyset Hovánee'e
3-neg-be.true-NEG_{INAN}-WTN nobody
b''. é-sáa-né-hé-he- \emptyset
3-neg-an-say-NEG_{AN}-WTN
“That's not true. # Nobody said that.”

Like we saw in (13a-c) above, the “that's not true” in the latter two cases of (17) cannot target the reportative feature but only the claim that Mókée'e is from Lame Deer. Only at-issue content can be directly challenged so this example shows us that the Cheyenne reportative marker isn't make a contribution at the at-issue level.

When we look at the behaviour of the Cheyenne reportative markers interacting with negation, we see that they once again behave in the same fashion as Quechua. The reportative evidential has to take wide scope over the negative and can never take narrow scope under it.

18. É-sáa-némené-he-séstse Andy
 3-not-sing-NEG_{AN}-RPT.3SG Andy

available reading: S has reportative evidence that Andy didn't sing

unavailable reading one: # S doesn't have reportative evidence that Andy sang

unavailable reading 2: # It wasn't reported that Andy sang

We can only get the reading where the speaker is saying that she has reportative evidence that Andy didn't sing. We cannot get the reading where the speaker is saying that they don't have reportative evidence that Andy sang or that it wasn't said that Andy sang. This is once again an indication that the reportative is not contributing to the at-issue content.

When it comes to Cheyenne, looking to the antecedent of a conditional can't be used as a test like it could for Quechua. This is due to morphosyntactic restrictions.³³ This means that on the tests that we can use, the Cheyenne evidentials behave in the same fashion as the Quechua ones. In Quechua and Cheyenne speakers are able to assert at-issue content that they don't believe or believe to be false as long as their utterance also contains a reportative evidential.

It will be helpful to show how different the Quechua sentences are from their nearest English analogues that involve the use of 'reportedly' or 'allegedly'.³⁴

³³The antecedent of a conditional is a dependent clause and in Cheyenne all dependent clauses are marked with a dependent mood. This has to fill the illocutionary mood slot where an evidential would otherwise go. Evidentials can occur in the consequent of conditionals but this doesn't show us anything when it comes to the evidential contributing to at-issue content.

³⁴Thanks to Daniel Drucker for pushing me on this point and helping me clarify the differences.

As mentioned at the beginning of this section, English is not an evidential language which means that there is nothing to be found in English that will directly mirror what *-si* does in Quechua. That being said, we can get close in English when we say “Reportedly, *p*,” “*p*, reportedly,” Consider the following sentences:

19. Reportedly/ allegedly, Jyoti is in Lima.

20. Jyoti is in Lima, reportedly/ allegedly.

These are similar for the Quechua sentences in that the speaker of (19) and (20) is not committed to the embedded proposition that Jyoti is in Lima and the speaker is also marking that their information source for Jyoti being in Lima is reportative in nature. This is roughly where the similarity ends, though. (19) and (20) are markedly different from Quechua in that the speaker of (19)-(20) is committed to the whole claim that involves the word ‘reportedly’ or ‘allegedly’. This wouldn’t be very different from Quechua apart from the fact that the contribution of ‘reportedly’ or ‘allegedly’ is at-issue. We can see that they are acting at the at-issue level when we apply the tests described above.

20. a. Jyoti is in Lima, reportedly/ allegedly.

b. That’s not true. No one would ever say that!

As this example shows, ‘reportedly’ and the contribution it makes can be directly challenged in a way that the Quechua evidential could not. According to CHALLENGE, this means that the contribution has to be at the at-issue level.³⁵

1.2.3 Assertions at all?

Before we can move on to show just how the data from Quechua affects the norms discussed in §1.1, there is an important question that needs to be addressed. The

³⁵The exact semantics of these parenthetical like remarks in English is quite messy and complicated so I will not go into further detail on this point. What matters is that there is enough of a difference between the English data and the Quechua data to mean that we can’t just stick to English to find the type of assertions I’ve identified.

question is whether we should think that the utterances in Quechua that contain *-si* are assertions at all. If there's good reason to believe that they aren't assertions, then all of the data presented above will be for naught. Luckily, this is not the situation we find ourselves in as there is good reason to think that reportative evidential utterances are, in fact, assertions.

One intuitive way to see if something is an assertion is to look at its syntactic and grammatical form. A naïve, too naïve as it will turn out, way of identifying assertions is with sentences in the declarative mood. If we're to use this as a test for assertion, then the Quechua reportative sentences, where the speaker doesn't believe the at-issue content, pass with flying colours. All of the evidential sentences in Quechua are just declarative sentences. There is nothing different about the grammatical and syntactic features of the reportative sentences where the speaker doesn't believe the at-issue content.

As mentioned in the previous paragraph, this diagnostic is too naïve and simplistic. There are many cases where declarative sentences are not assertions. Think of any play that you've seen. Actors utter a vast amount of declarative sentences yet we want to be able to say that they aren't making assertions. But declarative sentences on the stage aren't the only cases where they fail to be assertions. Consider the following type of case. Two detectives, Moana and Ngozi, have just finished their first preliminary investigation of a murder scene and they both realize there isn't enough evidence to definitely point towards any one murderer. Despite this, Ngozi turns to Moana and tells her to make a guess about the identity of the murderer where she is not allowed to hedge her guess or make any qualifications. When primed in this fashion, the likely response is to be a declarative sentence. But, once again, this type of declarative doesn't seem to be an assertion.³⁶

³⁶For those of you who are thinking that this type of priming and context do not occur often, I suggest you watch any sporting event that has a panel of "experts" and a pre-game show. The experts are always primed and forced to make a prediction about who will win the contest without any sort of hedging allowed.

While the initial diagnostic gets things incorrect in saying that actors and people who are primed are making assertions, there is a quick update available that will make the correct predictions. The new diagnosing is that an assertion is a declarative sentence that lacks certain antecedent contextual markers. Markers like being part of a performance or having been primed not to hedge and make a guess in declarative form. While this updated diagnostic gets the examples above correct, there is one further wrinkle that needs to be ironed out. While the examples of declarative non-assertions above involved antecedent contextual markers, this doesn't have to be the case. There are cases such as joke telling and shaggy-dog stories where there is going to be no antecedent marker. Fortunately, however, joke telling and shaggy-dog stories have their own set of distinctive conversational markers, it's just that they happen contemporaneously with the utterance itself rather than being antecedent to it. Typically, there are certain intonation patterns during utterances that mark those utterances as being a joke or a shaggy-dog story. With this in mind we can now think of the diagnostic for an utterance being an assertion as one that is a declarative that lacks certain contextual markers, whether those are antecedent to or contemporaneous with the utterance.

When we use this diagnostic to evaluate the Quechua reportatives, it's clear to see that they will be judged to be assertions. These utterances do not contain the same type of markers that block a declarative from being an assertion that we saw in English. The only type of marker that always exists in the Quechua reportative sentences is the evidential enclitic *-si* but remember that this is a necessary marker that is needed to form a grammatical sentence. It's also important to remember that the reportative marker will appear in the cases where the speaker believes the at-issue content and when they don't believe it or believe it to be false. If you were to say that the reportative marker blocks the reportative utterances from being assertions in the cases where the speaker doesn't believe the at-issue content, you would also be

committed to saying that there's no assertion in the cases where the speaker believes the at-issue content. This is an untoward result. It's an even worse result when you realize that there's nothing special about the reportative evidential markers compared to the other evidentials. If you want to block the bad cases of the reportative from being assertions, then you're committed to anything with an evidential marker not being an assertion. This would mean that no declarative sentence Quechua would be an assertion. Remember, all grammatical declaratives require one of these types of markers. This is a result that no one should want.

The reportative utterances in Quechua come out as assertions according to the diagnostic above and there is also a second diagnostic we could look at that would give us the same result. While the above diagnostic looked at the syntactic/ grammatical features of assertion, whereas the second diagnostic is focused on the social role or function that assertions play. One key role that assertion can play is to answer questions or requests for information. As the above data showed, this is something that the Quechua and Cheyenne reportative utterances can do. Recall that (10), repeated below, would be a typical response to the question "Where is Marya?" when the speaker learned about Marya's location from another person.

10. Marya-qa yachay wasi-pi-s ka-sha-n.
 Marya-TOP know house-LOC-si be-PROG-3

at-issue content *p*: Marya is at school

evidential contribution: speaker was told that *p*

When we're looking at the diagnostic that evaluates based on a being able to be a response to questions or requests for information, the reportative utterances will come out as assertions.

We can also look at what types of responses are felicitous after an assertion compared to the cases of non-assertion; that is, the response conditions of assertion. One type of response that is felicitous after an assertion is the type found in CHALLENGE

above. You can respond to assertions with “that’s not true” but this just isn’t a response to someone telling a joke, a shaggy-dog story, or an actor. The reportative utterances in our evidential languages can be challenged in the way that assertions can and non-assertive declaratives cannot. This is yet another reason to believe that the reportative utterances in the evidential languages are assertions.

There are certain ways of viewing assertion where the reportative utterances will not come out as assertions. In particular, the normative theories of assertion such as the ones governed by the knowledge norm, the justification norm, belief norm, etc. These theories are in need of some type of argument to begin with, however, unlike the pre-theoretic diagnostics described above. We should take the existence of the reportative utterances to show that these normative theories are bad diagnostics for identifying assertions. There are people in the assertion literature who take the normative type of norms as definitional of what it is to be an assertion, however.³⁷ If by definition assertions are governed by some norm x – fill in your favourite norm of assertion here that requires belief or truth – then the reportative utterances in our evidential languages just can’t be assertions. However, we should see the above data and the problems that it’ll raise for all the norms we’ve discussed so far as a challenge to the definitional claim’s viability.

1.3 What the data shows

According to KNA^\dagger , knowledge of the at-issue content p is necessary for asserting a sentence with the at-issue content that p . When we remove the factivity of knowledge from this, we end up getting the justified belief norm of assertion. Remove the belief aspect of knowledge and we get the truth norm of assertion. Remove both the justification and the factivity and we get the belief norm of assertion. Lastly, there

³⁷Williamson and Brandom are two examples of philosophers who take a norm as being definitional.

is Lackey's Reasonable to Believe norm of assertion, which allows for assertion of at-issue content p without believing that p but requires that it is reasonable to believe that p and any assertion is based in this reasonableness. All five of these norms are committed to the position that the evidential utterances containing the reportative evidential, where the speaker isn't committed to the truth of the at-issue content, doesn't believe the at-issue content, or believes that the at-issue content is false, must be infelicitous. This is because all of these norms involve a necessary condition that is absent in the reportative cases. But given that the evidential assertions are felicitous, all of our norms must have incorrectly identified a necessary condition.

This being said, there was a set of linguistic data drawn from English that supported the above theories which should not be discounted or thrown out so quickly. One way that we might be able to save the English data while also being able to capture the evidential data is to drop the assumption that the at-issue content of an assertion is a necessary part of what needs to be known, believed, etc. When we look at the the assertions in Quechua and Cheyenne it's not as if they have no link to the speaker's mental state whatsoever. The at-issue content p in those assertions is marked with a reportative evidential to identify that the speaker's evidence for p was reportative in nature. That p was reported to the speaker is something that the speaker knows or at least believes. If the norms of assertion targeted this type of content then it seems as though they would be able to capture the evidential data and the English data.

Heading in this direction also appears to be in line with what the hearers of the the reportative evidential sentences would be learning when hearing the assertions. Given that the at-issue content can be false in the reportative assertions, it would seem that the hearers would learn that the at-issue content had been reported to the speaker even though this is not the proposition expressed by the assertion. This proposal appears simple on its face but working out the details is another matter

entirely.

Rather than building off of at-issue content and going from there, it will have to be a different type of meaning/ content altogether that needs to be known, believed, etc. by the speaker of the assertion. It has to be some type of complex meaning or content that comes from the various contents combining in some fashion. A schematic way that we can think about this proposal is that the speaker of an utterance *S* needs to know, believe, etc., the proposition that needs to be intersected with the prior conversational context, or common ground, in order to get to the posterior context.³⁸ In some sense we can think of this as requiring the speaker to know the context change potential (CCP) of their utterance. This proposition will take the hearers from a state in which they do not know or believe the content of the reportative utterance to one in which they do; this appears to be able to do the necessary work for the types of norms we saw outlined in §1.1.

Unfortunately for the type of CCP view, its initial viability does not survive further scrutiny for technical, empirical, and theoretical reasons. With this being the case, we need to look to a different type of norm that can be used to capture all of the data. Doing so will require us to properly account for the non-semantic role that evidential markers are playing in both Quechua and Cheyenne. Before we can turn to this line of investigation, I will go through the problems with the CCP view in turn, starting with the theoretical worry.

The CCP view claims that the speaker of an utterance of *S* needs to know, or believe, etc, the proposition that will be intersected with the current conversational context to get us to the posterior context in which the hearer(s) have “learned” what was expressed by *S*. In the case of the reportative utterances in Quechua and Cheyenne the posterior context will be one in which the hearer has learned that the speaker had reportative evidence for the at-issue content expressed. In the case of (10) above, this

³⁸For more on the common ground and this way of viewing communication see STALNAKER (1974, 1978, 1999).

would be that the speaker had reportative evidence for the proposition that Marya is at school. The theoretical problem that this type of view faces is that it actually has little to nothing to do with assertion and the norm that governs this speech act. It is not just assertive utterances that have a CCP that is intersected with the current conversational context to get to the posterior context; this is true of all speech acts a lot of which look nothing like assertion. As illustrative examples, this view would also cover speech acts such as presuppositions and conventional implicatures that are found within questions.

This actually presents two distinct problems. One, if we believe that there is something unique about assertion, compared to other speech acts, and our aim was to provide a norm that is meant to capture this uniqueness, then we have failed. The CCP view is a very general level norm that applies to all speech acts and just has assertion as a special case. The second problem, which feeds into the empirical problem mentioned above, is that as a general level norm “know the CCP of your utterance” appears false. On the face of it does not seem like we are required to know the presuppositions and conventional implicatures of our utterances. It is well-known that we can accommodate presuppositions into a conversation where they weren’t previously presupposed. In cases of presupposition accommodation, all parties in the conversation can use the presupposed content even when they had no knowledge of that content previously. It would be far-fetched to claim that in every such case every participant comes to know the accommodated material. But this is what would need to be the case in order for the CCP view to be empirically correct when it comes to presuppositions.

The problem with presupposition is not the only empirical problem that the CCP view faces, however. In general, speakers can use information that has been previously introduced into a conversation without being required to know the content that is expressed by that information. For example, if the discourse referent ‘her wife’ is

introduced by a speaker in a conversation, the other speakers will be able to felicitously use ‘her wife’ throughout the conversation without even knowing, or having many beliefs, about who is picked out by the referent. If the CCP inspired view were correct, these types of assertions and utterances would not be felicitous.

Lastly, this type of view faces a technical problem when it comes to its implementation. Throughout the previous paragraphs I have been talking as if there is only one potential proposition that can be intersected with the previous context in order to land us in the correct posterior one. This is not correct. In fact, there are actually an infinite number of propositions that can be intersected with the previous context that would land us in the correct posterior one. This leaves the view with a choice point: which of these propositions needs to be known? If it’s all of them then the view would be far too strong and would say that almost none of our assertions are felicitous. But if it’s only one of the propositions then it’s far too weak and would licence too many assertions. Narrowing in on a type of subset of the propositions that would need to be known would be a near impossible task that is more trouble than it’s worth. Especially when there’s another view that can be adopted that captures all of the relevant linguistic data and isn’t hampered with this type of technical problem.

1.3.1 What are the evidentials doing?

Throughout this subsection I will focus on what we can learn about the non-semantic, or pragmatic, function of the evidential markers that were seen in Quechua and Cheyenne. Doing so will provide us with the resources needed to propose a new type of context-sensitive norm of assertion that is able to capture the entire range of linguistic data.

The data from the evidential languages involved cases where the speaker did not need to believe the at-issue content in order to make an assertion conveying that very at-issue content. This is the feature that is problematic for theories like the

knowledge norm. While it is true that belief isn't required for felicitous assertion, it's not the case that there isn't something specific that is required in order to license the reportative assertions. The presence of the reportative evidential marker in the linguistic context performs a clear function when it comes to assertability. It allows merely reportative evidence for the at-issue content to stand in for what is now needed for felicitous assertion of the at-issue content. That is, the reportative evidential marker appearing in the linguistic context means that belief, or knowledge, of the at-issue content was not required for assertion and was replaced by only needing some type of reportative evidence. In addition to whatever semantic contribution the reportative markers are making, they are also playing a pragmatic role of changing what is required for felicitous assertion.

It is not only the reportative evidential markers that play this role, however. If we focus on Quechua, for ease of exposition, we can see that the other two evidential markers also change what is required of a speaker to make a felicitous assertion. This can be brought out when compare utterances that share at-issue content and differ only in evidential markers. Even in cases where the speaker believes, even knows, the at-issue content of the assertion it will turn out that if they do not have the right type of evidence for that at-issue content, their assertion will come out as infelicitous. Consider the following modification of (10) above:³⁹

- 10a. Marya-qa yachay wasi-pi-s ka-sha-n.
 Mayra-TOP know house-LOC-**si** be-PROG-3

at-issue content *p*: Marya is at school

evidential contribution: speaker was told that *p*

- # 10b. Marya-qa yachay wasi-pi-**m** ka-sha-n.
 Mayra-TOP know house-LOC-**mi** be-PROG-3

³⁹(10b-c) are not from FALLER (2002) but are my examples that come from merely switching the evidential marker that is found in the initial version of (10).

at-issue content *p*: Marya is at school

evidential contribution: speaker perceived that *p*

10c. Marya-qa yachay wasi-pi-**ch** ka-sha-n.
Mayra-TOP know house-LOC-**cha** be-PROG-3

at-issue content *p*: Marya is at school

evidential contribution: speaker inferred that *p*

In a situation where the speaker only has reportative evidence for the at-issue content that Marya is at school both (10b) and (10c) are infelicitous. This will be the case even in instances where the speaker knows the at-issue content that is being uttered. In order for (10b) to be felicitous the speaker would have to have perceptual evidence for the at-issue content; for (10c) it would have to be inferential evidence. This type of example patterns identically if we were to look to the data in Cheyenne as well. This example clearly illustrates that the evidential markers themselves are affecting what it takes to make a warranted assertion in Quechua. Everything but which evidential is present in the sentence is being held fixed.

1.4 A new context-sensitive norm

If the pragmatic function of evidentials in Quechua and Cheyenne is to modify the assertability condition governing the linguistic context, then we need to have a type of theory that can properly account for this type of contextual variation. This being said, we also don't want to go too far and just use the data from the evidential languages. There is the data from English, such as the infelicity of Moore paradoxical sentences and the "how do you know?" test, that needs to be considered as well. Any context-sensitive theory that can capture all of this data will differ in crucial ways from the types of theories that have been looked at above, however.

One feature of KNA is the following: in any context in which there was a felicitous assertion of p , it is the speaker's knowledge that p plays a fundamental role in warranting the assertion. Another way of putting this is that knowledge remains a necessary condition on assertion regardless of the context of utterance. The necessary condition that KNA has identified is the only one of its kind that governs assertion. This is not just true of KNA, though. All of the norms of assertion described in §1 share this type of feature. The only difference is that something other than knowledge will play the role in their theory. It is this feature that we must give up if we want to be able to capture the whole range of linguistic data on assertion..

This type theory has to be able to say that in different context of utterances different norms can govern the warrantability of assertion. That is, we need a type of contextualist or context-sensitive norm. Crucially, though, it cannot be the standard type of contextualism that we see within the literature on the norms of assertion. All of the standard versions of contextualism share the feature discussed in the previous paragraph. The type of context-sensitivity they allow isn't variation in the norm that applies in a particular context but rather variation across the standard by which a single norm it to be applied. A typical version of contextualism applied to the knowledge norm says that in different contexts of utterances different standards for knowledge might apply. This type of context-sensitivity will not be able to give the correct predictions for a case such as (10a-c) above. Those examples were ones in which the speaker had knowledge in all of the cases yet only one was permissible to assert given the the type of evidence they had and the evidential used.

If the type of context-sensitivity that is needed doesn't resemble the familiar type that we have seen throughout the existing literature, then what does it need to look like? In what follows I will present a natural way that we could implement the type of context-sensitive approach that shifts the norm that is governing the warrantability of assertion itself. In the end, this implementation will not work but provides crucial

insights to help shape two further implementations.

