English *some* as an epistemic indefinite

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1 Introduction

Indefinite determiners are used to introduce entities into the discourse which are not known mutually to speaker and hearer. In English, the class of indefinites includes \( \{a, \text{some}, \text{one}, \text{etc.}\} \). These contrast with definite determiners, like \textit{the}, which mark an entity as known to both interlocutors.

An indefinite noun phrase is typically considered ambiguous between two readings. A specific interpretation is one in which the referent is known to the speaker, but not to the hearer. In this case, the speaker is assumed to have a particular individual in mind. A non-specific reading assumes that the identity of the referent is unspecified, and simply makes an existential claim. Say, for example, we are discussing the love life of a mutual friend. I might utter (1). This sentence has two interpretations, given in (2) and (3). On the first, I am simply highlighting Jenna’s preference for the blond-haired, blue-eyed men of Sweden in her choice of men to date. On the second interpretation, I am sharing the news that our friend has set her sights on a particular Swedish man, whose identity I know, but you do not.

(1) Jenna wants to date a Swede.

(2) \( \text{want}(Jenna, \^\exists x \text{[Swede}(x) \& \text{date}(Jenna, x)]) \)

(3) \( \exists x \text{[Swede}(x) \& \text{want}(Jenna, \^\text{[date}(Jenna, x)])] \)
Among the English indefinites, *some* has a unique characteristic which sets it apart. On its specific reading, *some* imparts information about the knowledge state of the speaker with respect to the referent noun phrase, specifically, that the referent is “unfamiliar” or “unknown” to the speaker. This seems contradictory, since the specific reading requires the speaker to have a particular individual in mind. However, the implication is highlighted when we consider the acceptability of a continuation which identifies the referent. In (4), the continuation [Namely, Tom] is acceptable when the determiner *a* is used. With *some*, however, this continuation is quite odd.

(4) A boy ate the last piece of pie. [Namely, Tom.]
(5) Some boy ate the last piece of pie. ![Namely, Tom.]

It seems that this connotation about the knowledge state of the speaker is coded into the meaning of *some*. This feature renders *some* unique among indefinites in English, and situates it in a crosslinguistic spectrum of marked forms which exhibit similar features. Here, the distinctive qualities of *some* are explored from both a semantic and a pragmatic view.

Section 2 characterizes in detail the unique features of *some*. In Section 3, I outline several modern theories on specific indefinites in order to develop a semantic framework for a detailed discussion of the speaker-knowledge component of *some*. In Section 4, I discuss a crosslinguistic subclass of indefinites, called epistemic indefinites, which explicitly signal speaker ignorance. I present two major theories on the epistemic component and consider how *some* might fit into the spectrum of epistemic indefinites. Finally, Section 5 concludes with a discussion of the gaps in current framework and directions for future study.
2 The epistemic character of English *some*

It is clear that the use of *some* places special restrictions on speaker knowledge. When paired with a singular noun phrase, *some* signals that the speaker does not know the identity of the individual to which the NP refers. In this respect, *some* contrasts with other existential determiners, like *a*, which are compatible with a context in which the speaker has knowledge of the referent. Consider the following scenario:

**Scenario 1**

A friend and I are sitting in the cafeteria. My friend leaves his lunch on the table and leaves the room for a moment. While he is gone, a girl enters, takes his lunch, and leaves.

When my friend returns to find his lunch has gone missing, I utter (6).

(6) **Some** girl just took your lunch. #Namely, Laura.

In (6), as in (5), the [Namely...] continuation is infelicitous when paired with *some*. Though my friend knows nothing of what transpired in his absence, my choice of determiner signals that I have certifiable evidence that his lunch was taken by a girl, but that the girl in question is unfamiliar to me. If I were to utter (7), the hearer might imply that the referent is unknown to me, but this detail could be easily clarified by the same continuation which is impossible in (6).

(7) **A** girl just took your lunch. Namely, Laura.
In order to characterize the sort of “unfamiliarity” that some imparts, we must consider the ways in which an individual can be identified. Aloni (2001) proposes several modes of identification, among them description, ostension, and naming. These modes fare differently when paired with some. Consider again the scenario above, in which a mystery girl has swiped your friend’s lunch. As a witness to the theft, you are able to provide a reasonably accurate description of the girl, and could, perhaps, even point her out, if she were to return to the scene of the crime.

(8) Some girl just took your lunch. She was wearing a yellow raincoat. / Look! There she is!

However, it would not be expected for you to know the name of the thief.

(9) Some girl just took your lunch. #It was Jessica.

Here, as in the [Namely...] examples, it seems that some is incompatible