The first claims that there is a default norm of assertion that is familiar, such as KNA, that holds in all contexts that do not contain a norm modifier like an evidential. The second also claims that there is a default norm but that it ought to be in terms of the evidence that a speaker has that bears on the at-issue content rather than the doxastic state they have towards the content. The final implementation departs from the previous two in claiming that there is no default to be found and that the felicity conditions for each assertion is entirely determined by the local context of utterance. In the end, adjudication between these two final implementations will require further research into the nature of and the extent to which we see norm modification cross-linguistically.

1.4.1 Familiar default norm

The first implementation claims that there is a familiar default norm governing assertion. This could be KNA or any of the other norms that we saw in §1.1. The default norm would govern assertion in typical cases of assertion but when there is something in the context of utterance that acts to modify the felicity condition, such as the evidential markers in Quechua and Cheyenne, then the default norm is no longer in play. With KNA playing the role of the default this view would say that knowledge is required for felicitous assertion unless there is some norm modifier, such as an evidential, in the context of utterance. When we have such a modifier a norm distinct from the default knowledge norm would then govern the felicity of that particular assertion. The particular nature and kind of norm would be determined by the particulars of the context of utterance and the norm modifier itself. There isn't a general rule that would cover what it is that the default gets shifted to; just a rule that tells us to shift when there's something in the context. For example, utterances containing the Quechua reportative marker *-si* would trigger a shift away

from whatever default typically governs assertability to one that would require a speaker to have reportative evidence for the at-issue content that they are expressing. The same type of shifting would occur when an utterance contained one of the other Quechua evidential markers or any of the Cheyenne evidential markers.

We shouldn't worry that this is a new and unprecedented type of context-sensitivity not already seen in language. The type of contextualist theories already seen in the literature on norms of assertion uses extra-linguistic features in order to determine how the norm governing assertion ought to apply. Certain extra-linguistic features might determine that the context is one in which there is a low standard for knowledge, for example. While I do believe that there is this type of context-sensitivity when it comes to assertions – this is not something that has been argued for as of yet, however – the type of context-sensitivity that evidential markers introduce is different. In particular, there is an aspect of the language itself that is changing the context and not something extra-linguistic. The presence of the evidential marker *-si* is what shifted us away from the default norm. If we look to the context-sensitivity found in comparative adjectives in English, like 'tall' for example, we see cases where something internal to the language itself can shift the context. To determine the proper comparison class to be used to adjudicate a use of 'tall' we can look to extra-linguistic factors. Was the previous discourse all about children who are eight, for example. But it's also the case that the proper comparison class can be spelled out explicitly as modifying the adjective itself. This is seen in cases such as "Umer is tall for an eight year old." It is this model of contextual shifting that should be seen to be operating in the cases of the explicitly marked evidentials in both Cheyenne and Quechua.

As previously mentioned, there are two sets of linguistic data that have presented in this paper and any viable view of the norms that govern assertion needs to be able to capture both. The type of familiar default norm view that has been outlined

above has the benefit of being able to capture the English data that was presented in §1 rather straightforwardly. This is especially true if knowledge plays the role as the default.

The infelicity of Moore paradoxical sentence in English has been taken as strong evidence that there needs to be a connection between asserting that p and knowing that p . The knowledge norm of assertion was meant to be able to capture this data easily because it is entirely based on their being such a connection between knowledge and assertion. If it's the case that the knowledge norm is acting as the default norm that governs assertion, then we get the same easy explanation for the infelicity of Moore paradoxical sentences in English. These sentences do not contain norm modifiers that are acting to shift what norm is governing assertion, so knowledge remains the norm in operation throughout. This type of default view also provides a simple explanation for why Moore paradoxical like sentences, and even contradictory sounding sentences, are acceptable in both Quechua and Cheyenne. In these cases both conjuncts have their own explicit norm modifier that shifts which norm is governing felicity conditions. In particular, perceptual or inferential evidence for the at-issue content is the norm in play for one conjunct but then mere reportative evidence for the at-issue content is required for the other.

Not only does the default norm view provide a quick and easy explanation for the infelicity of Moore paradoxical sentence but it also provides this for the “how do you know?” test. If knowledge is the default norm that governs assertion and operates in all cases absent a norm modifier, then any assertion that is absent such a modifier will be correctly challenged with the question “how do you know?” Given that all of examples of English assertions that we've seen are absent norm modifiers, the challenge will be acceptable towards any of them.

While these explanations apply in the case when the knowledge norm is playing the role of the default, the situation is not dire if one of the other familiar norms

of assertion discussed in §1 is the default. Any of these norms have already been in need to provide some type of explanation for the English data that putatively shows the connection between knowing that p and asserting that p and how their view accommodates this. The default norm view with their norm acting as the default will be able to use whatever this explanation happens to be.

All this being said, this type of implementation is not without its problems. The first problem is whether this view has the right empirical fit for the evidential languages that have been discussed. Recall that in our evidential languages every assertion, that comes in the form of a declarative sentence, must contain an evidential marker if it is to be grammatical. If this is the case, then this would mean that every assertion in these languages would have a context that shifts the norm away from the default. This would mean that the default norm, such as the knowledge norm, would never actually operate. This isn't just a problem for Quechua and Cheyenne either. This would be a problem for every evidential language where the evidential markers do not contribute to the at-issue content of the utterance they appear in.

Another potential problem concerns the mismatch between the nature of the default norm and the types of norms that have to be in operation to capture the evidential assertions. Recall that in example (10a-c) above, the only thing that can account for the differences in felicity was the evidence that the speaker had towards the at-issue proposition. In a case where a speaker only has reportative evidence for the at-issue content, only an utterance containing a reportative evidential marker will be felicitous. When the speaker has perceptual evidence for the at-issue content, the perceptual evidence marker needs to be used. And so on. The type of norms needed to capture the data here will have to involve the type of evidence that the speaker has for their at-issue content. This is rather more fine-grained than just looking at things in terms of knowledge or justified belief. But if we have a familiar default in terms of these more familiar coarser-grained states, then we would expect the poten-

tial alternative norms to also be in terms similar states. This is not what we see, however. This provides us with some reason to believe that what might be doing the work when it comes to the norms that govern assertion is the nature and type of evidence that one has towards the content rather than anything having to do with doxastic states.

In the end, I believe this implementation cannot be correct. The empirical mismatch with how evidential languages actually operate is a serious problem for a view that at a minimum needs to be empirically adequate. This being said, there are features of this implementation that can be used to lead us to one that will be empirically adequate. Two such views will be explored in what follows.

1.4.2 Proper evidence towards content

The previous view had a mismatch when it came to empirical fit with evidential languages and with the nature and grain of the default norm compared to what the evidential language norms would have to look like. One step towards providing a solution to the latter of these problems would be to have the default norm itself be as fine-grained as the norms that we need for assertions in the evidential languages. That is, have a default norm that is couched in terms of the speaker's evidence that bears on the at-issue content of their utterance.⁴⁰ Evidential markers would then serve to indicate how it is that the speaker's evidence has to bear on the at-issue content.

Getting an exact characterization of the default norm requires exploration into

⁴⁰This type of view can be seen as getting its inspiration from a norm of assertion that has yet to be discussed: the Evidence Responsiveness Rule presented in MAITRA AND WEATHERSON (2010). This rule says the following:

err Assert that p only if your attitude to p is properly responsive to the evidence you have that bears on p .

A major difference, however, is that ERR is still couched in terms of the attitude that the speaker has towards the proposition and how this attitude relates to their evidence rather than being about the speaker's evidence itself and how it relates to the proposition. Having the evidence be mediated through an attitude would lead us back to one of the problems that needed to be avoided.

how evidence for propositions and assertions typically interact. Consider the following proposition “two plus two equals five.” It should be clear that I have an abundance of evidence that bears on this proposition. Despite all of the evidence that I have that bears on this proposition, I will never be able to assert it. My evidence that bears on “two plus two equals five” makes that proposition much more likely to be false; in fact, it shows that it has to be false. This provides us with one key feature of how it is that our evidence has to bear on the at-issue content: the evidence we have that bears on the at-issue content has to speak to the truth of content rather than its falsity. While our evidence needs to make the at-issue content more likely to be true than to be false, it doesn’t have to conclusively show that the content has to be true either. Making assertions that have at-issue contents that we are not 100% is ubiquitous throughout language. In fact, it doesn’t appear as though we have to have evidence that gets us anywhere close to being 100% certain about some content p in order to assert p .

With just what was presented in the previous paragraph, we have what is needed to outline what the default norm will look like, call it the Positive Evidence Norm:

pen One must: assert S with at-issue content that p only if one’s evidence that bears on p raises the likelihood that p is true rather than decreasing it.

This norm doesn’t imply that the probability of p being true given your evidence meets any particular threshold. In fact, this norm allows you to make an assertion where the probability of p being true is low as long as the evidence that you have that bears on p has acted to increase the probability. As the name of the norm implies, what matters is that the evidence that the speaker has that bears on p is some type of positive evidence for p . This norm might appear to be far too weak at first pass and hence predict that far too many assertions will be felicitous. I think we should resist this, however. In this default form, the totality of the speaker’s evidence that bears on the at-issue content will be relevant. This means that the totality of the

speaker's evidence that bears on the at-issue content p will have to be a net positive for p . This norm will rule out cases in which a speaker has no evidence that bears on p or evidence that negatively bears on it, which is what we want. Moreover, it will allow us to say that a broad range of assertions that are common within every day are in fact felicitous: assertions that we make when in the midst of small talk and chit-chat. When we are engaging in small talk we make assertions but ones that seem to require a very little to license. PEN is a view that can say they are felicitous.

Assertions that involve the reportative evidential markers in both Quechua and Cheyenne allowed for speakers to assert at-issue contents that they did not believe or believed to be false. This is not a problem for this view, however. Evidential markers will shift the norm that is governing the assertion in a way that means only a subset of the speaker's total evidence will be what's relevant for the felicity conditions. When an assertion contains a reportative evidential marker, then it only needs to be the speaker's reportative evidence that bears on the at-issue content that needs to raise the likelihood rather than decrease it. Call this the Positive Reportative Evidence Norm:

pren One must: assert S with at-issue content that p only if one's reportative evidence that bears on p raises the likelihood that p is true rather than decreasing it.

This allows for speakers to believe that the at-issue content p is false but still assert it because it's their total evidence that leads to the falsity judgement. When we're just looking at the reportative evidence, however, the fact that someone told you that p does make p more likely to be true rather than false.

Shifting to a norm like PREN, and the analogues for when shifting has taken place due to perceptual and inferential evidential markers, also allows us to correct predict that it's infelicitous for a speaker who only has one type of evidence for p to use the wrong evidential marker in their assertion. For a concrete case imagine the speaker

only has perceptual evidence for the at-issue content p but uses a reportative marker in their assertion. In this case, the presence of the reportative marker means that the norm that governs that assertion has been shifted to PREN, meaning that it is necessary for the speaker's reportative evidence that bears on the at-issue content to raise its likelihood of being true rather than decreasing it, though. But this is a case where the necessary condition cannot be met because the speaker doesn't have any reportative evidence. We can correctly predict that the assertion will be infelicitous.

This view allows us to correctly predict all of the data from the evidential languages and also has the necessary resources to be able to provide an explanation for the English data as well. The explanation for the infelicity of Moore paradoxical sentences using knowledge rests on their being a type of inconsistency between the two conjuncts. In particular, it's an inconsistency in what the speaker represents herself as knowing. But it should be noted that knowledge is just one way to explain what is causing the inconsistency. Another way to explain the inconsistency is that the speaker is representing herself as having an inconsistent set of total evidence. Consider (4) and (5) from above, reproduced here:

4. # Corgis are Welsh, but I don't know that they are.
5. # Corgis are Welsh, but I don't believe that they are.

The first conjunct in both of these sentences would represent the speaker's total evidence as raising the likelihood that Corgis are Welsh. But the second conjunct does the exact opposite, it represents the speaker as having evidence that would warrant not believing or not knowing that Corgis are Welsh. The typical reason that one wouldn't believe or know some proposition is that they do not have evidence that supports that proposition. That is, they're representing their total evidence as not having a positive relationship towards Corgis being Welsh. Here lies the inconsistency and because of this PEN will always say that contents such as those found in Moore paradoxical sentences will always be infelicitous. There will be no inconsistency in our

evidence in the cases of Moore paradoxical like sentences in Quechua and Cheyenne, though, as all of these cases involve the use of two distinct evidential markers. This means that these cases will represent some subset of the speaker's evidence as making a positive contribution to the at-issue content p and a disjoint subset of their evidence as not making a positive contribution to p . There is no inconsistency here, though.

The view currently being outlined also provides us with an explanation for why the “how do you know?” always appears to be acceptable within English. When we ask someone “how do you know?” we're asking them to provide their evidence for the claim that they have just made. This seems to be the only thing that this type of question can actually be targeting; it doesn't make sense for this to be targeting the truth aspect of knowledge or the factive part of it. My claim is that “how do you know?” is only acceptable because of its connection with asking a speaker about their evidence. The case for this can be made stronger when we realize that “how do you know?” is not the only question that seems to be acceptable as a challenge in the cases where “how do you know?” is acceptable. The following all appear to be acceptable as well: “why do you think that?”, “what's your evidence for that?”, “what supports that?”. If these are all acceptable, then we should look at what they all have in common as what it is that is actually licensing their use and this is the challenging of the speaker's evidence. The appearance of ‘know’ in the “how do you know?” challenge is a red herring. If these challenges actually show that there needs to be some type of connection between assertion that p and having the right type of evidence for p , then PEN as a default can provide this link.

While the evidence based view does not have the problem of mismatch between the default norm and the norms in place when evidentials are present, it still faces a slight challenge of empirical fit. When it comes to evidential languages, we once again have a default that is never actually operating when we're looking at assertions made via declarative sentences. Things are better than they were in the previous

implementation, though, as this time there is at least a close connection between the default norm that is never in play and the evidential norms that are doing all the work. Notice, however, that the problem of empirical fit will be present in any view that has anything like a default norm given the grammatical structure of evidential languages like Quechua and Cheyenne. Perhaps we need to give up on the idea that there is anything like a default norm of assertion to be found. This leads to the final way of implementing the type of context-sensitive norm that the linguistic data shows us we need.

1.4.3 Contextual through and through

This paper has been operating under the assumption that there is a norm to be found that governs assertion. The theories discussed throughout §1.1 all pointed to one norm that was meant to provide the felicity condition of assertion in all cases. The linguistic data from Quechua and Cheyenne showed that things can't be this simple. The data showed that we need to allow the context of the assertion to play a role in determining the norm that governed that assertion. The presence of evidential markers in the context of the assertion meant that assertion needed to be governed by a norm that was sensitive to the nature of the evidential marker itself. The first pass, and seemingly natural, way to implement this was to claim that the evidential markers shifted the context away from a default one. But perhaps this is mistaken. Another potential way to capture the data is to say that context is doing more work than we initially thought. In particular, the norm that governs an assertion is entirely determined by the local context of that very assertion and nothing global like a default norm. This would mean that there is no norm of assertion to be found.

The context-sensitivity of felicitous assertion could be seen as being much closer to the context-sensitivity found in comparative adjectives like 'tall' than the previous implementations were. When comparative adjectives were discussed above it was

because the comparison class to be used can be updated based on language-internal features of language. Something that wasn't mentioned was that there is no default comparison class when it comes to comparative adjectives. Context does all of the work to determine which comparison class needs to be used when evaluating the comparative adjective. To determine the comparison class you have to look to something external to the language – for example, a conversation being about 4th graders would fix the comparison class of 'tall' to 4th graders – or something internal to the language itself – when the comparison class is explicitly spelled out in a sentence like 'Umer is tall for a 4th grader', for example.

Using this as a model for assertion and the norms that would be in operation, it would be the case that the felicity condition for each potential assertion would be entirely determined by the combination of two contextual factors. One, context that is internal to the language of the assertion itself – like norm modifying evidential markers. And two, by language-external context such as the setting of the speakers, what the speakers in the conversation are presupposing, the discourse referents previously introduced into the conversation, etc. This is a rather large departure from the current thinking on the norms of assertion that assumes that the local context of an assertion plays little to no role in determining the felicity conditions that apply to that very assertion.

As mentioned above, this model of context-sensitivity would solve the problem of empirical fit for the evidential languages. We wouldn't have a default that is never in operation but rather would be looking for the contextual factors for each assertion in order to determine its felicity condition. In all cases of assertion by a declarative sentence, an evidential marker would be a part of the context and hence would factor into the determination of the felicity norm that governed that assertion.

While this view does better with empirical fit, it has a harder time providing easy and straightforward explanations for the English data discussed throughout this

section and §1.1. In particular, there does not appear to be an easy explanation for why a challenge using “how do you know?” is almost always deemed to be acceptable after an English assertion. We should expect there to be contexts which would provide a norm governing felicity that would make a challenge of that nature inappropriate. One potential way to deal with this problem would be to claim that the acceptability of “how do you know?” has been greatly overestimated. In an above section, I raised a case where a detective is instructed to make a guess about a murdered using a declarative sentence but without any hedging or qualifications allowed. Any declarative that would be used here initially seemed like it wouldn’t be an assertion but maybe this was too quick given the current line of thought about the context-sensitivity of the norms that govern assertion. This could well be a case of an assertion that is governed by a vastly different norm than the ones that we typically encounter in our discourse. It is also a case in which “how do you know?” is completely inappropriate given the type of norm that would be in operation.

The above does give us some type of explanation for the English data when it concerns the “how do you know?” challenge but potentially at the cost of eroding the distinction between declarative assertions and declarative non-assertions. This would provide us with a unified theory about the felicity conditions that govern declarative sentences but might do so at the cost of moving far away from the initial interest in assertion and the special role it appears to play in communication.

Providing an explanation for the infelicity of Moore paradoxical sentences in English is an easier task than the previous one. When a speaker makes that assertion they do so in one context and there is nothing that would cause the context to change in the middle of the assertion. This means that one norm would be governing the felicity of both conjuncts. Appealing to a type of inconsistency between the two conjuncts and whatever norm was in play, in the manner discussed in §4.2, could then be used to explain the infelicity. One caveat is that this would only work if in the

typical types of norms that govern English assertion there ends up being something inconsistent between the two conjuncts. More work needs to be done in this area to determine if there is a typical set of norms that govern English assertion in every day contexts.⁴¹

The context-sensitive implementation outlined in this subsection and the one outlined in the previous section cannot both be correct; either there is a default norm or there isn't. The linguistic data that is currently available doesn't neatly separate the two, either. The evidence based default provides us with clean explanations of the English data along with the crucial aspects of the data in both Quechua and Cheyenne. But it might not have the best fit when it comes to empirically matching how those evidential languages work – because both of them require evidential markers in every declarative sentence, they will never have the default operate. The implementation where there is no default norm and everything is up to context does not have that problem but does have problems when it comes to easily explaining the English data. In the end, I believe that more research needs to be done into the nature of and extent to which we see both implicit and explicit norm modification in English, the evidential languages discussed in this paper, and other evidential languages. Only this type of further empirical investigation will be able to solve what, in the end, is an empirical problem itself.

⁴¹It should be noted that in a case like the one described above, and where a person is forced to make a completely non-hedged and non-qualified prediction or guess using a declarative, Moore paradoxical sentence don't seem to be infelicitous (or at least are far better than they are in normal contexts). Imagine I was asked to make such a guess about the origins of Corgis, saying either of the following seems completely acceptable:

4. Corgis are Welsh, but I don't know that they are.
5. Corgis are Welsh, but I don't believe that they are.

This shouldn't be too surprising if the norm that is governing the declarative in the first conjunct (or the entire sentence) is one that normally governs prediction or guessing. If this is the case then there isn't the type of inconsistency that normally makes Moore paradoxical sentences problematic.

CHAPTER II

Should, Normality, and Its Place in Epistemology

Introduction

We are all familiar with the word *should*.¹ We can use this weak necessity modal to be told that we should do the right thing, for example, or that we shouldn't harm others. In either of these cases, we know what's being asked of us and understand, at some level, what those sentences mean. While this use of *should* – the one that has some type of connection with obligation and is commonly known as the deontic use – is the one that we are most familiar with, it is not the only way in which *should* can be used. Imagine that you're waiting for your friend Hikaru to arrive at your flat. You know that Hikaru left for your apartment twenty minutes ago and the trip typically takes about fifteen minutes. The following is a natural thing to say in this type of case:

1. Hikaru should be here now.

The *should* in (1) has nothing to do with obligations like they did in the above examples. You're not making a claim that Hikaru is under some obligation to have already arrived at your flat. Rather, it appears that (1) has something to do with

¹Throughout the article, I will be using the convention commonly found within linguists to mention a word by putting it in italics. When you see a word or phrase in italics, you should assume that it is being mentioned rather than being emphasized.

the doxastic state that the speaker is in. That is, it is making some type of epistemic rather than deontic claim.

A lot of theorizing has been done by philosophers of language and semanticists in the past few decades to narrow in on the precise meaning of the deontic weak necessity modals *should* and *ought*.² Even though this has been done on the deontic side of modality, quite little theorizing has been done on the epistemic counterparts until rather recently. The focus of this paper will be to get a clearer understanding of the meaning of epistemic uses of *should*, what this shows us about the Kratzerian modal “canon,” and argue that the former can help to shed light into distinctly epistemic questions involving our doxastic states. In particular, the semantics of the modals shows us that theorizing about our epistemic doxastic states purely in terms of probability will not do.

The plan for this paper is as follows: §2.1 will provide background on what is often taken to be the “canon” on semantic analyses of modals found in KRATZER (1991). Getting a clear picture of the relationship between weak necessity modals and the other kinds of modals, strong necessity modals and possibility modals, when it comes to the other “flavours” of modality will help to highlight the distinctive features of the epistemic flavour of *should*. §2.2 will look at recent work on the semantics of epistemic *should* to show that it would appear to be incorrect to model *should* in the same fashion that other uncontroversial examples of epistemic modals have typically been modelled. The reason for this is that *should* is not credal committing in the same way that the other epistemic modals are; they appear to be tracking something having to do with the normality of the prejacent rather than how probable the prejacent is. §2.3 will first argue for the following claim: that there aren’t actually “epistemic” uses of *should* if epistemic modals are to be conceived in purely probabilistic terms. It will then show how this different flavour of modality can be modelled within the

²See CHARLOW AND CHRISMAN (2016) and the range of references therein for a broad overview of work currently being done on deontic modals.

standard semantics for modals. The section will end with a discussion about where the conditional claim leaves us when conceiving of epistemic modality and the modal canon in general.

§2.4 will switch from being focused on semantics to being focused on the epistemological implications that come along with the semantics. I'll argue that we can put the concept of normality to work within the safety based conception of risk and knowledge found in WILLIAMSON (2009). On top of its usefulness buttressing an existing epistemological position, I'll suggest that we might explore the notion that the semantics of *should* provides us with evidence for a doxastic state that is distinct from credences and full-belief. This state plays an important role in our epistemic lives; it is one that tracks what is normal given a body of evidence.

In the end, I hope to show that gaining a clearer understanding of the meaning of the language we use to talk about our epistemic states, *should* in this case, can help to illuminate and clarify issues within epistemology itself.

2.1 Modal canon

As mentioned above, while there is a large literature on the semantics of deontic modals, and modality in general, relatively little has been said about the use of *should* found in (1) until rather recently. In order to properly theorize about this use of *should* and its distinctive properties, it will be important to get a clear picture of the modal canon that has grown out of the work found in KRATZER (1981, 1991). In particular, it will be important to get a clear understanding of the features of “conversational backgrounds” and the role that they play in determining modal flavour. It will also be necessary to discuss the different strengths modals can have and the relations and entailment patterns found between these strengths.

2.1.1 Modal bases and ordering sources

In the system developed in KRATZER (1981, 1991), modals act as a context dependent quantifier over some partially ordered, restricted class of possible worlds. This is the common semantic core that all the various flavours of modality will share and the targeting of a specific flavour is determined by contextual features that provide the partially ordered, restricted class of worlds. This class of worlds is called the “conversational background” by Kratzer and is determined by two features: a modal base and an ordering source.³ The modal base determines the class of worlds that the modal will quantify over. Formally, modal bases are functions from worlds, the world of evaluation in particular, to sets of worlds. As Kratzer puts it, “[q]uite generally, [modal bases] are functions which assign to every member of W a subset of the power set of W [sets of propositions].”⁴

Ordering sources provide us with an ordering over the sets of worlds given to us by the modal base. Ordering sources are meant to give us a way to show that some worlds in the set are “better” or “more ideal” than others. As described in SWANSON (2008)

[S]ome worlds in that set better approximate some ‘ideal’ represented [in] a set of propositions. For any worlds w_1 and w_2 , relative to an ideal set of propositions P , w_1 comes at least as close to the ideal given by P as w_2 does iff there are no propositions in P that are true in w_2 but false in w_1 .

Formally:

$$w_1 \leq_p w_2 =_{df} \forall p (w_2 \in p \in P \rightarrow w_1 \in p). \quad (1197)^5$$

Ordering sources are needed when we look at types of modals that fall between the

³This is sometimes called the “doubly relative” semantics for modals.

⁴(KRATZER, 1991, P.641)

⁵Swanson goes out to point out that \leq_p doesn’t need to be a total order “because it’s possible for there to be a pair of propositions in P , p , and p' and a pair of worlds w and w' , such that p is true in w and false in w' , and p' is true in w' and false in w .” (1198)

possibility and necessity varieties. If modal bases and quantifiers were the only formal structure for modals that we had, then we wouldn't be able to capture modals such as *should*, *probably*, and *good possibility*, for example.⁶

As mentioned in the introduction, modals comes in different “flavours.” There are at least deontic, teleological, bouletic, circumstantial, and epistemic modals. These have to do with what is required, what is aimed for, what is wished for, what is the normal course of events, and what is known (roughly), respectively. We will get different flavours of modality when different kinds of modal bases and ordering sources are present within the contextual features of the conversational background. Originally, Kratzer put forward that there are two main kinds of modal base: epistemic and circumstantial.⁷ As you might suspect, epistemic modals have epistemic modal bases; the non-epistemic flavours of modality all have circumstantial modal bases. Roughly, epistemic modal bases deliver, relative to an evaluation world, a set of propositions known. The exact nature of circumstantial modal bases has not been clearly explained within the literature but the basic idea is that circumstantial modal bases deliver, once again relative to an evaluation world, a set of true propositions describing some contextually determined set of circumstances at that world.

The two different kinds of modal bases are likely to combine with different kinds of ordering sources. Epistemic modal bases are likely to combine with stereotypical ordering sources whereas circumstantial modal bases were apt to combine with deontic, teleological, and bouletic ordering sources, for example.⁸ For the purposes of this paper, the nature of the non-stereotypical ordering sources is not all that relevant. They just needed to be mentioned in order to help us get a clear understanding of what a flavour of modality amounts to. For example, the combination of a circumstantial

⁶These are taken from KRATZER (1991) and represent modal strengths between strong necessity, like *must* and *have to*, and possibility, like *might* and *can*.

⁷The distinction between epistemic and circumstantial modal bases is meant to correspond to the a traditional linguistic distinction between epistemic and “root” modals.

⁸These are not the only kinds of ordering sources, though. For a longer list of ordering sources that are apt to combine with circumstantial modal bases, see (KRATZER, 1991, p. 646).

modal base and a deontic ordering sources gets us the deontic flavour of modality. If we had a bouletic ordering source instead, we'd get the bouletic flavour of modality. Once we're dealing with a fixed flavour of modality, there will be distinctive relations and patterns of entailments between the different types and strengths of modals that are crucial to the arguments that found in §2.2 of this paper.

2.1.2 Modal strength

Along with different flavours of modality, there are also various strength of modals. The two most common variety of modal strength are possibility modals, such as *might*, *may*, *could* and *can*, and necessity modals, such as *must*, *have to*, *ought*, and *should*. Of note here is that there are different strengths even within the category of necessity modals. There are the “strong” necessity modals like *must* and *have to* and the “weak” necessity modals like *ought* and *should*. Of these three kinds of modals, the strongest are the strong necessity modals, the weakest are the possibility modals, and the weak necessity modal falls somewhere in between. While there are strengths of modals that are distinct from the above – KRATZER (1991) claims that there are also good possibility, slight possibility, and better possibility modals, for example – for the purposes of this paper we need only get clear on the relationship between the main three above.

Once we're fixed within a flavour of modality, there exists a pattern of entailment, a non-trivial logical interaction, between the different strengths of modals. The pattern of entailment is that the stronger modal claims entail the weaker modal claims:

$$\textit{must } \phi, \textit{ have to } \phi \models \textit{ should } \phi, \textit{ ought to } \phi \models \textit{ might } \phi, \textit{ could } \phi$$

Thus, if we're talking about deontic modality, (2) entails (3) which in turn entails (4):

2. Nasim must donate to charity.

3. Nasim should donate to charity.

4. Nasim may donate to charity.

In the context of this paper, what we get from this is that if we're going to treat the *should* in (1) as being a part of the epistemic flavour of modality, it should entail a proposition that has an epistemic possibility modal scoping over the same prejacent and should be entailed by a proposition that has an epistemic strong necessity modal scoping over the same prejacent.

Given that the entailment patterns are a general fact about modality, we need to see this entailment behaviour for any claim that putatively involves an epistemic use of *should*. There is a strong theoretical reason for have as uniform a semantics for modality as possible. Given that this is the case, then we should be sceptical of any semantics that contains aberrations from the way things normally look. The next section will provide evidence showing that we do not see the pattern of entailment that we ought to when it comes to the flavour of *should* found in (1) along with additional evidence to think that this type of *should*, and other putative cases of an epistemic *should*, cannot and should not actually be counted as epistemic modals at all.

2.2 An epistemic modal?

Throughout this section, I will present evidence found in YALCIN (2016) and SWANSON (2015) that putative cases of epistemic weak necessity modals, like that found in (1) above, actually aren't epistemic at all if epistemic modality is conceiving in purely probabilistic term. If the assumption about the nature of epistemic modality is correct and so are the arguments, then we should be sceptical that there are any epistemic uses of *should* at all.

2.2.1 Linguistic evidence

Imagine a situation in which a car is barrelling towards you at full speed in a manner that would make it impossible for you to be able to dodge it. Right before the moment of impact a previously unseen truck hits the car at full speed, knocking it off course and away from you. In this situation the following is felicitous:

5. I should be dead right now!⁹

The *should* in (5) is the same flavour as the *should* found in (1), so it is a putative case of an epistemic weak necessity modal. Given what was said above about the entailment relations between weak necessity modals and possibilities modals, when we're dealing with the same flavour of modality, (5) should entail (6). But this is not the case.

6. # I might be dead right now.

The *might* in (6) is obviously epistemic but (6) is not entailed by the putative epistemic *should* found in (5). Moreover, (6) is a defective sentence. As Yalcin sums up, “[g]enerally, sentences that entail defective sentences are defective themselves; [(5)] [is] not defective; so plausibly [(5)]... do[es] not entail (6)...; so plausibly [it] do[es] not contain [a] true epistemic modal.”¹⁰ If this is correct, then we have reason to be sceptical that the *should* in (5) is an epistemic modal.

While this above problem might have to do with the specific features of the case that licences (5), there are general problems for the hypothesis that there are epistemic uses of *should* that are neutral when it comes to any idiosyncratic feature of the context of utterance. COPLEY (2004, 2006) points out that the putative epistemic *should* are very naturally used alongside the denial of their prejacent. Consider the following two examples:

⁹This is an adaptation of the earthquake example found in YALCIN (2016) which itself appears to be an adaptation of a near car accident case found in CARIANI (2013).

¹⁰YALCIN (2016)

7. I should be dead right now, but I'm not!
8. There should be gorillas up that tree, but there aren't.

While *should* allows for the denial of its prejacent easily, none of the uncontroversial examples of epistemic modals allow this to happen. The following three sentences are all infelicitous:

9. # There must be gorillas up that tree, but there aren't.
10. # There probably are gorillas up that tree, but there aren't.
11. # There might be gorillas up that tree, but there aren't.

Given that (8) patterns in the opposite way that all of the uncontroversial examples of epistemic modals, there's a problem with the hypothesis that the *should* found within (8) is epistemic. If it were to be epistemic, we would need some type of explanation that would tell us why it acts in the opposite way from the other epistemic modals.¹¹

I believe that the above evidence provides us with a compelling case that any of the putative examples of an epistemic *should* are actually doing something different from the uncontroversial examples of epistemic modals that ought to be looked at in its own lights. In the remainder of this subsection I will provide further evidence for this claim.¹²

¹¹SWANSON (2015) provides such an explanation but I will go on to point out why this explanation shouldn't be satisfactory even by his own lights.

¹²It should be noted, however, that the argument rests on the assumption that epistemic modality is correctly modelled purely using probabilities and likelihoods. As Yalcin puts it, "epistemic modality primarily concerns what might actually be the case, and what is likely or unlikely to be the case." YALCIN (2016) While this type of view has its proponents – see LASSITER (2011, 2014), MOSS (2015), SWANSON (2006, 2009, 2015) and YALCIN (2007, 2010, 2012) for some examples – it is far from having universal acceptance. If you are not a proponent of the view that epistemic modality is best modelled using probabilities alone, then you can view what's to come as evidence that the proper semantics for the *shoulds* in (1), (5), cannot be modelled using probabilities and likelihoods. This leaves us with an open question asking whether they are epistemic modals and we've been thinking of epistemic modality incorrectly or if there are actually two distinct modalities here that both play a role in informing our epistemic doxastic states. These options will be explored in §2.3.

The following will all be cases involving minimal pairs where epistemic modals are infelicitous/ marked but where the putative epistemic *should* is acceptable or vice versa.¹³ If epistemic modality is probabilistic and *should* is an epistemic modal, these types of cases should not exist.

Consider a scenario where you're drawing a marble at random out of an urn. The urn contains ten marbles, nine red, one blue. The randomly selected marble is the blue one. In this situation, (12) is acceptable to say but (13) is not:

12. It was likely that the marble selected would be red.

13. # The marble selected should be red.

Once again, if *should* is an epistemic modal and this is to be cashed out in terms of probability, the acceptability judgement for (12) and (13) ought to go together.

Imagine a fair lottery where you have bought one ticket. Compared the following sentences:

14. You will very likely lose.

15. ? You should lose.

While (15) isn't infelicitous, it seems clearly dispreferred when compared to (14). This should not be able to happen if the *should* is epistemic. Yalcin reports that some people report getting more of a deontically-flavoured reading when it comes to (15) rather than an epistemic-like reading. He goes on to claim, "that itself is puzzling, on the hypothesis that there is a true epistemic reading [of *should*]. Were there such a reading, we would naturally expect it to shine through in just this kind of example, where the putative epistemic reading would be far more context-appropriate than the deontic reading."¹⁴

¹³These examples are taken from YALCIN (2016).

¹⁴YALCIN (2016)

These are just two examples where *should* pulls apart from what is, or was, epistemically likely or unlikely but examples can be multiplied at ease.¹⁵ We are left in a position where we either have to say that there is no epistemic reading of *should* – there is only the type of *should* that appears in the above examples that cannot be epistemic and whose exact nature is yet to be explained. Or we have to say that there is some epistemic reading to be discovered but one that cannot even be loosely equivalent to something like *probably*, *likely*, *very probably*, *very likely*, or anything along those lines.

2.2.2 Epistemic modals and credal commitment

While the previous subsection provided linguistic evidence against the hypothesis that *should* is to be modelled in the same way that uncontroversial examples of epistemic modals are, this subsection will look to what we use sentences involving epistemic modals and *should* to communicate. It will also explore what it is that speakers are committed to doxastically when using various modalized sentences. Roughly, if speakers have different types of doxastic commitments when it comes to the uncontroversial examples of epistemic modals and the *shoulds* discussed above, along with these two classes having different communicative intents, then we have reason to believe that *should* and the uncontroversial epistemics need to be treated differently.

In his “The Application on Constraint Semantics to the Language of Subjective Uncertainty,” Swanson provides a non-truth-conditional account of the meaning of natural language terms involving subjective uncertainty – epistemic modals and probability operators are varieties of this type of language. While doing the work of the compositional semantics, explaining what sorts of constraints go with different types of sentences, Swanson provides a type of heuristic that we should follow when we’re

¹⁵Games of chance appear to be an easy place to look to when generating these types of cases.

doing such work. He says, “[a]s a prolegomenon to doing compositional constraint semantics, a good heuristic for determining what credal constraint should be associated with the sentence ‘ ϕ ’ is to ask what is distinctively associated with believing that ϕ .”¹⁶ While we could narrowly construe this remark just to apply to constraints on credences, this would be inappropriate given the intended scope of constraint semantics. When discussing the scope of constraint semantics at the begin of the article, Swanson says the following, “[a]lthough this paper focuses on a small fragment of English, I think that constraint semantics can be fruitfully applied to many of the aspects of our doxastic, affective, and conative lives that we communicate to others.”¹⁷ This remark gives us some reason to believe that his heuristic ought to be a rather a general one and not just about credal constraints. Another reason to think that the heuristic has the more general appeal is that Swanson reminds us of the heuristic when discussing what type of constraint we should give for disjunction.¹⁸

While this heuristic is meant to apply to the type of non-truth conditional constraint semantics that Swanson is outlining,¹⁹ I believe that the general lesson of this type of methodology should apply to all forms of compositional semantics. We should be aiming to provide a semantics that links up with the type of doxastic state that the speaker is trying to communicate when using their sentence. If the compositional semantics that has been given fails to meet this constraint, then it fails at being a proper semantics for the term/ sentence. A weaker claim than that is just as useful for the purposes of this paper is that we should not give the same semantic analysis to two terms/ sentences that clearly correspond to different doxastic states. The re-

¹⁶SWANSON (2015)

¹⁷Ibid.

¹⁸“What kind of constraint semantic entry should we give for disjunction? Recall the rough heuristic I mentioned earlier: to determine what constraint to associate with the sentence ‘ ϕ ,’ ask what is distinctively associated with believing that ϕ .” (Ibid.)

¹⁹It seems that this type of methodology/ heuristic is one that is in place for expressivist semantics more generally. SCHROEDER (2008) puts the point in the following way, “The expressivist strategy is to explain the language in some domain by explaining the thought in that domain” (152). GIBBARD (1990) has this to say, “the meaning of normative terms is to be given by saying what judgments normative statements express – what states of mind they express.” (84)

mainder of this subsection will defend the position that the uncontroversial epistemic modals and *should* fall under this weaker claim.

The examples from §2.2.1 provide us with some type of evidence that the uncontroversial epistemic modals and the uses of *should* that we've been interested are related to distinct doxastic states. Going along with this position, Swanson discusses a way in which the uncontroversial epistemic modals and *should* differ when it comes to the speaker's doxastic states. Sentences containing epistemic strong necessity modals, like *must* and *have to*, convey that the speaker endorses a level of credal commitment to the prejacent of the sentence. But it's not only for the strong necessity modals that this is the case, sentences that include an epistemic possibility modal, like *might*, "certainly does not represent a speaker as lending high credence to the proposition... it does represent the speaker as lending some credence to that proposition."²⁰ It is also the case that sentences that include over probabilistic terms like *probably* or *likely* will also convey a level of credal commitment on behalf of the speaker.

Sentences that have *should* in them do not commit the speaker to any type of credence in their prejacent, however. This idea has been foreshadowed by the felicity of sentences of the form "Should ϕ but not ϕ ." Sentences that contain *should* appear to be conveying something else entirely. If we're meant to determine what constraint to associate with a sentence of the form ' ϕ ,' with what doxastic state is distinctively associated with that ϕ , then we should conclude that we need to be doing something altogether different from epistemic modals when it comes to sentences of the form "should ϕ ." What it is that *should* means has still been left unspoken, however. In the next section I will outline what it is that *should* actually means, what it is trying to convey, and provide semantics for it that is built from the standard Kratzerian framework.

Nothing that I've said has ruled out Swanson's constraint semantics from being

²⁰SWANSON (2015)

able to capture the distinctive meaning of *should* that will be provided in the next section. Foreshadowing a touch, I think that constraint semantics easily has the resources to capture us conveying what we think normally occurs/ normally will occur based on some set of evidence. The reason for working with the Kratzerian framework is that I believe all of the necessary framework and resources needed to model *should* can already be found within the system. As the system has been a power linguistic and semantic framework that had yielded quite fruitful results, we have a strong theoretical reason to try and keep as uniform a semantics as possible and not work outside of the system. Another reason to work within the standard Kratzerian semantics is that it only uses familiar resources that we know are necessary in other areas of semantics. Quantification over worlds along with an ordering over worlds are fairly run-of-the-mill in semantics and have proven to be necessary semantic tools when modelling other areas of discourse as well. Moving outside the Kratzerian framework to something like constraint semantics doesn't leave us on the same solid footing.²¹

2.3 *Should* and its place within modality

This section has two broad and interwoven aims. The first it to show that we can model *should* using resources already found within the Kratzerian modal framework. Specifically, using the concepts of normality and circumstantial modality to model *should* fits ideally with what we have seen empirically and what we're aiming for theoretically. Throughout that part of this section, I will be making the assumption that the uncontroversial examples of epistemic modals are to be modelling in some probabilistic fashion. Hence, the claims throughout should be seen as claiming that *should* cannot be seen as an epistemic modal given the prior commitment to the nature of epistemic modality.

²¹Thanks to Maribel Romero making this point to me.

This discussion will bring the section towards its second aim: to discuss what this all means for theorizing about modality, in general, and epistemic modality specifically. Given theoretical commitments about the broad nature of modality, we should be sceptical as positing different modal flavours unless it is necessitated by the empirical data. Also, there is a theoretical commitment to having as uniform a semantics for the various of modals as possible. We shouldn't see deontic, teleological, bouletic, circumstantial, and epistemic modals behaving in vastly different ways from one another. These considerations should give us pause when making the claim that there are epistemic modals on one side and circumstantial modals on another. Perhaps what we should claim is that there is a broad overarching flavour of modality that is doxastic and allows for the features of both epistemic and circumstantial modality to do work.

2.3.1 Normality and circumstantial modals

While §2.2 was trying to get us to think that the examples of *should* cannot be the same flavour of modality as the uncontroversial epistemic modals, we have yet to clarify the actual nature of *should*. Following ideas found in KRATZER (1991) – which has also been suggested by STONE (1994) and more recently YALCIN (2016) – I will be arguing that the above uses of *should* are tracking what normally occurs in the world. Rather than being licensed when the prejacent is likely or probable based on your evidence set, *should*'s prejacent is licensed if the prejacent is true at all of the worlds highest ranked by a normality ranking over the modal base-worlds. Following YALCIN (2016), I will tentatively call this type of *should* a normality modal.²² Before moving on to provide the Kratzerian inspired formal model for the normality *should*, it will be important to say a little bit more both about what normality can be and what

²²This terminology is tentative as I will later argue that this type of *should* appears to be the weak necessity modal for circumstantial modality. Given that this type of modality already has a name, there's no reason to stick with the coined name found within YALCIN (2016).

it can't be. This being said, while I take it to be clear that there is something that corresponds to normality and this is its own concept, the exact nature of normality still remains elusive.²³

We already have quite a bit of information about what normality cannot be from the data presented throughout §2.2. One crucial aspect of normality is that it comes apart from what is probable. A possibility can be extremely unlikely but still be normal and a possibility can be extremely likely while not being normal in some sense. We just have to look back on the examples involving games of chance and lotteries to see how these two concepts come apart. Once again consider a fair lottery where you have one out of one-thousand tickets. This is a case where the probability that you lose is very high but a normal way in which the world could go is one in which you win.

On a more positive note, we can view normality as “expressing something about what one is, or would be, entitled to expect to be true.”²⁴ It should be noted that this is a distinct type of state from what you take to be true or what might be true. The latter of these states carries with it credal commitment on the part of the agent whereas the former does not. There also appears to be an asymmetry between the way that these two types of states influence and update one another. What we're entitled to expect to be true appears to inform what we take to be true in a given scenario. Put in a different way, what we're entitled to expect to be true helps to set our conditional credences of a proposition on some evidence; it informs the strength of our conditionalization of a proposition given some piece of evidence. There doesn't appear to be the exact same type of relationship in the other direction. We know that the world can be quite the abnormal place and that what happens to be true in this instance doesn't necessarily affect what we should expect to be true in other relevantly similar evidential scenarios.

²³I will discuss this further in the conclusion.

²⁴(YALCIN, 2016, P.19)

While the exact nature of normality has not been made crystal clear, we have enough in place to discuss the proper way to model within the standard Kratzerian framework for modals.²⁵

2.3.1.1 Non-epistemic modal base, stereotypical ordering source

One type of ordering source that KRATZER (1991) says is apt to go together with an epistemic modal base is the stereotypical ordering source. This type of ordering source ranks worlds according to “the normal course of events.”²⁶ The ideal worlds, the top ranked worlds, under this ordering source are the worlds that are most normal given the facts found within the epistemic modal base. This way of trying to capture normality *should* cannot work, however. One of the primary reasons for thinking that normality *should* isn’t an epistemic modal was that it didn’t entail a sentence with the same prejacent but with an epistemic possibility modal; (5) did not entail (6). The truth of (5), that all of the top ranked worlds according to a normality ideal within the epistemic modal base are ones in which I’m dead, means that there has to be at least some world within the epistemic modal base in which I’m dead. But there being at least some world within the epistemic modal base that’s compatible with the prejacent just is the truth-condition for (6). We know that the modal base cannot be the epistemic one when we’re trying to model normality *should*.

While stereotypical ordering sources are apt to combine with an epistemic modal bases, this is not the only type of modal base that it can combine with. Remember that Kratzer splits the space of possible modal bases into epistemic and circumstantial, or non-epistemic, bases.²⁷ If we combine a non-epistemic, circumstantial, modal

²⁵See footnote 23.

²⁶(KRATZER, 1991, P. 644)

²⁷Kratzer is now sceptical about the way that she split modal bases into epistemic and circumstantial ones. She now thinks that there isn’t any principled distinction between the two. I will continue to speak the way that she did in her (1991) for convenience’s sake. What really matters for the way of modelling normality *should* above is that there is a distinction between the modal base for epistemic modals and for normality modals and that the non-epistemic base maps possible worlds to sets of factual premises; that is, that the non-epistemic modal base used is a realistic modal base.

base with the stereotypical ordering source, it appears as though we are able to capture the linguistic data involving normality *should*. Throughout the remainder of this subsection, I will argue against the “problems” for this way of modelling normality *should* that are raised in YALCIN (2016). If I am correct, then what Yalcin has called the normality *should*, also called the pseudo-epistemic *should*, is actually just the circumstantial weak necessity modal. That is, there’s no epistemic *should*, no pseudo-epistemic/ normality *should*, there’s just been the circumstantial *should*.

The definition for necessity set out in KRATZER (1991) tells us that “a proposition is a necessity if and only if it is true in all accessible worlds which come closest to the ideal established by the ordering source.” (644) While this is actually her definition for strong necessity, not weak, I think that this is a better analysis for what’s actually going on in the weak case. When describing the semantics for *must*, she says that *must* only quantifies over the worlds in the modal base that are “minimal possibilities.” This is the way that this idea is formalized in VON FINTEL AND GILLIES (2010):

“**Definition 1...**

- i. $\min(B, \leq_w) = \{v \in B : \text{there is no } u \in B \text{ such that } v \neq u \text{ and } v \leq_w u\}$ (where B is the modal base and \leq_w is the normalcy ordering over the worlds in the modal base)
- ii. $\llbracket \text{must } \phi \rrbracket^{c,w} = 1$ iff $\min(B, \leq_w) \subseteq \llbracket \phi \rrbracket^c$ (358)

Even if $w \in B$ it doesn’t necessarily follow that $w \in \min(B, \leq_w)$; that is, things might not go as expected. This means that ‘*must* ϕ ’ doesn’t entail ‘ ϕ ’. While this does not seem to be the best semantics for *must* – I will go on to say why there’s good reason to think that *must* ϕ commits the speaker to accepting that ϕ , which this semantics does not capture – it does seem to fall in line with what has been said about *should*. This means that we get the following entry for normality *should*,

There’s no reason to doubt that these features will be met by what I’m calling the circumstantial modal base.

(where F is a circumstantial modal base and \leq_w is the normalcy ordering over the worlds in the circumstantial modal base):

Definition 2

- a. $\min(F, \leq_w) = \{v \in F : \text{there is no } u \in F \text{ such that } v \neq u \text{ and } v \leq_w u\}$
- b. $\llbracket \text{should } \phi \rrbracket^{c,w} = 1$ iff $\min(F, \leq_w) \subseteq \llbracket \phi \rrbracket^{c28}$

Some immediate consequences of this view is that circumstantial *should* ϕ will entail a circumstantial possibility modal with ϕ as its prejacent. It's also going to fall out of this view that *should* ϕ will be entail by a circumstantial strong necessity modal with ϕ as its prejacent. These are features that any successful semantics for *should* ought to have.

However, YALCIN (2016) raises problems for both of these entailments. In a scenario such as the one above where I'm nearly run over by the car, it would be infelicitous to use a strong necessity modal:

- 16. # I must be dead right now.
- 17. # I have to be dead right now.

Given that the epistemic and deontic readings of (16) and (17) are clearly false, we should expect some type of circumstantial reading to be available.²⁹ As Yalcin explains, “[s]urely [I’m] dead in all the relevant normal (circumstantially accessible) worlds – not just, say, those that are especially normal according to the relevant normality ordering (as Kratzerians might naturally analyze ought and should).”³⁰ Yalcin claims that we would expect that these readings are marked if circumstantial strong necessity modals entail their prejacent. One way to get this result would

²⁸This entry is tentative and will need to be updated to properly capture the relationship between *should* and *must*.

²⁹Yalcin actually says that we should expect a pseudo-epistemic reading to shine through.

³⁰(YALCIN, 2016, P. 13)

be if circumstantial strong necessity modals universally quantify over the entire non-epistemic, circumstantial, modal base and not over some restricted set of the modal base given to us by the ordering source.

For the moment let us grant for the sake of argument that *must* universally quantifies over all of the worlds in the circumstantial modal base. Yalcin claims that there is little evidence that circumstantial strong necessity modals entail the type of weak necessity modal that he, and we, have been concerned with. His assertion here seems unwarranted, however. Imagine that you are in a salt water coastal area in the tropics. If (18) is acceptable, then so will (19):

18. Mangrove trees must grow here.

19. Mangrove trees should grow here.

The *must* in (18) can receive a pure circumstantial reading. What's important in this example is that the *should* in (19) appears to be entailed by (18) and is of the same flavour as the various *shoulds* that we saw in §2.2. We have the right pattern of entailment in this case.

Should we think that circumstantial strong necessity modals universally quantify over the circumstantial modal base and ignore the stereotypical ordering source, however? Ideally this would not be the way that our semantics would proceed. Luckily, though, there are reasons for thinking that we don't need to proceed this way and can still explain why circumstantial strong necessity modals aren't licensed in the near car crash scenario but the weak necessity modals are. In (SILK, MS) we are provided with a compelling argument for the following claim:

[W]hat makes weak necessity modals “weak” is that they lack the assumption that (all) the relevant worlds at which the prejacent is necessary are in the context set. It is in this sense that one can accept ‘Ought ϕ ’ without

having to presuppose that all the preconditions for the necessity of ϕ are satisfied, and without having to accept that ϕ is in fact necessary. (18)

If Silk is correct and this type of constraint needs to be incorporated into the semantics for circumstantial *should* but not *must*, then we have an explanation of why the stronger claim can't be felicitous in the context of (16) and (17).³¹ The weak necessity modal can bracket the actual world within the context set and don't have to accept that "I am dead" is, in fact, necessary. This is not the only way to get the correct result that the strong necessity modal is not felicitous when the prejacent is false, however. See VON FINTEL AND IATRIDOU (2008) for another way of getting this claim to work out. Also, see the suggestion on p.24 of SWANSON (2015) for another way.

I will remain neutral on the proper semantic implementation of this idea throughout this paper. All that is needed is that there is a way of getting the correct predictions and results when it comes to the differences between the weak and strong necessity modals, and there are now ample ways to be able to do this.

YALCIN (2016) also expresses scepticism that the *should* he was calling pseudo-epistemic, which I have labelled circumstantial, entails a circumstantial possibility claim. His example is from the car crash scenario once again. He points out that the *can* in (20) doesn't have a circumstantial reading even though *can* can naturally take the circumstantial reading.

20. ? I can be dead right now.

As Yalcin notes, "[t]his sounds like a strangely worded offer... to kill [oneself]." (15). While the possibility modal *can* can't be given a circumstantial reading, the other possibility modal *could* gets exactly the desired reading that we're looking for.³²

³¹Silk provides three different ways of formally implementing this idea into the semantics of weak necessity modals and stays neutral about which is the best option.

³²One reason that (20) has a strange sound to it might have to do with a tense mismatch within

21. I could be dead right now.

If we look to the examples involving mangrove trees, we can see that (19) entails the circumstantial possibility claim using any of the various possibility modals.

19. Mangrove trees should grow here.

22. Mangrove trees can/could/might/may grow here.

Another thing to note about (22) is that it allows for the denial of its prejacent in a way that epistemic modals do not. This is another reason to think that we're dealing with the same type of modality present in (19), the circumstantial modality.

22. b. Mangroves could grow here, but they aren't.

This shows us that the *should* that we've been looking at throughout this paper plays the exact role that a circumstantial weak necessity modal should play. It is entailed by the strong necessity modal of its flavour and entails the possibility modal of its flavour.

The semantics provided above also has the advantage that it is able to capture what Swanson has called the "evidential feature" of these modals. While Swanson is specifically talking about epistemic modals and their evidential features, it appears that this same type of feature is present in circumstantial modals as well. Roughly speaking, the evidential feature signals that the content of a modalized sentence's prejacent is the conclusion of an inference, and not given to the speaker by something

English when compared to how *can be* is normally used. Typically *can be* will combine with something that is future oriented, like in 'I can be there in five minutes', and not something present. *Could* works much better when picking out a current state of affairs. Consider the difference between the following:

i. I could be home now.

ii. ? I can be home now.

(ii) sounds marked and strange in the same way that (20) does and that (21) does not.

like their direct experience.³³ Swanson suggests that premise semantics, like the semantics of Kratzer, can naturally capture the evidential feature of the modals. SWANSON (2015) puts the point this way, “what is important here is that when speakers use these modals, they generally presuppose that the context supplies a set of arguments that bear on the truth value of the relevant modal’s prejacent. The evidential feature carried by English epistemic modals just is this presupposition.” (23) If this is the way to capture the evidential feature for epistemic modals, then it ought to hold over for the evidential feature found within the circumstantial modals. Given that the semantics that will be used all require that the context supply a set of premises, that is, it is a premise semantics for circumstantial modals, this semantics will naturally be able to account for the evidential feature.

Given the above data, it appears that there’s no reason to treat the normality *should* as anything but a circumstantial *should*. As Yalcin himself says, “I take it that we should not posit possible readings of modals beyond necessity.” (8) This means that we should not posit the type of pseudo-epistemic/ normality reading of *should* over and above a circumstantial reading. We’ve come to a point where we need to admit that our *should* is neither an epistemic nor pseudo-epistemic one.

2.3.2 Expansive epistemic modality?

Perhaps the preceding subsection was too hasty when concluding that the *should* we’ve been discussing isn’t an epistemic one. Recall that this conclusion was conditional on the claim that the correct way to model epistemic modality would be in terms of probability and likelihood alone. This means that we don’t have to outright buy the claim that what I have been calling the circumstantial *should*, and the other

³³The evidential feature can be thought of as a non-grammaticalized, lexicalized, version of the linguistic phenomena of grammatical evidentiality that is present in languages such as: Korean, Cherokee, Bulgarian, Turkish, Central Alaskan Yup’ik Eskimo, Cuzco Quechua, Cheyenne, St’át’imcets (a.k.a. Lillooet; Northern Interior Salish), and the Tsimshianic language Gitksan, to name a few. See AIKHENVALD AND DIXON (2014) and CHAFE AND NICHOLS (1986) for overviews on the topic of evidentiality.

circumstantial modals, aren't epistemic. Another possible option is to reject the idea that the proper way to model epistemic modality is in terms of probabilities and likelihoods alone. Epistemic modality might just be more complex than traditionally conceived and is actually able to have elements of probabilities, likelihoods, and normality playing a role in its model. Ultimately making this type of determination will be an empirical endeavour to be determined by the way that further linguistic facts work out. In lieu of the empirical fact, however, there are theoretical considerations that should push us in one direction or another. This subsection will consider the theoretical considerations and argue that we should be sceptical of conceiving of epistemic modality purely in probabilistic terms.

As previously mentioned, there is a strong theoretical commitment to having as uniform of a semantics for modality as we possibly can. Cross-linguistically modals all share a core meaning, like in English, and also have the various flavours as well. Given this uniformity and the strength of the Kratzerian framework for capturing the meaning of modals cross-linguistically, we should only posit something that strays from the framework if there are good empirical reasons for doing so. Staying within the framework was the reason for attempting to model *should* in the matter it is above but doing so also ends up having the consequence of moving away from the uniform semantics when it comes to the uncontroversial epistemic modals.

If *should* is a circumstantial modal and not an epistemic one, then we've ended up in a position where epistemic modality is altogether different from the other flavours of modality. In particular, epistemic modality would not seem to contain any type of weak necessity modal, which would make it unlike any of the other flavours of modality. This is a major aberration that should be avoided unless there are good empirical reasons for positing it. While I believe that the above linguistic data can be interpreted in a way to call for this change, it is not the only way to go. Another way would use the data in order to make us re-conceive how epistemic modality

has typically been characterized. *Should* can't be an epistemic modal if epistemic modality is only modelling using probabilities, so we should think that epistemic modality shouldn't be modelled in this fashion.

If we were to move in this direction, then epistemic modality would have to be something more expansive and be able to move between the features we find within the uncontroversial epistemic modals and the circumstantial ones. The specifics of how this could be done is a question for a different time but one that should be further explored given the considerations above. Another point to take away from this discussion is that we should be somewhat sceptical of any semantics for epistemic modals that is purely probabilistic unless it is accompanied with strong empirical reasons for doing so or having a satisfying explanation as to why epistemic modality acts fundamentally different from all the other flavours of modality. This is not a trivial or simple task.

2.4 Putting normality to epistemic work

This paper will now switch gears from looking at the semantics of *should* to what this expression and its semantic model can teach us about epistemology. This section will consist of two parts. The first will look at areas in which the conception of normality can help to buttress and existing position found within epistemology. In particular, I will argue that the concept of normality can help to further illuminate the safety based approaches to knowledge that can be found in the work of WILLIAMSON.³⁴

The second part will argue that the distinctive type of doxastic commitments we get from using *should* could push us towards positing a different type of doxastic state than is typically found in contemporary epistemology. This state will take influence from SMITH (2010). This state isn't meant to replace the tradition doxastic states

³⁴In particular, this approach can be found in WILLIAMSON (2000, 2005, 2007, 2009).

of credences and full-belief but is meant to complement the existing picture of our epistemic lives.

2.4.1 Safety, risk, and normal worlds

One major theme in the epistemic work done by WILLIAMSON is that safety plays an indispensable role when it comes to knowledge. According to WILLIAMSON, knowledge must be safe. Another crucial aspect of a doxastic state being safe is that it comes apart from the state being highly likely or probable. This alone provides us with an area in which normality could potentially come into play but in “Probability and Danger,” WILLIAMSON further illuminates safety using a possible-worlds semantics involving a closeness relation in a way that seems to call out for normality to be crucial and explanatory. In what follows I will first describe the “no close risk” conception of safety outlined in WILLIAMSON (2009) and then discuss why the concept of normality is needed.

In attempting to save some intuitive epistemic principles, such as multiple premise closure, from issues arising out of the lottery paradox, preface paradox, and notions of probability and chance, Williamson argues that the conception of epistemic risk plays a fundamental role. And according to Williamson a doxastic state being risk free and it being safe go hand in hand. Crucially, though, these concepts cannot just be about how likely or probable the state is. In order to bring out the epistemic notion of safety and risk, Williamson looks to the ordinary notions of these terms and claims the following, “one is safe in a possible world w at a time t from an eventuality if and only if that eventuality obtains in no world ‘close’ to w and t . Call this the ‘no close risk’ conception of safety.”³⁵ This view takes its inspiration from the similarity semantics for counterfactual conditionals that can be found in the works of David Lewis.³⁶

³⁵(WILLIAMSON, 2009, P.13)

³⁶LEWIS (1973, 1986)

This ‘no close risk’ conception of safety makes it a type of local necessity and, more importantly, it makes closeness a sort of accessibility relation between worlds in a possible worlds semantics. One substantive task that this leaves open is specifying the closeness relation in an informative way in terms of the appropriate respects of similarity. Worlds can be closer or further apart to some target world when we are considering different similarity metrics. After running through examples of risk and safety in non-epistemic cases, Williamson rules out a probabilistic sense being the correct one to use when it comes to the our needed similarity metric.³⁷ The paper ends with the following remark about the proper relation to use to capture the needed closeness and similarity, “Of course, the intended interpretation of the relation R has been described only in a highly schematic way. That is hardly surprising, for the whole nature of knowledge is packing into that interpretation. There is still plenty of work to do even at this abstract structural level.”³⁸ Leaving things here is far from satisfying, however. We’ve been told that some closeness-to-the-actual-world relation is fundamentally important when it comes to epistemology and knowledge but then were only provided with a bare schematic outline of what that relation could look like. This is far reach from moving philosophical inquiry and explanation forward.

Luckily at this stage, it turns out that we have a way of definitively filling out what the relation R looks like that will do all the work that is needed and provide further illumination. This is the normality relation that has been discussed above. Given that we use modals that relying on an underlying understanding of what’s normal in a world, this is a relation that is not esoteric or too difficult or complex to be what’s used in our epistemic thinking. According to Williamson, “we need a conception...that we can apply quickly in practice, on the basis of vague and impoverished evidence, without making probabilistic calculations.”³⁹ This is exactly what

³⁷See pages 14–15 for the argument.

³⁸(WILLIAMSON, 2009, P.30)

³⁹(WILLIAMSON, 2009, P.17)

is happening when we utter something like (1). We are not running through complex probability calculations to come to the conclusion that Hikaru should have arrived by now but rather we're using what we know about the world and how it normally operates in order to come to this conclusion.

Another reason to look to normality to play a role in area is that it helps to ground intuition in the area and make the intuitions have a less *ad hoc* quality to them. Currently the intuitions that Williamson uses within his epistemic arguments come without any type of explanation or description of where they are coming from. They do quite a bit of work and, as you'd expect, line up with what Williamson wants to argue for. Using the concept of normality allows there to be something outside of the theory itself that gives a principled reason for why things go in one direction and not the other. There's a concept of what's normal and what worlds are like this one when it comes to how normal they are and it is this that is doing the heavy lifting within the theory. Moreover, the normality relation isn't some gerrymandered, grue-some, concept that has been brought into the picture to do the precise work that is needed. It is something that is used within other areas of philosophical theorizing and is not in need of justifying its use or existence.

2.4.2 Distinct doxastic state?

As mentioned above, normality, what's normal based on some set of evidence, appears to be playing a distinct role within our doxastic lives from both credences and full-belief. The doxastic state that we have to be in to be licensed to utter *should* ϕ has nothing to do with our credence that ϕ is the case or having anything like a full-belief that ϕ . If we are to look at the other end of things, if an utterance of *should* ϕ is communicated to you, it doesn't seem as though it's primary communicative function is to directly update either your credences or your full-beliefs. As mentioned above, the above uses of *should* are very naturally paired with the denial of their

prejacent. What should our doxastic states do when utterances like (8) or (23) are communicated to us?

8. There should be gorillas up that tree, but there aren't.

23. Ann Arbor should be warm now, but it isn't.

Hearing either of these utterance will update our epistemic position in some way but not through obvious credal means or our full-beliefs. We have learned something when we are told one of (8) or (23) but what this is doesn't appear to fit naturally into the way that our epistemic states are discussed within contemporary epistemology. Within epistemology the dominant view is that the only two doxastic states that are epistemically relevant are our credal states and our all-out states such as belief or knowledge. If I am correct about what is going on when it comes to our use of the modals, then we potentially need to allow for another type of doxastic state to be epistemically relevant; the doxastic state that tracks what is normal given a certain set of evidence.

In the article "What Else Justification Could Be," Martin Smith attempts to argue against the traditional probabilistic view of justification, which can be understood in the following way:

For any proposition P we can always ask how likely it is that P is true, given present evidence. The more likely it is that P is true, the more justification one has for believing that it is. The less likely it is that P is true, the less justification one has for believing that it is. One has justification simpliciter for believing P (at least at a first approximation) when the likelihood of P is sufficiently high and the risk of $\neg P$ is correspondingly low.⁴⁰

⁴⁰(SMITH, 2010, P.11)

In place of this traditional probabilistic view of justification, Smith wants to turn to a view where the notion of normality plays a central role.⁴¹ The following is what Smith has to say about normality:

Let's suppose that possible worlds can be ranked according to their comparative normalcy and say, slightly more formally, that a body of evidence E normically supports a proposition P just in case the most normal worlds in which E is true and P is false are less normal than the most normal worlds in which E is true and P is true. Further, a body of evidence E normically supports a proposition P more strongly than it normically supports a proposition Q just in case the most normal worlds in which E is true and P is false are less normal than the most normal worlds in which E is true and Q is false. (16-7)

How justified you are in P has to do with how normically supported P is by the evidence. While Smith takes his view to be a way to replace the traditional picture of justification, it can be seen as a way of modelling the type of normality doxastic states that are involved with the circumstantial modals.

There is far more work to be done to flesh out how this state interacts with our credences and full-beliefs but we shouldn't be overly sceptical that this is a state that play a distinctive role in our epistemic lives. It allows us to make certain types of default inferences and we use it to make inferences and conclusions quickly based on vague and impoverished information. Further exploring the role that state could play within epistemological theorizing should yield fruitful and rewarding results.

⁴¹Smith uses the term 'normalcy' rather than 'normality'.

2.5 Conclusion

While the conception of normality has been used throughout this paper it's the case that its exact nature remains largely unexplored. It gets put to work in various areas of philosophical and linguistic theorizing – for some examples, it plays a prominent role in one dominant view about the semantics of generics, has been used within some work on causation by omission, and also shows up in work done on the laws of nature – where it's treated as a well-understood concept.⁴² While I think that we all have an initial handle on the concept, getting a clearer picture of what it actually is remains rather illusive. The next stage in moving forward on a project such as the one above needs to ask a fundamental question: what is normality, exactly?

⁴²Examples where normality has been put to work within philosophy include the following: ALEXANDER (1973), BOUTILIER (1994), GARDINER (2015), KRIFKA (1995), LESLIE (2012, 2013, MING), McGRATH (2005), NICKEL (2008, 2010), SCHURZ (2001), and VALARIS (2017).

CHAPTER III

Linguistic Theorizing and Epistemological Evidence

Introduction

In the past two decades or so there has been quite a lot of linguistic theorizing about our epistemic vocabulary, with a considerable amount of this theorizing focused on giving a semantic theory for epistemic modals. Philosophers and linguists present various linguistic data involved the terms *might*, *probably*, and *must*, for example, and offer a semantic theory for that term that captures its truth-conditions.¹ For example, a naïve semantics for *might* says that *might* ϕ is true if and only if ϕ is compatible with our knowledge.² While various linguistic theorizing of the above sort have been done for our epistemic terms, this tends to be where things end. That is, we see various theorists offer their preferred theory of some term and then do little else with what has been said. The purpose of this paper is argue that we can learn a great deal about epistemology itself from our linguistic theorizing about epistemic language.

¹Throughout the article, I am using the convention commonly found in the work of linguists to mention a word by putting it in italics. When you see some thing italicized, you should assume that this thing is being mentioned rather than being emphasized, unless context pulls the other way.

²This very simple account is much too simple, but as EGAN (2011) remarks, “[t]he reason why epistemic modals are interesting, and why it’s hard to give a satisfactory theory of them, is that it’s remarkably difficult to transform that plausible-looking first shot into a worked out account.” (219)

In order to defend this claim, I will start off by considering two potential problems for this type of methodology and reject both. The first problem involves the claim that trying to discover facts about the world in general from our language and linguistic theories alone is a mistake. Looking at the relationship between the “hard sciences” and the natural language used to talk about them helps to elucidate this claim. Looking carefully at these cases will actually teach us valuable lessons about the strength and type of evidence we are able to get from looking to our language rather than showing that we can’t get evidence, though. This will show us that this type of methodology isn’t a problematic or useless place to begin. The second problem involves the claim that even if there is some type of “evidence,” this isn’t, or shouldn’t be, of any philosophical significance. That this is some type of “barbarian” philosophy that ought to fall by the wayside. To address this worry, I will point out what exactly it takes for something to be encoded into language and the significance that this has.³ After defending the general methodology, I will go on to show that it has existing pay-off within philosophy by looking at cases within the metaphysical, metaethical, and epistemological domains. I’ll end highlighting where this methodology can have potential pay-off for epistemology and linguistic theorizing about epistemic terms: one, our overtly quantitative epistemic language and its connection to credences. And two, evidentials and their connection to direct and indirect forms of evidence. In the end, I hope I will have persuaded you that our linguistic theorizing about epistemic terms is able to be used as defeasible evidence for our first-order epistemological theorizing and point towards areas will this can fruitfully be done.

³It should be noted that what I will be saying throughout this paper is meant to apply to general terms and predicates and not to singular terms. Singular terms may potentially behave differently than predicates and general terms so I will be putting them off to the side for the purposes of this paper.

3.1 “Hard” cases and type of evidence

The general claim that I am trying to defend in this essay is that we can learn quite a lot about epistemology itself from looking at our epistemic language. This would mean that we can draw conclusions about the world from language and our theorizing about it alone. There would seem to be a wide variety of cases where this should not be done, however. This section will begin by looking at cases involving the “hard sciences,” such as physics, neuroscience, chemistry, and biology, to show that we don’t appear to get any type of evidence about questions in these fields from the natural language that we employ when describing the world. The second half of the section will show that there are cases in which we do seem to be some type of initial evidence for a biological claim based off of linguistic evidence and what this can show us about linguistic meta-theorizing in general.

3.1.1 Hard sciences and independent evidence

Our use of language to describe the world around is very robust. Not only is it used to describe epistemological, ethical, and metaphysical matters, we also use it to talk about distinctively physical, biological, or neurological matters. When we move to look at the viability of meta-linguistic theorizing when it comes to the latter of these groups, there is good reason to believe that our language will not be able to tell us anything about first-order or fundamental questions. Our natural language describing physics can’t be evidence for anything in fundamental physics, natural language about biology can’t be evidence for biological questions, language about “folk” psychology can’t be evidence for neuroscience itself, and so on. For example, the fact that the definite article sounds acceptable and not defective when we’re speaking about mass (there’s nothing linguistically wrong with ‘the mass of the baby is 4kg’) and that the indefinite article sounds defective (compare the previous example with ‘a mass of the baby is 4kg’) doesn’t give us any evidence about the nature of mass and it potentially

being unique.

One of the main motivations to think this comes from what we know about these disciplines. We know that there are independent ways of answering questions within the disciplines and that those are the only ways, or at least are the greatly privileged ways, that we can get evidence within those fields. To get evidence for some claim within physics, you have to do some type of physical test which gives you empirical results that are to be used. You actually have to study the brain and its inner workings in order to gather evidence for neuroscientific hypotheses, and so on. There is an independent source related to the field itself that is able to provide evidence.

When we look at things in this way, it seems that natural language cannot have an evidential role to play. Our natural language is not a part of the independent source of evidence within the disciplines nor does there appear to be any type of connection between the independent sources and language. If this is the state of linguistic evidence in a wide variety of domains, it leaves us in a potentially difficult situation. Either there would have to be some type of explanation of why epistemology, metaphysics, ethics, and potentially other philosophical endeavours are special when it comes to the relationship between language and theory or we must provide some account of how it is that we actually do get evidence from our natural language talk about psychology, physics, and biology even though it doesn't appear that this is the case. When looking at a specific biological example, I will show that we do get evidence from linguistic theorizing in the hard science cases, the feature of the hard sciences that makes it appear as if we don't, and how the lack of this feature makes philosophy look as if it is distinctive.

3.1.2 Linguistic evidence and background information

Imagine that you find yourself on an isolated island with a group of people who speak a language that you do not understand. While on the island you discover that

all of the speakers of the indigenous language use one word to pick out birds with blue wings, a blue, white, and black face, and a white chest; call this word *blue*. Then you discover that they all use a different word, call it *rusty*, to pick out a bird that has vivid, deep blue on its wings and a rusty colour on the throat and chest. This is all that you know about the birds. An important question to ask is the following: does the linguistic fact of the language users using two distinct words for the birds act as some type of evidence for the biological claim that these are two distinct kinds or species of birds? I think the obvious answer is that the linguistic fact does act as some type of initial evidence for this claim. It's not just our visual evidence that is doing the work of helping to justify the claim that there are two distinct species. The linguistic element is making its own, distinct, contribution to the evidence for the species claim.

To see this, consider a different bird example. In this case you have seen one set of birds that are all bright red apart from a bit of black around their beak. You have also seen a set of birds that are almost entirely a tan colour apart from a bit of red on their tail feathers. The differences in visual appearance would seem to provide some type of initial evidence that these birds might be different species. Now imagine that you discover that the speakers of the native language only use one term to refer to those two sets of birds, call this word *cardinal*, and distinct words for each other set of birds with distinct visual appearances. The linguistic facts here seem to provide some type of initial evidence that the red birds and the tan birds are actually one species. If this was the circumstance that we found ourselves in, we would feel like we were less justified in believing that they are distinct species once we learned the linguistic facts. These are both cases where we have linguistic theorizing/ facts acting as evidence for distinctively biological claims; that the birds are distinct species or that they are one species.

In the previous paragraph, I talked about the evidence that we receive from the

bird talk being initial evidence, what, exactly, is meant by initial evidence? The way to think about this is that it is evidence for the claim in absence of other evidence that could act to defeat it; that is, it's evidence for some claim in the absence of defeating evidence. What would this defeater look like in the bird case? We have an easy answer to this question: we perform some type of genetic testing, or learn of the results of them, and find out either way whether they are one species or two. In the biological examples, and all of the other hard sciences, we know what acts as independent sources of evidence. This gives us a nice explanation of what is actually going on in the cases of the hard sciences where language is ill-suited to providing evidence. In these cases, our background information and evidence immediately defeats any potential evidence that our linguistic theorizing could have given us. In absence of our background information and evidence, the linguistic theorizing would act as some type of initial evidence for questions within the hard sciences; it just happens that we can never really be in this type of evidential scenario. This doesn't negate the fact that the linguistic theorizing does provide its own distinct evidence. It's just that it's immediately defeated evidence, which is why it looks as if there isn't evidence from the linguistic theorizing.

The background evidential scenario that acts to immediate defeat the evidence we'd get from linguistic theorizing in the hard science cases is a feature that is absent when it comes to the philosophical examples that were discussed above. This is the reason that epistemology, ethics, and metaphysics are particularly well-suited to this type of meta-linguistic theorizing. Either there aren't the type of independent sources of evidence that could act as a defeater as there are in the hard sciences or what these defeaters are is much more opaque and difficult to get a clear grip on.

It's still being debated within epistemology, for example, whether there are or could be something naturalistic, like in the hard science cases, that plays a pivotal

role in our epistemological theorizing.⁴ This is why, when it comes to the philosophical cases, substantive philosophical argumentation is required in order to defeat the evidence that we receive from the linguistic theorizing.

The evidence that we receive from linguistic theorizing being initial, defeasible, evidence is able to capture the range of cases that have been discussed above. Given our normal evidential scenarios and the immediate defeat they offer, linguistic theorizing won't act as evidence for questions in the hard sciences. In abnormal evidential scenarios, like the bird cases above, the linguistic theorizing will provide defeasible evidence for first-order theorizing, though. When it comes to philosophical cases, we always have reason to believe that there will not be the type of immediate defeat that there is in the hard sciences cases. Due to this, in all the philosophical cases the linguistic theorizing actually provides defeasible evidence for claims in the first-order theorizing.

3.1.3 Type of evidence

We have run through examples involving philosophy and the hard sciences and have got a better handle on what evidence we're dealing with. This purpose of this subsection is to explicitly spell out how we ought to be thinking about the evidence we receive from linguistic theorizing by modelling it on the type of evidence that PRYOR (2000, 2004) argues we get from perceptual evidence. While addressing the status of Moore's "proof" of the external world, Pryor argues that just on the basis of our perceptual appearances as of hands, and these appearances alone, we are justified in believing that there actually are hands. We do not need to be in possession of any type of antecedent justification for the proposition that there is an external world in order to be justified in believing that there are hands rather than

⁴The Naturalized Epistemology of Hilary Kornblith is an example of the type of theory that says we could have independent evidence for epistemological matters. The viability of this type of approach is still currently being debated, however. See KORNBLITH (2002, 2014) for clarification on what naturalized epistemology amounts to.

just hand-like appearances. So long as the agent lacks reason to believe that global sceptical scenario is true the agent is justified in believing that there is a hand in front of them. While we do receive some type of justification for the belief that there is a hand, the type of justification we get within Pryor's dogmatism is not all-things-considered justification, though. Rather, the justification is both *prima facie* and defeasible. This means that acquiring other evidence has the potential to defeat the justification for you believing that there is a hand, leaving your appearance as of a hand unable to justify the further inference to there actually being a hand.

What Pryor says about the status of our perceptual justification is directly in line with what has been said about the evidence that we get from our linguistic theorizing. Because of this, we ought to say the things that Pryor says about perceptual evidence about linguistic evidence. That is, that the evidence we get from our linguistic theorizing provides *prima facie* defeasible justification for the claims within in the first-ordering theorizing.

3.2 Why evidence at all?

While the previous section was meant to show that it's possible to see linguistic theorizing as a type of evidence for claims about the world itself, there remains a question about whether or not this is the type of evidence that we ought to be using when it comes to our philosophical investigation. Just because there are certain syntactic or semantic features within our language, it doesn't follow that these features are tracking something at a more fundamental level, which is the level of philosophical importance and usefulness. We could always construct, or could have spoken, languages that don't have these features at the actual world without thereby changing what's actually going on at the fundamental level. To address this worry, I will first look to what it takes for something to end within natural language and what this means. As language is a social practice used for coordination, it is not a

trivial or easy matter for the semantics of a language to end up a certain way. People coordinate around ways of speaking that will allow them to best navigate the world around them. From there, I will use evidence aggregation principles in order to show that we should be fairly confident that if something has ended up in natural language, it is highly likely to be tracking something of external significance.

If we take the Austinian idea that language is a record of social practices and norms seriously, that language embodies “the inherited experience and acumen of many generations of men,”⁵ then we can take for granted that there’s tacit agreement made about those things that work properly, are useful, and ought to be a part of our natural language.⁶ This means that if something has ended up being a feature of natural language, we can see this as the result of a vast amount of accumulated evidence about what works when it comes to norms and practices. Something ending up being a feature of natural language is by no means a trivial or easy feat and this fact should be taken very seriously. One hypothesis about what this shows us is that the natural language terms we use and the features that they have plays some type of *explanatorily useful* role when navigating and understanding the world around us. Our language tells us that whatever it is that ϕ has come to mean is something that is explanatorily useful and important. Another way of putting this is that natural language marks that the distinction between ϕ s and not- ϕ s is explanatorily useful and important.

The first thing that needs to be done to defend this hypothesis is to get clear on what explanatory usefulness amounts to. Thinking about knowledge will help to bring this out. After all of the counterexamples to knowledge being JTB plus x that occurred after GETTIER (1963), someone could have been left in the position

⁵AUSTIN (1957)

⁶As mentioned in ft.3, throughout this section I will be interested in how predicates and general terms work and not thinking about singular terms. It may well turn out that singular terms work in the same, or a similar, manner to the general terms and predicates but this will not be something explored throughout this essay.

of thinking that the distinction between knowledge and not-knowledge is not a very interesting one. That this distinction is just very gerrymandered, with fifteen plus distinctions and conditions.

One way to respond to a claim like this is to look at the relative centrality that *knowledge* and its cognates play in our language and lives. Here are some facts about the centrality of *knows*: the term has a cognate in every natural language that's been discovered, it's picked up rather early in our cognitive development, and it's one of our most commonly used verbs, more common than *believes*, *thinks*, and their cognates put together.⁷ These empirical facts on their own don't show us that 'knowledge' is philosophically important, however. There needs to be some type of link between the data frequency, cross-linguistic features, and developmental features and something being philosophically important. This link, between the empirical and the philosophical, is what was mentioned above: that the empirical facts show us that we're picking out something that is an explanatorily useful distinction. The data shows us that we're not dealing with some grue-some type of distinction that should be thrown away when we're engaging in philosophical theorizing. When we're dealing with something that has been found to be explanatorily useful, and plays a role in helping us both understand and navigate the world, then we have a strong indication that the thing should play a part in our philosophical theorizing. I should make it clear that the strength of this claim isn't that theorizing about the explanatorily useful term will always turn out to be the right way to theorize; this is far too strong of a claim that cannot be true. The claim is a more modest one. It says that the burden of proof falls not on those theorists who think that we should start our inquiry with knowledge and not something like JTB. That knowledge is explanatorily useful gives us strong reason to start our theorizing using it and not start our theorizing with JTB being a central focus.

⁷LEECH ET AL. (2001)

When looking at natural language and the terms that we think could play a role in philosophical theorizing, things will not always be as clear cut as in the case of knowledge. For example, causation is a case where things are not as neat. While our language has the verb *caused*, we don't use it as often as we might have thought. Close synonyms are used like *the cause*, *a cause*, and a range of the causative verbs such as *broke* and *open*. When it comes to the causatives, there is strong developmental evidence that terms like *broke* and *open* have a semantically compositional structure; children get all of them at once and proceed to massively over-generate when it comes to their usage. Causative terms are a competitor that are closely related to *cause* within natural language. We end up in a messy situation where we have multiple terms, that could be near synonyms, all being somewhat important but no one term is nearly as important as *knowledge* and *knows* are.

In principle, *knows* didn't have to end up the way that it has within natural language, where there are no close competitors to it. In principle there could have been a natural language that has a close competitor to *knows*; perhaps a term that picks out something like theories of knowledge that were seen during the 70s and the 80s that are lacking some but not all of the conditions on *knows*. This is not the case when it comes to English or other natural language, though. The contrast between what's happening around our causal language and around *knows* is quite stark. Some type of legitimate deflationism about *cause* and *caused* gets its legs because of the messiness of this situation and the existence of the near cognates. Language uses the causatives more often than the bare causal terms and the causatives also have a privilege position in children's language development as well. As previously mentioned, nothing like this is the case when it comes to *knowledge*. What this shows us is that we should be thinking of explanatory usefulness and importance as the type of thing which *knowledge* and *knows* have in spades but which *cause* lacks to a great degree.

Now that I have provided a clearer way of thinking about explanatory usefulness

and importance, I have to defend why it is that natural language would end up having these features opposed to others that would be neither useful nor important. To understand this we have to look at the role that language plays in helping us coordinate with one another.

Why is there language at all? We know that not all creatures have language like ours, or any language at all, so that language evolved at all is not a given. That being said, language is distinctly human and something that all humans possess and have possessed for as long as our species has been around. While this is a remarkable fact, there still remains the question about what it is that we use language for. That is, what is the role that it is playing? One thing that cannot be questioned is that language is an inherently social practice. It is the primary way that we communicate with each other and it allows us to navigate the world in a coordinated fashion. In essence, language is a social practice used for coordination.

Language is used for us to coordinate with one another about the world around us and what's happening in it. We need a way to represent and express the events and particulars in the world to each other and this is precisely what it is that language does. Language is a tightly interwoven and almost inseparable part of the interactive process in which people coordinate their bodies, actions, and perspectives in a continuous and complementary way to accomplish shared meaning and joint goals.⁸ Thus, language is what allows us to solve a large coordination problem with one another.

Roughly speaking we can think of coordinating using language to follow this outline: a speaker has observed that the world is in one of a number of possible states and wants her audience to be made aware of the fact that the world is this state. The audience members, for their part, also stand to gain from being made aware of the state of the world because how they will subsequently act is sensitive to how they take the world to be. The speaker uses something from language in order to signal

⁸CLARK (1996)

the state of the world they take themselves to be in and in turn the audience can either accept, reject, or modify the signal in order to narrow in on the most successful coordination. When it comes to natural language and its evolution, this is not a one-off endeavour. It will occur within a certain linguistic population over generations. What we end up with is countless individuals over a vast period of time narrowing in on a set of linguistic symbols that will be best for coordinating and navigating the world. That is, we end up with a natural language that has been fine-tuned over generations to be maximally useful when it comes to navigating the world.⁹

Looking back to the example using *knows*, what we can see is that linguistic communities have narrowed in on robust use of the term in order to coordinate and navigate the world with other speakers. Throughout time, linguistic communities decided that using *knows* would be the most useful way of coordinating with one another when it comes to mental state ascriptions. There was no coordination towards some far more grue-some term such as JTB or something along those lines; this would not be a useful way to navigate and coordinate the world. As was previously stated, it's the case that every linguistic community in the world narrowed in on *knows* being a useful and important way to navigate and coordinate.

While the above has set out to show that the evolution of natural language will end up producing something that is useful for coordination and navigation, which factors into the explanatorily useful role that the terms in the language will play, there is still more that could be shown. An aspect of natural language being explanatorily useful and allowing us to navigate and coordinate the world shows us that we shouldn't be sceptical about its potential philosophical importance or usefulness but it doesn't yet provide us with reason for thinking that the aspect of language is also tracking something of external or objective significance. What follows will provide just such reason.

⁹This view of coordinating within natural language can be seen as coming out of the view found in LEWIS (1969, 1975) but with the dynamic updating over generations that would occur within a natural language.

Adapting the principles about evidence aggregation found within the Condorcet Jury Theorem, I will show that the process that natural language undergoes when it is updating and evolving over time, the coordination practice described above, is likely to end up tracking and encoding something of external and object significance. While there is some mismatch between what happens in language and the normal working of the Condorcet Jury Theorem, there is enough of a match and parallels to provide us with evidence that the findings are likely to be true.

Roughly speaking, the Condorcet Jury Theorem says that the probability that a concurring majority of competent individuals will be right is a dramatically increasing function of their total number (converging to 1 as the number get closer to infinity). This means that as the size of the group increases, the reliability of a majority of the group being right increases dramatically. What does this show us, exactly? It potentially shows us that the extent of agreement and coordination within natural language means that the weight of the evidence we get from the features that it has ought to be substantive. That much agreement from that large of a body of people over a vast amount of time means that it is highly unlikely that things have systematically been going wrong. The theorem holds when only three conditions are met: one, there are two options; two, each group member has a competence great than a half; and, three, the members' beliefs are conditionally independent of one another.

The first of these conditions is met because the options for a linguistic community who is trying to coordinate around their natural language is to to continue speaking in a way in which certain features of the language will be present or not do this – to chance the way things are in some fashion. Language users are not trapped within an extremely rigid structure that doesn't allow for language to be updated and changed. This means that there's always the option to begin to use language in a different way; a way which we would not have the same features and terms being picked out

as explanatorily useful and important. This gives us the type of pairwise choice that is needed for the Condorcet theorem to apply.

Given what we know about people’s linguistic competence, there seems no reason to believe that people would be anti-reliable or no better than chance when it comes to their competence in this domain either. Exactly how reliable we are remains an open question but the assumption that it is at least slightly better than $1/2$ appears to be uncontroversial. One way to see this is to think about what it would look like if we were to be anti-reliable when it comes to picking out features of the language that will be explanatorily useful and important for coordination. These are the features that allows us to navigate and understand the world around us and to coordinate with one another to do so. If we were anti-reliable, we’d expect us to be much worse at navigating our environment with each other. This would most likely be manifest in a bevy of communication errors and being unable to properly coordinate using language. While there are times that language seems to have features that aren’t explanatorily useful¹⁰ and there are things that are explanatorily useful that aren’t featured in a natural language, we know that in general that we don’t have the coordination or communication problem.

While the first two conditions for the Condorcet theorem to apply appear to be satisfied, the third condition, that the members’ beliefs are conditionally independent from one another, seems like it is unlikely to be met in the case of natural language and what features it ends up having, though.

Although this third condition is almost certainly not met, there is still reason to believe that we’re in conditions where we can get relevantly similar results as in the classical Condorcet case. In the recent article “Why so negative? Evidence aggre-

¹⁰One example of this might be us marking doves and pigeons as distinct in an analogous way that we mark dogs and cats as being distinct. The problem with this is that there doesn’t appear to be anything that could be useful about marking the two things that constitute the bird clade Columbidae. The only difference between doves and pigeons is that one is the better look version of the other. There’s nothing explanatorily useful about marking the prettier version of the same bird.

gation and armchair philosophy,” Talbot attempts to defend the use of “armchair” intuitions within philosophy as a legitimate source of evidence through applications of the Condorcet theorem.¹¹ What is of note for the case of language at issue here is that Talbot looks at cases where the members’ beliefs are not conditionally independent. He shows that the extent to which the beliefs must depend on one another, in order for the results of the Condorcet theorem not to hold, are not met when it comes to the type of philosophical intuitions that he’s trying to defend.¹² Talbot finds that the reliability of the intuitions is very significant in determining whether or not we’re in a position to trust philosophical intuitions. In cases where intuitions are minimally reliable, meaning that the average reliability of the relevant population of intuitions is only around .6, relatively small amounts of potential causal dependence are enough to pose a threat to Condorcet results. However, when the intuitions are highly reliable even “high amounts of known causal dependence, or high likelihoods of causal dependence, are consistent with armchair methods.”¹³ This means that the Condorcet results will hold in this type of case. These are the two more extreme positions that we could be in, so it’s important to also look at what happens when the reliability is not as low as .6 but also not highly reliable.

There are two types of dependence that will matter for this discussion. Symmetric dependence of intuitions: “when intuitions are potentially symmetrically dependent on one another, each intuition in a group had a chance of completely determining the content of each other intuition of the group.”¹⁴ This is a very strong notion of dependence. Because this is such a strong notion of dependence, it is *prima facie* implausible that it occurs to the extent that the degree of symmetric dependence often gets above some very low level. Talbot spells out the implausibility. “To see how implausible this is, let’s consider precisely what even low levels of symmetric

¹¹TALBOT (2014)

¹²IBID.

¹³(TALBOT, 2014, 3876)

¹⁴(TALBOT, 2014, 3882)

dependence mean. For degree of symmetric dependence d , the probability that a given intuition out of a set of n intuitions was not influenced by any other is $(1 - d)^{n-1}$. So a degree of symmetric dependence of .05 means that, for a set of intuitions gathered from a group of 20 people, each intuition has a roughly 62% chance of being wholly determined by some other intuition. This chance goes up to 75% given a .07 degree of symmetric dependence, and to almost 90% for a .1 degree of symmetric dependence.”¹⁵

The other form of dependence is asymmetric dependence. For asymmetric dependence, “only one subset of the intuitions gathered – in this paper, those in the majority – has a chance of determining the content of individual intuitions, and the chance that this occurs is independent of the size of the group... The *degree of asymmetric dependence* is the probability that any given intuition in a group will have the same content as the majority of intuitions in that group, independent of the truth or falsity of that content.”¹⁶ It is plausible to think that this type of dependence is much more widespread than the strong symmetric dependence but just how widespread would it have to be to start threatening the application of the Condorcet theorem. A .3 degree of asymmetric dependence is the level that is threatening, according to Talbot, and this would mean that, “any intuition in a group has a 30% chance of being wholly determined by the majority view. A .3 average degree of dependence would mean that the majority of intuitions in the whole population are influenced to at least this degree, with much higher degrees being common.”¹⁷ This condition of dependence between beliefs would not appear to be met in the case of natural language evolution and the features that are at issue in this section.¹⁸ What this means is that we can

¹⁵(TALBOT, 2014, 3882–3)

¹⁶(TALBOT, 2014, 3872)

¹⁷(TALBOT, 2014, 3883)

¹⁸While it will not seem to be a problem when it comes to the epistemology and metaphysics sides of things, the lack of dependence might be an issue when it comes to ethics. If certain class or power based views of ethics are correct – roughly the types of views that can be found in the works of Marx, Rousseau, and Nietzsche – then we would have reason to believe that there is a highly level of dependence. It shouldn't be the case that these types of views are antecedently ruled out

expect that the cases of natural language updating that I am describing are ones where the Condorcet theorem applies.

Given that we're in circumstances in which the Condorcet theorem will apply we should expect that natural language evolution will select for explanatorily usefulness. We should have high confidence that our language is actually getting at the things that are explanatorily useful and important for us to navigate and understand the world. We have good reason to believe that our languages track something of external significance directly albeit potentially imperfectly and not without the occasional mistake. Our language having the specific syntactic and semantic features that it does gives us good prima facie defeasible evidence that we're getting at something that is explanatorily useful and important; something that is externally significant.

3.3 Philosophical import outside epistemology

While the last two sections have attempted to show that the general methodological picture I wish to defend is viable, they have not shown that there is any actual philosophical pay-off to the project. This section will show that there has already been this type of philosophical pay-off from linguistic theorizing when it comes to both metaphysics and metaethics. I will begin by looking at the work done bridging the gap between linguistic theorizing and metaphysics done in VENDLER (1984) and SZABÓ (2006) in order to show that the type of linguistic meta-theorizing I'm proposing has real application within a philosophical discipline and an application that takes real philosophical argumentation to go against. I will then move on to look at how this type of meta-linguistic theorizing has been used within the normative domain by looking at recent work by SILK.

by the Condorcet view that is being discussed. I will not take a stand on how this issue ought to be resolved but rather flag it as a potential problem case. Luckily, though, there does not seem to be any type of neat analogue to these power and class views within epistemology, so what is said about that area ought to remain untouched however the issue gets resolved.

3.3.1 Linguistic theorizing as metaphysical evidence

3.3.1.1 Causing and doing

In “Agency and Causation,” Vendler employs a meta-linguistic strategy to argue that agents cannot be the cause of anything – only events can be. He believes that once we get clear about the semantic and syntax of causative constructions we will see that agent causation is not real causation. Specifically, he argues that as sentence forms become more explicitly causal, they become less suitable for expressing the things that agents do. On “the other side of the same coin,” he argues that agents do things, which is meant to be metaphysically distinct from causing things, and that when we look at linguistic constructions involving *doing*, we see that this type of relation is not suitable for genuine causes (events).¹⁹

The argument for this conclusion begins by showing that we can transform causative constructions into more or less “full-blown” causal ones. For example, we can go from the basic causative construction in (1a) to the full-blown causal form in (1c) through an intermediate one in (1b):

1. a. The explosion broke the window.
- b. The explosion caused the window to break.
- c. The explosion was the cause of the breaking of the window.²⁰

What Vendler goes on to show is that these full-blown causal forms of causative constructions are only available when the subject of the causative construction corresponds to events; the full-blown causal form is not available when an agent is the subject slot of causative constructions.²¹ For example, (2b) doesn’t express the same thing as (2a) and the full-blown causal form (2c) “fails”:

¹⁹VENDLER (1984)

²⁰These examples, and the ones in (2a-c), are adapted from p.375 of VENDLER (1984).

²¹Another point of the argument from Vendler is to show that agents appearing in the subject slot of causative constructions does not automatically show that agents can be causes. That is, something appearing in a causative construction does not entail that the thing causes events.

2. a. Ameer raised her arm.
- b. Ameer caused her arm to rise.²²
- c. #Ameer was the cause of the rising of her arm.²³

Given that the full-blown causal constructions are not available for agency and that constructions involving the verb *do* aren't readily available when we're dealing with event, Vendler concludes that we need to keep causing and doing as distinct metaphysical relations. As he puts it, "the most one should admit concerning the relation of agency and causation is a weak family resemblance."²⁴ The reasons for making this metaphysical distinction about causation are entirely linguistic for Vendler. Our best semantics and syntax for causative constructions shows a type of distinction when it comes to events and agents in the subject position and Vendler is arguing that this needs to be reflected in our actual theorizing about causation. Putting this in the terms from §2, there is an explanatorily useful and important distinction to be made between our full-blown causal construction and the verb *do* when applied to agents and events. This shows us that there's a prima facie reason to think that causation is something that only applies to events and that this is a distinct relation from the relation of doing that applies to agents.

3.3.1.2 Past states and presentism

The next metaphysical example can be found in Szabó's "Counting Across Times" and shows that the best linguistic theorizing about our language about the past shows that presentism – the view that everything is present (where this is meant to convey

²²The issue with this construction is that it seems to describe doing things in a roundabout way. Imagine that Ameer was operating a pulley with one arm to lift her other arm. This seems to be the type of thing that this construction expresses.

²³It's not entirely clear what Vendler means when he says that the full-blown causal constructions with an agent in the subject slot fail. It appears to correspond to a failure to be able to express what it is that agents do, though.

²⁴VENDLER (1984)

some type of tenseless proposition)²⁵ – isn’t a viable metaphysical position unless it comes with a substantive ontological cost that we antecedently would not have thought we should have to be committed to. The argument that causes the problem for the presentists and that forces them to be committed to a potentially problematic ontology is that the only quantificational semantics that can adequately deal with the argument from quantification is one that is committed to tensed states existing.²⁶ This means that tensed states, such as Napoleon having been defeated at Borodino, presently exist, even though Napoleon does not exist.²⁷

To see the force of the argument from quantification, consider the following true past tense sentence:

3. a. Helen had three husbands.

This sentence is true because Helen was consecutively married to three different people. Even though this past tense sentence is true, the present tense correlate ‘Helen has three husbands’ has never been true. The problem for the presentist is that they do not seem to be able to give a semantics compatible with their own view that will be able to predict that (3a) is true. There appear to be the following two possible logical forms for (3a):

3. b. $\text{PAST}(\text{three } x:[\text{husband}(x)](\text{Helen has } x))$
 c. $\text{three } x:[\text{husband}(x)](\text{PAST}(\text{Helen has } x))$

The problem is that (3b) would give us a false reading; this reading is true only if the sentence within the scope of PAST, the LF of “Helen has three husbands”, was true at some point in the past. But as was said above, there is no such time where this is true. (3c) is problematic for the presentists as it is not compatible with their view.

²⁵The simplest way to understand this is by thinking about it in the language of predicate calculus as ‘ $\forall x. \text{present}(x)$ ’.

²⁶SZABÓ (2006)

²⁷This is Szabó’s example.

The presentist is committed to the non-existence of past entities, such as Helen’s three husbands, which means that the three husbands cannot be within the domain of quantification of ‘three husbands’. (3c) is true if we are able to count her husbands across time but the presentist believes that there are no husbands to be counted. (3c) has to be false for the presentist. This leaves them committed to the falsehood of both available LFs of the obviously true (3a).

While (3b) and (3c) were the two obvious LFs for (3a), it turns out that there is actually a third option that can get things right for the presentist; albeit at the ontological cost mentioned above. Consider the following sentence:

4. a. Five-hundred thirty million people rode the TTC last year.

This simple quantified sentence gives rise to an ambiguity. On one reading, the truth of (4a) requires the existence of five-hundred thirty million people each of which rode the TTC last year. On the other reading, (4a) can be true even if far fewer people than 530 million rode the TTC, perhaps only about three million people, as long as some of these people did so repeatedly such that ridings of the TTC by people last year number 530 million. Following KRIFKA (1990) we can call the first reading *object-related* and the second *event-related*. Using a Davidsonian events semantics framework, we get the following two LFs:

4. a. 530 million people rode the TTC last year.
 b. 530-million o : [person (o)] ($\exists e(\text{riding}(e, o) \wedge \text{on-the-TTC}(e) \wedge \text{last-year}(e))$)
 c. 530-million e ($\exists o$: [person(o)]($\text{riding}(e, o) \wedge \text{on-the-TTC}(e) \wedge \text{last-year}(e)$))

According to (4b), 530-million objects are people involved in a riding of the TTC last year; according to (4c), 530-million events are ridings of the TTC by some person last year. Along with there being verbs, like *riding*, that give rise to event-related

readings, there are also verbs that give rise to state-related readings.²⁸ Szabó also believes that it's "hard to see why there would be any restrictions on verbs permitting event or state related readings in simple quantified sentences." (412)

With this in place, we can get the following LF for (3a) that can help the presentist predict the right truth-value:

3. d. three s (PAST ($\exists o$: [husband(o)] (having (s , Helen, o))))

This says that there are three states that were states of Helen having a husband.²⁹ There are three such states so the sentence is true. What is important is that the presentist is able to say that these states are not entities in the past. They can say that these type of tensed states exist now, so they exist in the tenseless way the presentist requires. However, while the presentist can now correctly predict the truth-value for (3a), they can only do so at the ontological cost of thinking that tensed states exist; that is, they have to believe that the present existence of past tensed states is acceptable. This is potentially a weighty ontological cost within the view.

3.3.2 What we can learn from metaphysics

What have the examples from metaphysics shown us about meta-linguistic theorizing? The main lesson we can learn is that the conclusions drawn within these examples will require actual philosophical argumentation to go against rather, say, than any type of flat-footed rejection of the methodology used. The examples show

²⁸Szabó uses "Four thousand ships were anchored at the port last year" as a sentence that can give rise to a state-related reading.

²⁹You might object to state-related readings because they are false in cases where someone has remarried the same person. For example, there are eight states of Elizabeth Taylor being married, due to a remarriage, yet the sentence 'Elizabeth Taylor had 7 husbands' appears true. Szabó believes that this reading isn't actually real, though. He has the following to say, "I think the best way to adhere to these constraints is to insist that the relevant reading of 'Helen had three husbands' quantifies over states (which can *in principle* obtain more than once)... The consequence is that 'Helen had three husbands', is literally false if Helen married four times, even though it can convey a truth as a result of our willingness to double-count (i.e. count the two maximally continuous states of Helen having Menelaus as husband as if they were one)." (416)

us that the end results of the linguistic theorizing has a role to play when it comes to being evidence within metaphysics.

Once again, consider the conclusion that Szabó draws. The claim is that the only semantics that can properly predict that (3a) is true is one that commits the presentist to the present existence of past tensed states. It seems as though the presentist could provide an alternative semantics that could accurately predict the truth of (3a) but without the ontological commitment that (3d) to go against the Szabó argument. Another option would be to argue that the type of quantification that occurs within the semantics is not ontologically committing. Neither of these options is one that rejects the meta-linguistic theorizing as actually providing some type of evidence for the metaphysical claims. The former approach is just more meta-linguistic theorizing to show that our best theory does not have the problematic feature of the one that Szabó offered. The latter approach is one that would take substantive metaphysical argument in order for it to work. We have straightforward reasons to believe that what is quantified over within our logic comes with some type of ontological commitment, the Indispensability Arguments within metaphysics and philosophy of mathematics have shown that this is historically been the case, so the onus would be on the opponent to provide reasons for thinking that quantifying over states carries no type of commitment to those states existing.

A flat-footed rejection of the methodology would have to take the form of agreeing with what the linguistic theorizing has to say but going on to say that this does not have any impact on what we should be thinking when it comes to the metaphysical questions. This type of rejection would say that even though it's the case that agents cannot play the right type of semantic and syntactic role to act as agents, this is not to be seen as evidence for the metaphysical claim that agents cannot be the genuine causes of things. This is a very strong claim that seems quite implausible in the circumstances.

3.3.3 Metaethical theorizing

It is not just within metaphysics that there has been work done on going from our linguistic theorizing to first-order conclusions within philosophy; this type of work has been going on within metaethics as well. Since at least the mid-20th century, there has been a substantial literature devoted to the semantics of our ethical vocabulary. While there is a portion of this work that has remained purely on the semantic project of giving the truth-conditions of our ethical terms, a part of the project has been to look at what this theorizing about our normative vocabulary can teach us about normativity and questions in first-order ethical theorizing. Throughout the remainder of this section, I will present examples from contemporary metaethics where the lessons learned from the semantics of our normative terms have been used to inform and improve theorizing within ethics itself.

In “What Normative Terms Mean and Why it Matters for Ethical Theory,” Silk neatly outlines the methodology of the type of linguistic meta-theorizing that is at issue throughout this paper. Silk describes the practice as follows:

The strategy of clarifying philosophical questions by investigating the language we use to express them is familiar. Debates about intentionality shift to debates about sentences that report intentionality; debates about knowledge shift to debates about 'knows'; debates about reference and singular thought shift to debates about referential expressions and attitude ascriptions... A natural thought is that a similar strategy might be helpful in ethics. Perhaps by examining ethical language we can make progress in resolving conflicting basic moral intuitions and seemingly intractable disputes about fundamental normative principles. SILK (FORTHCOMING)

As this quote makes clear, many contemporary debates within a broad array of philosophical topics employ the strategy of moving back and forth between looking directly

at the concepts being studied and the language that we use to express those concepts. This project has been fruitful within these areas of philosophy and Silk extends it to cover our ethical language and draws out normative/ ethical implications from the semantics of our normative terms.

SILK (FORTHCOMING) argues that semantic theorizing about our normative language, specifically the “strength” and “subjectivity” of deontic necessity modals – *should*, *ought*, and *must*, for example – can improve theorizing about three issues within ethics. The three areas are: “[one,] the coherence of moral dilemmas, [two,] the possibility of supererogatory acts, [and three,] the connection between making a normative judgement and being motivated to act accordingly.” SILK, (FORTHCOMING) All three of these are distinctly first-order normative/ ethical questions and we’ll look at what Silk thinks the semantics of the necessity modals can teach us about them in turn.

3.3.3.1 Moral dilemmas

Since at least Kant, there have been those who have argued against the existence of moral dilemmas; cases where you seem to have an obligation to do ϕ and an obligation to do ψ where these two are contrary acts. This has been motivated in large part due to the thought that it is inconsistent for contrary acts to be simultaneously required; morality, or rationality, could never lead us to such a contradiction.

What Silk aims to show is that the possibility of there actually being dilemmas shouldn’t be ruled out by the semantics of the normative terms. He points out that dilemmas expressed with *should* and *have to* are consistent in a way that dilemmas expressed using *must* are not. Consider the following three ways of expression dilemmas:

5. I should help Alice and I should help Bert, but I can’t help both.
6. I have to help Alice and I have to help Bert, but I can’t help both.

7. ?I must help Alice and I must help Bert, but I can't help both.

We can capture the distinction between (5) and (6) being consistently expressible whereas (7) isn't "in term of the distinction between endorsing and non-endorsing uses of modals, and independent work on the semantics of weak necessity modals."³⁰ The strong necessity modal *have to* tends towards a non-endorsing use, uses that fail to present the speaker as endorsing the relevant verifying norms, whereas *must* tends towards uses that are endorsing.³¹ Given that the uses of *have to* in (6) is non-endorsing, it is not surprising to hear (6) as consistent; if one isn't endorsing the norms, there's no inconsistency in saying that one obligation requires one action whereas another obligation requires another action. But when we use the endorsing *must*, (7) is naturally heard as registering endorsement for an inconsistent set of norms and as telling one to perform the incompatible acts. When we look at (5), which involves uses of a weak necessity modal, there is no sense of inconsistency. The stark contrast between *should* and *must* is "nicely predicted by several recent independently motivated semantics which validate agglomeration for strong necessity modals but not for weak necessity modals."³² This gives us independent reasons for thinking that genuine dilemmas are coherently expressible with the weak necessity modal *should*.

What do these insights form the semantics of the modals have when it comes to actual normative theory, however? Silk explains it in the following way:

"What import could this point about our linguistic judgments possibly have for normative theory? First, arguments that there are no genuine dilemmas will need to be independent of appeals to linguistic intuitions

³⁰SILK (FORTHCOMING)

³¹Silk says that these generalization are supported by a "robust body of data in descriptive linguistics." The following are those works: LEECH (1970, 1971, 2003), LAKOFF (1972), LARKIN (1976), LYONS (1977), COATES (1983), PALMER (1990, 2001), SWEETSER (1990), MYHILL (1995, 1996), NUYTS (2000), VERSTRAETE (2001), HUDDLESTON AND PULLUM (2002), SMITH (2003).

³²IBID.

like the intuition that [(7)] is inconsistent. The theorist who accepts that there are genuine dilemmas can agree with Kant that incompatible propositions cannot both be deontically necessary: ‘Must ϕ ’ and ‘Must ψ ’, for contraries ‘ ϕ ’ and ‘ ψ ’, are inconsistent. But this doesn’t itself show that the concept of a dilemma is incoherent. Dilemmas are coherently expressible – just not with endorsing uses of strong necessity modals. Even if there are no practical dilemmas, this isn’t because they “entail a contradiction” (DAVIDSON, 1969, 34)” (13)

We can use the linguistic insights shows us that a strong point put forth by the proponent of the view that dilemmas are contradictory in nature are mistaken. Silk also goes on to highlight the importance that getting clear on the semantics and the lack of entailing a contradiction has on how we should theorize about dilemmas in the future. He believes that this insights from the semantics shows us that future debate about genuine dilemmas is a question for substantive normative theory.

3.3.3.2 Supererogation

There is a debate within ethics about whether there are supererogatory acts at all; acts that go “beyond the call of duty,” ones that are permitted but not required of us. There is the anti-supererogationist camp that says that there are no such acts, and the acts that seemed to be such are in fact required. There is also the qualified-supererogationist camp which grant that such acts exist but go on to claim that the acts are binding in some moral sense and we are worthy of criticism if we fail to perform them. One standard argument that gets us to these conclusion is the following: ““It would be much better if I gave money to the poor. I really ought to do so. So, I must have conclusive reason, and hence an obligation, to give to the poor. So, my not giving more to the poor must be wrong and hence subject to criticism.””³³

³³(SILK, FORTHCOMING, 14-5)

(The anti-supererogationist would add that this shows that giving more to the poor mustn't be supererogatory after all.)³⁴

Silk points out that we must once again keep the distinctions between the weak and strong necessity modals clear when we're formulating arguments of this sort. The argument above relies on the intuition that that failing to do what one must leaves one subject to some type of criticism. But it should be noted that the initial premises in the argument only get us to claim that it would be better for you to give to the poor or even that you should; these do not entail that you must give to the poor. Failing to do what you must is obviously blameworthy but there isn't this strong intuition when it comes to failing to do what is good or what you should. When we get these linguistic distinctions in place we can see how it is coherent to have a view to, one, "distinguish what one ought to do and what would be best from what one must do and what is minimally required, and [two] to attach blame or criticism for failing to do the latter."³⁵

These merely semantic points do not show that there actually are supererogatory acts, it could be the case that nothing but the best will do and hence that what we thought were supererogatory acts are actually just required. "One might accept on independent grounds a demanding moral theory according to which one must do what is evaluatively best. But such grounds will have to be just that: *independent*. Additional substantive normative argument will be required." (15-6) Making the distinctions involving the modals helps us to get clear on the possibilities that were actually open when it comes to the debate and helps to suggest new ways in which the dialectic about supererogatory acts may continue.³⁶

³⁴This argument generalizes leading to the "paradox of supererogation." For a statement of this argument, see RAZ (1975).

³⁵(SILK, FORTHCOMING, 15)

³⁶Silk goes on to show how some current semantics for the weak and strong necessity modals are able to shed light into other thought that people have had about the notion of supererogation.

3.3.3.3 Motivation and normative judgements

The thesis of judgement internalism – the claim that there is an internal and necessary connection between making a normative judgement and being motivated to act in accordance with it – is seen by many as obviously true in some form. The reasons that get weighed in deliberation are reasons for action, normative judgements are constitutive of deliberation, and deliberation is essentially practical. Even though this all may be the case, there also appear to be clear counterexamples to the thesis: psychopaths are often brought up along with people who just happen to be really tired or depressed. It seems that they can make some type of normative judgement but lack the corresponding motivation to act.

What Silk hopes to show is that judgement internalism only appears to be obviously true when we are considering judgements that use terms that are of the endorsing variety and also directive; *must*, for example. We ought to wary of more general claims about normative language, judgements, and motivation, though. It is because of the endorsing character of *must* that it is hard to hear a sincere utterance of *must* ϕ as consistent with the speaking not being motivated by ϕ , such as in (8):

8. a. #I must get home by 10, but forget that; I'm not going to.
- b. #You must get home by 10, but I don't care whether you do.
- c. #Bert must get home by 10. Aren't his parents stupid? I would stay out if I were him.^{37,38}

Once we switch to a modal that is more naturally used in a non-endorsing fashion we do not get the same type of intuition that there's a problem with the normative judgement and the lack of motivation. These can be seen when we use a strong

³⁷These are Silk's (20a-c).

³⁸Use of this data can also be found in NINAN (2005) and SWANSON (FORTHCOMING). I should mention that this data might not be as robust as these authors are making it out to be, though. Multiple people have expressed doubts about there being something wrong with sentences like (8a-c) in personal correspondence.

necessity modal that is conventionally non-endorsing and even in some cases where the weak necessity modal is used endorsingly. These can be seen in (9a-c) and (10):

9. a. {I'm supposed to, I have to, I'm to} get home by 10, but forget that; I'm not going to.
 - b. {You're supposed to, You have to, You're to} get home by 10, but I don't care whether you do.
 - c. {Bert is supposed to, Bert has to, Bert is to} get home by 10. Aren't his parents stupid? I would stay out if I were him.
10. I should stop smoking, but I'm not going to.³⁹

Silk believes that this linguistic evidence licenses the following conclusion: even if judgement internalism is a true thesis when it comes to deontic *must*, "it is false for judgements expressed using terms that aren't conventionally endorsing."⁴⁰

3.3.4 What we can learn from metaethics

The lessons we can learn from the work that Silk has done within metaethics runs parallel to the lessons that we can learn from the metaphysical examples previously discussed. These examples all appear to be ones in which we are warranted in making some type of conclusion within the normative realm based on evidence that has been generated by our best linguistic theorizing. In the metaethical examples, the conclusions we were warranted in drawing tended to be that some position was a potential one and one that needed to be taken seriously within the dialectic. We seem to be justified in holding that position given the linguistic theorizing unless there are the *independent* normative/ ethical arguments against the position that Silk alluded to. The positions that our language leads us to might end up not being the correct ones

³⁹There are Silk's (21a-c) and (5) respectively.

⁴⁰(SILK, FORTHCOMING, 19)

but it will take some type of additional, *independent*, evidence to defeat the evidence that we have got from our linguistic theorizing. Our linguistic theorizing pushes us towards a particular first-order position which we are justified in holding just because of the linguistic evidence.

3.4 Existing epistemological import

At the beginning of this paper, I claimed that its purpose was to show that we can learn quite a bit epistemological theorizing from looking to the way we speak about epistemic matters and the linguistic theorizing that accompanies it. This section will show that there has already been a potential case in which we have learned something about epistemological theorizing from looking to the language which we use to speak about the issue at hand. The epistemological issue at hand is whether knowledge-how is a species of knowledge-that or something distinct in nature like an ability.

3.4.1 Linguistics and knowledge-how

In “Knowing How,” Stanley and Williamson argue against the view that knowledge-how is not propositional knowledge, the Ryle inspired view that it is a type of ability, based on the syntactic and semantic features of knowledge-how ascriptions.⁴¹ I will begin by showing the syntactic structure that Stanley and Williamson identify for knowledge-how ascriptions actually make them pattern with knowledge-wh ascriptions, which are taken to involve propositional knowledge rather than anything non-propositional. From here I’ll show how this linguistic data has been treated as evidence against the ability view of knowledge-how and as some type of evidence for the claim that it is analogous to standard propositional knowledge. Lastly, I’ll look at what this example can show us for meta-linguistic theorizing within epistemology

⁴¹STANLEY AND WILLIAMSON (2001) and STANLEY (2011)

in general.⁴²

3.4.1.1 Knowledge how's structure

In knowledge-that ascriptions, such as “Liz knows that McGill is in Montreal”, the standard constituent syntactic structure is roughly the following:⁴³

Liz knows [that McGill is in Montreal]

In knowledge-that ascriptions, *knows* takes a sentential complement. In this example the complement is [that McGill is in Montreal]. While know-that ascriptions are thought to have *knows* taking a sentential complement, this was not commonly thought about know-how ascriptions. Rather, they were thought to be roughly of the following form:

Kim [knows how to play the flute]⁴⁴

In this case *knows* does not take anything as its complement and is rather part of the complement itself. This difference in syntactic structures of knowledge-how and knowledge-that ascriptions is part of the reason that people have taken them to be different.⁴⁵

Intellectualism, Stanley and Williamson's view, challenges the assumed syntax of knowledge-how ascriptions arguing that this alleged Rylean structure does not correspond to the standard syntactic theory in linguistics. Consider the following knowledge how ascription:

11. Liz knows how to play the French horn.

⁴²For the full linguistic argument that knowledge-how claims are reducible to knowledge-that claims see Appendix A and STANLEY AND WILLIAMSON (2001). For an abridged version of the argument see STANLEY (2011).

⁴³Where brackets indicate the complement of the main clause.

⁴⁴STANLEY (2011) claims that Ryle himself relied on linguistic arguments for his claim that knowledge-how isn't propositional in nature. Stanley says, “Ryle in part relied on linguistic arguments about ascriptions of knowing how to support his position.”

⁴⁵The different structures would also show that knowledge-how cannot be a relation between a subject and a proposition as [knows how the play the flute] is not a proposition.

The Intellectualists point out that (11) has syntactic counterparts to all the following knowledge-wh ascriptions:⁴⁶

12. a. Liz knows where to find free food.
- b. Liz knows whom to call for aid.
- c. Liz knows which door to go through.
- d. Liz knows why to vote for Thomas Mulcair.

In examples (12a–d), *knows* takes a sentential complement. More importantly for the issue at hand, even the Ryleans agree that (12a–d) are examples of a type of propositional knowledge along the lines of knowledge-that. As (11) is a syntactic counterpart to (12a–d) this means that (11) should be thought in analogous fashion to (12a–d). But if this is the case, then we shouldn't be drawing the type of deep distinction between know-how and know-that ascriptions in the way that the Rylean has. Stanley describes this situation in the following way:

It is a common assumption between the Rylean and the Intellectualist that sentences involving constructions like “know where + infinitive”, “know when + infinitive”, “know why + infinitive”, etc. all can be defined in terms of propositional knowledge. But given that ascriptions of knowing-how in English look so similar to such ascriptions, it is hard to see how they could ascribe a different kind of mental state. This provides a powerful argument in favor of the conclusion that our ordinary folk notion of knowing-how can be defined in terms of propositional knowledge.⁴⁷

There are two distinctive syntactic features of (11) and (12a–d) that are not found in knowledge-that ascriptions but this doesn't make a difference to knowledge-how

⁴⁶Knowledge-wh ascriptions include knowledge-where, knowledge-why, knowledge-whether, knowledge-who, and knowledge-which ascriptions.

⁴⁷(STANLEY, 2011, 208)

and knowledge-wh continuing to pattern with each other.⁴⁸ It will remain the case that our best syntactic and semantic theory of knowledge-how ends up being the same as the syntactic and semantic theory for things we all take to be propositional in nature. This is all that's needed to get us some type of evidence that the Rylean position is in trouble and that we ought to be pushed towards something along the lines of the Intellectualist position. Another way of thinking about this is that there's no explanatorily useful or important distinction to be made between know-wh and know-how claims.

3.4.2 What we can learn from know-how

The knowledge-how example is the cleanest case in which linguistic evidence has been used to directly argue for a claim within first-order theorizing within epistemology. The evidence that Stanley and Williamson are using to argue against the ability view and for their positive view that knowledge-how is just a form of knowledge-that is based on the semantic and syntactic features that are encoded into the language that we use to express knowledge-how claims. We end up being in a position where there appears good reason to believe that there's nothing explanatorily useful or interesting in the distinction between know-wh claims, which are taken to be propositional in nature, and know-how claims. That is, we are in a position where we can reasonably conclude a purely epistemological claim about knowledge-how solely in virtue of the linguistic theorizing about know-that, know-wh, and know-how. In order to argue against the evidence that we get from the linguistic data, we'd need to have some independent epistemological evidence that cuts against the view that there's no useful or interesting distinction between know-that, know-wh, and know-how. For example, we might look to the following type of evidence: that knowledge-how is not Gettier-able the way that knowledge-that is.

⁴⁸(11) and (12a-d) contain "embedded questions" and untensed clauses. For the full syntactic and semantic account of what this means, see Appendix A.

What we have seen in the previous two sections is that the type of linguistic methodology that was defended in general in §§1-2 has already had some type of real world philosophical pay-off when it comes to metaphysics, metaethics, and epistemology. Specifically, when it comes to our theorizing about causation and agency, the past, the normative domain, and knowledge-how. Given that it's already had philosophical pay-off, it will be useful to look to potential areas within the epistemic domain that seem ripe for this type of linguistic methodology.

3.5 Future epistemic pay-off

Now that we've looked at what methodology is used within epistemology and looked into cases in which linguistic evidence has been use to inform claims about epistemic matters, we are in a position where we can explore three potential avenues where linguistic theorizing might help with out epistemological theorizing. The first area is that of probability/ likelihood modals; the term *probably*, for instance. The second will discuss the relationship between evidentials, terms in a language that encode the what type of information source the agent has for their claim,⁴⁹ and different types of evidence within epistemology. Specifically, we may be able to discover something about the nature of testimonial evidence from looking at the way in which testimony licenses the use of evidentials across languages.

It should be noted that this section will not actually go into a substantive level of detail when it comes to outlining the semantic theories and the way in which they can be used as evidence for epistemological theorizing. These are meant to be exploratory

⁴⁹One potential example of an evidential in English is epistemic *must*. The hedge in the previous sentence is meant to indicate that there is ongoing debate within linguistics on the question whether English has any evidentials at all. Some argue that English lacks a grammaticized evidential system while other believe that the existence of terms like *must* show that there's something evidential in nature going on within English. Some languages that contain a robust grammaticized evidential system are: Korean, Cherokee, Bulgarian, Turkish, Central Alaskan Yup'ik Eskimo, Cuzco Quechua, Cheyenne, St'át'imcets (a.k.a. Lillooet; Northern Interior Salish), and the Tsimshianic language Gitksan.

remarks to be made good on in a different venue.

3.5.1 Quantitative language

The language we use to express some type of uncertainty about the world around us comes in the forms of the familiar modals like ‘must’ and ‘might’, for example, but also in forms that are explicitly quantitative such as the following:⁵⁰

‘It’s not unlikely that ϕ .’	‘It’s highly probable that ϕ .’
‘It’s more likely than not that ϕ .’	‘Probably ϕ .’
‘There’s at least a 10% chance that ϕ .’	‘It’s twice as likely that ϕ than ψ .’

Currently, there is no consensus about the right type of semantic and post-semantic analysis needed to adequately account for the type of linguistic data we see in the above list. There appears to be three broad types of approaches that one can take in trying to account for the data, however. The first is to treat our probabilistic language as a type of modal operator – like ‘must’, ‘might’, and ‘should’, for example – and use some type of extant possible worlds semantics, or an extension thereof, to account for our quantitative talk. The second is to treat the quantitative talk as some type of predicate and treat the sentences containing the quantitative talk along the lines as normal propositions. When we say something like ‘it’s highly probable that ϕ ’, we’re actually saying something along the lines of ‘ ϕ is highly probable’; that is, we’re predicating high probability to the proposition that ϕ . The last potential way is to treat the quantitative talk as a type of speech act modifier. One way that this has been cashed out has been to use an expressivist semantics and post-semantics. For example, YALCIN (2007, 2010, 2012) argues that sentences containing probabilistic language directly express credences in the prejacent propositions.⁵¹ For example,

⁵⁰Almost all of the examples are from ? or a slight adaptation of one of the examples found in there.

⁵¹Yalcin holds this view for all epistemic modals and not just probabilistic ones.

when we say ‘probably ϕ ’ we don’t say that we assign a high credence to ϕ , we directly express that high credence.

One way to tell between the three competing theories is to look at the types of patterns of distribution we ought to expect to see within language given each particular theory. Given the vast differences in how each theory views the way that we ought to be thinking about the probabilistic talk – the differences will not merely be semantic but also syntactic as well – the views should have very different distribution patterns. For example, if certain types of speech act theories are correct, we should a distinctive lack of preference for the probability terms to be embedded within truth-conditional language. This is not something that we should see or expect to be the case if either the operator or predicate type views are correct. If the predicate view is correct, then we ought to be able to find cases in which the probabilistic predicates are bound in the ways that we expect normal predicates to be bindable. We would also expect to see the predicates being capable of licensing anaphora. These two features are not natural or easy for either the operator or speech act modifier views to predict.

When looking at the natural language data concerning our use of quantitative language, we’ll need to take into account the pragmatic features of the language that may compete with potential semantic explanations. For example, what we can see from an initial look into our quantitative talk is that we can express the probabilistic terms at various levels of precision. For example, there are the precise utterances such as “there’s an 80% chance that Ann Arbor will be below 0C tomorrow.” There are also the less precise utterance along the lines of “it will probably snow tomorrow.” To properly capture the way in which we can use both precise and imprecise language, you could argue that the semantics has some type of tie to imprecise credal states. This could come in the form of directly expressing imprecise credal states, having some type of measure over a set of possible worlds that corresponds to imprecise

credal states, or predicating this type of state to a proposition. No matter which way ends up being the correct way, it would seem that we could have prima-facie defeasible evidence for the existence of imprecise credal states within people. This type of argument is too quick, however, as there are at least two other plausible stories, one being pragmatic in nature, that could account for what's going on as well as the semantic one that ties the language to the imprecise credal states.

The pragmatic way to account for the above data is to say that the imprecision in the above language comes from the lack of necessity in saying something overly precise in those situations. Or one could think of this as the speaker not caring enough to say something especially precise. We are often in situations where there is little to nothing at stake with regard to being as precise as we could be. In these types of cases, it is not surprising that we would use imprecise language instead of something more precise; this is the case even if the type of mental state that we happen to be in that instance is something quite precise. If this is the case, though, then any type of evidence from the imprecision of the language to imprecision of the underlying doxastic state is blocked. We have a type of defeater from going to something more fundamental from our language.⁵²

Another potential way that the imprecision can be accounted for that does not get us any type of evidence for the imprecision of the underlying state is to claim that by and large we are ignorant of our underlying states. This is the type of view that the proponents of representation theorem views hold. The types of deductions that we need to do to get to our actual credal states are quite hard which makes it very hard to get at whatever it is that's actually going on in our heads. Given

⁵²A further pragmatic complication is the following. There is a question that needs to be answered about our use of the language of subjective uncertainty that relates to the exact precision of the claims that we're making. For example, when we say that something is 70% probable, are we saying that it's at least 70% or exactly 70%? (It seems highly unlikely that it means at most 70% outside of highly specified contexts.) If pragmatics is doing quite a bit of work when it comes to this language and because of this the sentences have a much less precise semantic content than we might have initially thought, then what we can potentially learn about the nature of our underlying doxastic states is greatly limited.

that this is the case, when we're using probabilistic language we're doing our best to estimate the precise states that we're mostly ignorant of. Once again, it wouldn't be surprising that we don't use precise language when we're speaking but this doesn't show anything when it comes to the underlying doxastic states.

These two types of worries and explanations show us some things that need to be accounted for when we're looking into our actual natural language expressions of probability. We need to find language where it's plausible that we're not ignorant of our credences or the probabilistic facts relevant to whatever we're talking about. We also need to find contexts where people don't have the type of apathy that would prevent them from saying something precise. One thing that would account for the latter of these two concerns would be cases where the speaker has something at stake when it comes to the probabilistic talk. With this in mind, the natural language data should come from areas of discourse where we can reasonably assume that the above two constraints are met. Two potential areas of discourse where the constraints can reasonably be thought to be met are our talk about politics and sports talk, for example. In both of these cases, there are good probabilistic based models that are trying to predict future outcomes. While there are good models, they tend to be on the "fuzzier" side of the types of formal models for predicting future outcomes⁵³ and there tends to be multiple ones of these as well. These are cases where we can reasonably assume that any agent making a probabilistic claim does not have the apathy that could block us from saying anything overly precise. It also seems as though there are going to be cases, especially within the political realm, where the speakers would not be ignorant of the relevant probabilistic facts. Finding cases such as these can help us when trying to determine the actual best semantics for our probabilistic talk which can help to illuminate questions concerning the nature, and potentially the existence of, our credal states.

⁵³Compared to, say, the models we get for predicting what the weather will be in the future.

What is it that we can potentially learn about epistemology from getting clear on the actual semantics that best models our probabilistic talk? This really depends on how the empirical data actually turns out but the following are some of the types of insights that could happen. The first has already been mentioned above. If it turns out that the only way we can properly model our probabilistic language, with the various features mentioned above accounted for, is by using imprecise credences, then this would be prima facie defeasible evidence for humans actually having imprecise credal states. This would show us that imprecise credences, and the positing of imprecise credal states, are explanatorily useful. While there's the imprecise credence conclusion, there are also other forms of this type of conclusion that we could end up with as well. For example, it could be that no precise credal framework can model our language but not go as far as providing positive evidence for any other framework. It could also end up that only comparative probabilities can do the trick. Any of these would teach us something about epistemology and human doxastic life. To figure out what, exactly, follows from these claims we would need to wade into some difficult questions in both the philosophy of science and philosophy of mind. Within the philosophy of science there are questions about how we should think about certain things that we know to be explanatorily useful but idealizations; things like inflation rates in economics, for example. If we should think of imprecise credences, or the other types of credal states, in this fashion is a difficult and interesting question but one that I will not be taking a stand on at the moment. Another difficult question that I will not be taking a stand on has to do with what it means to ascribe mental states to an agent, specifically what it means to ascribe imprecise credal states to agents. In particular, does this go above and beyond being an explanatorily useful way to think about agents.⁵⁴

There's also a real possibility that we could be left in a position that leads to some

⁵⁴Carrying out the project in earnest would require dealing with these two problems, though.

type of scepticism about the existence of credence like states altogether. If the only way to properly model our probabilistic talk is as full-belief like states with probabilistic content acting as predicates, we should take this as some type of evidence against humans having distinctive credal like doxastic states. The result of this linguistic research plan might be to make us think very seriously about credences as a giant mistake.

3.5.2 Evidentiality and evidence

A naïve, intuitive, model for the epistemic use of *must* says that *must* ϕ is true just in case ϕ is entailed by what is known; that is, ϕ is a subset of the set of worlds compatible with what is known. A problem with the naïve theory is that it predicts that we ought to be able to say things that we are not able to. Given that *must* ϕ is true when ϕ is a subset of what is known, then you ought to be able to use *must* ϕ in all cases where you know ϕ . This is a bad prediction, though. Imagine a case in which you are looking out of a window and you can see it suddenly start to rain. This is a case in which you know that it is raining, yet (15a) doesn't seem assertable whereas (15b) does.

13. Seeing the rain storm
 - a. #It must be raining.
 - b. It is raining.

But now imagine a case in which you cannot visually see that it's raining outside but rather you just see wet people entering the room with wet umbrellas. In this case, (15a) is fine. Given that the naïve view has no way to handle the above case it needs to be replaced by one that can explain why *must* is only acceptable in certain evidential scenarios.

One way of updating the naïve semantic for *must* can be found in VON FINTEL AND GILLIES (2010). The updated semantic is roughly the naïve view but with a presupposition that our direct information in the context does not directly settle the truth of the prejacent. If our direct information settles the truth of the prejacent, then $\llbracket \textit{must } \phi \rrbracket^{c,w}$ isn't defined. When it is defined, it is true just in case the modal is a subset of the prejacent-worlds; just like the naïve view said.⁵⁵ If von Fintel and Gillies are correct about how we must use *must*, then we have to treat it as having two components: one, the modal force of the claim; two, as a marker of indirectness of evidence.

That there can be terms in a language that mark an information source is not something unknown to linguistic theorizing. These type of terms have been called “evidentials” and evidentiality has been thought of as a linguistic category that specifies the source of information such as sensory observation, inference, or hearsay. Moreover, it's not a mere quirk of English *must* that it makes a distinction between direct and indirect evidence source and is only felicitous when used with the latter. Every language with a grammaticized evidential system will have a distinction between direct and indirect evidential contexts as a basic distinction.⁵⁶ While many evidential systems within languages encode sources of information in a more robust way than just direct and indirect, it is the case that this basic distinction will be present in all of these systems as well.

One area which the theorizing about evidentials in natural language appears to directly impinge on epistemological matters has to do with testimony and the type of evidence we ought to think we get via testimony. There is a lively and ongoing debate within epistemology as the exact type of evidence we gain via testimony. Does it have

⁵⁵For two different formal implementations of this semantics for *must*, see §7 of VON FINTEL AND GILLIES (2010)

⁵⁶This finding can initially be found in WILLETT (1988). Many contemporary linguists working on the phenomena of evidentiality continue to use this as a starting point in their theorizing, though. This is true even in the cases where they disagree with the other ways in which WILLETT categorized the distinctions encoded within evidentials.

the same type of status as perception or is it something different? Looking at whether certain evidentials, and which of the evidentials, are licensed when the information source is testimonial could act as a guide to determining the epistemic status of testimony. If the evidentials licensed when there were testimonial information sources always patterned with the evidentials that are licensed for perceptual information sources, then we would have reason to think that there's not something explanatorily useful or interestingly different between the the two. This is because language would have encoded perception and testimony into evidential systems in the same manner.

Looking at English and the evidential behaviour within it would not be the way to move forward with the above type of research. The reason for this is that it's that English lacks a fully grammaticized evidential system. That means that there is not a grammatical category of evidential within English that sentences need to include in order to be felicitous. It's actually quite rare within English that we indicate our source of evidence. Languages with grammaticized evidential systems require that the information source is indicated in every sentence. Looking to these languages and how testimony is treated in them compared to other potential sources of information will be required to carry out this type of research program.

Conclusion

Throughout, I have tried to show that the methodology of using linguistic theorizing in order to inform our first-order epistemic theorizing is both viable and in line with the existing practices within epistemology. From here, I've look at some potential avenues for future exploration within meta-epistemology. Specifically, looking into the semantic insights found within the epistemic modals literature and using these to help inform questions in the epistemology of evidence, justification, and credences. Being able to properly follow through on this project would require determining the best linguistic theories for the modals, which is part of a larger and ongoing project.

APPENDICES

APPENDIX A

Syntactic Details of Know-how

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Syntax of embedded questions with untensed clauses

While there are the two distinctive features of knowledge-how and knowledge-wh ascriptions, there is a standard constituent structure in linguistics for embedded questions containing untensed clauses. Glossing over the details, the standard syntactic structure of (11) and (12a-d) is the following:

14. a. Liz knows [how PRO to play the French horn t]
- b. Liz knows [where PRO to find free food t]
- c. Liz knows [whom PRO to call t for aid]
- d. Liz knows [which door PRO to go through t]
- e. Liz knows [why PRO to vote for Thomas Mulcair t]¹

¹According to Stanley and Williamson “‘PRO’ here is a phonologically null pronoun that occurs, according to standard syntactic theory, in the subject position of untensed clauses. The occurrences of ‘t’ in (18a-e) are the traces of movement of the phrases ‘how’, ‘where’, ‘whom’, ‘which person’, and ‘why’, respectively. These traces occur at the site from which the phrases have been moved.” pg. 419.

The crucial feature of this final assessment of the syntax of knowledge-how claims is that *knows* takes a sentential complement that contains an embedded question with an untensed clause. We will see in the next subsections how the semantics of embedded questions, infinities, and PRO entails that knowledge-how ascriptions just are knowledge-that ascriptions.

Embedded questions

The semantic theory used by the Intellectualists to determine the denotation of embedded questions will be Karttunen's theory about question found in "Syntax and Semantics of Questions." According to Karttunen's semantics, an embedded question denotes the set of its true answers. Consider the following knowledge how ascription that includes an embedded question:

15. Bret knows whom Evan likes.

According to the Karttunen semantics the embedded question "whom Evan likes" denotes the set of true propositions expressed by sentences of the form "Evan likes x". When it comes to the knowledge ascription that the question is embedded in, the ascription is true just in case for each proposition p in the set of true answers to "whom Evan likes", Bret knows p.

When it comes to these types of knowledge ascriptions, however, the subject does not need to know all of the possible propositions of the form "Evan likes x". This is because context plays a role in determining which members of the set are relevant to the knowledge ascription. If, for example, Evan was in a play and the context was about which fellow actors Evan liked, then (15) would be true if Bret knew all of the other actors Evan liked; (15) would still be true even in a case where Bret did not know any of the true answers to "whom Evan likes" for contexts outside of the theatre. The full account of the truth-conditions for (15) is as follows:

$\llbracket \text{Bret knows whom Evan likes} \rrbracket = 1$ relative to context c iff for each proposition p in the set of true answers to ‘whom Evan likes,’ Bret knows p .

With this, we now have the full account of the semantics of embedded questions on the table which is the first step towards the semantics of knowledge-how ascriptions. I will now turn towards the second step towards the semantics.

PRO interpretation

In the syntactic analysis of knowledge-how ascriptions there is the phonologically null pronoun, PRO, that occurs and needs to be analysed semantically. There is a complication when we try to semantically analyse PRO while it occurs within an embedded question with an untensed clause, however. The complication is that PRO has two distinct, and mutually exclusive, interpretations in these contexts.

PRO, when found in an embedded question with an untensed clause, can be interpreted as in a context of obligatory control or one in which it is arbitrary. In a context of obligatory control, PRO receives its interpretation from the subject of the main clause.² For example, in the sentence “Nathan wants to win the game”, PRO receives the following interpretation:

16. Nathan_{*i*} wants PRO_{*i*} to win the game.³

This is a case where PRO is obliged to get its reference from *Nathan*. In the end, the sentence means “Nathan wants Nathan to win the game”. But as previously mentioned, when PRO occurs in an embedded question with an untensed clause it can take on a different interpretation; one where PRO does not get its referent from the subject of the main clause.

²This is also the standard interpretation of PRO when it is not found in an embedded question with an untensed clause.

³In this example PRO’s co-indexation with the element to its left (Nathan) represents a relation of referential dependence.

In the cases where PRO does not get its referent from the subject of the main clause the PRO gets interpreted in the the so-called ‘PRO-arbitrary’ manner. In these cases, PRO is interpreted as roughly equivalent to ‘one.’ Consider the following sentence “Chelsea knows how to indulge oneself” which has the following syntactic structure:

17. Chelsea knows how PRO to indulge oneself.

This sentence is grammatically acceptable – albeit not nearly as natural as the sentence “Chelsea knows how to indulge herself” – and, more importantly, is a case in which PRO can only be interpreted as *one*. The reason for this is that the *oneself* that occurs at the end of the sentence is an anaphor in the syntactic sense. This means that *oneself* requires its antecedent to be within the same minimal clause. This being the case, the use of *oneself* can be licensed only if the occurrence of PRO is interpreted as *one*.⁴ The general consensus within the linguistic literature is that both interpretations of PRO within embedded questions are acceptable. As mentioned above, both of these possible interpretations will be used when discussing the semantics of knowledge-how ascriptions.

Infinitive interpretation

The final semantic analysis that needs to be accomplished before moving on to knowledge how-ascriptions is that of the infinitives that are within embedded questions with untensed clauses. The interpretation of the infinitives presents the same problem as we just saw with the interpretation of PRO; there are two distinct interpretations of the infinitives. On one of the standard use of infinitives, the infinitive is interpreted to have some sort of deontic modal force; that is, they carry with them some type of *ought* claim. Consider the following examples:

18. Rima is the person to call for advice.

⁴This analysis is due to (STANLEY AND WILLIAMSON, 2001, p.423).

19. The wrench to use is a monkey.

The full semantic analysis of both (18) and (19) include an ought claim. (18) means something along the lines of “Rima is the person you ought to call for advice” and (19) means something akin to “the wrench you ought to use is a monkey”. But as previously mentioned, this is not the only possible interpretation for infinitives.

In some contexts, infinitives do not bring with them some type of deontic modal force, rather, they carry with them some type of modal force related to possibility. In this type of infinitive, instead of an *ought* found in the semantic analysis there will be a *can*. We can see this in the following example:

20. Hakeem asked where to board the train.

There is a legitimate reading of (20) where Hakeem is asking where he can board the train or where it is permissible for him to board the train; not where he ought to board the train.⁵ Hakeem would want as a response a proposition whose informational content is something like that expressed by “w is a place for Hakeem to board the train”. Sentences such as (20) show us that infinitives have two distinct readings; the deontic reading and the possibility reading. And on the possibility reading, a use of *to F* semantically expresses something along the lines of *can F*.

Semantics of know how

Now that the semantic analysis of embedded questions, the phonologically null pronoun PRO, and infinitives have been given, I can now semantically analyse knowledge-how ascriptions. As has been previously stated, knowledge-how ascriptions contain

⁵While the reading I just gave is an acceptable reading, it is also acceptable to read (20) to have the deontic modal force found in (18) and (19). It might be the case that whenever you have an infinitive with the possibility modal force it can also be interpreted to have the deontic modal force. While it is beyond the scope of this paper to try and settle this issue, it seems to me that the context in which the infinitive is found will play a large role in determining which interpretation the infinitive ought to have. For example, if we were not given any context before hearing (20) then it seems completely reasonable to interpret the infinitive either way. But if the context was one in which Hakeem was ignorant of the locations in which someone could board the train, then the possibility modal force reading seems to be the correct one.

embedded questions that have the phonologically null pronoun PRO and an infinitive. Given this structure, knowledge how ascriptions will have four distinct semantic interpretations. Using example (11), we get the following four possible interpretations:

21. a. Liz knows how she ought to play the French horn.
- b. Liz knows how one ought to play the French horn.
- c. Liz knows how she could play the French horn.
- d. Liz knows how one could play the French horn.

Of these four possible interpretations, only (21c) and (21d) are at issue for the claim that knowledge-how ascriptions are distinct from knowledge-that ascriptions. This is because both (21a) and (21b) attribute some kind of propositional knowledge to Liz, which is a form of knowledge-that.

This not a complete semantic analysis of knowledge-how ascriptions, however. In order to achieve the completed semantic, Karttunen's semantics of embedded questions needs to be applied to (21c) and (21d) (for the sake of brevity, I will only apply Karttunen's semantics to (21c), though.) Karttunen's semantics applied to (21c) predicts that:

[[Liz knows how she could play the French horn]] = 1 relative to context *c* iff for all propositions *p* expressed by the sentence of the form "w is a way for Liz to play the French horn", Liz knows *p*.

When building in the context into the truth-conditions, it means that Liz would not need to actually know all the propositions of the form "w is a way for Liz to play the French horn" but rather she only needs to know some of the propositions. That is, for some way *w*, Liz knows that *w* is a way for Liz to play the French horn. This analysis gets the Intellectualists what they were looking for: knowledge-how ascriptions being reducible to knowledge that ascriptions.

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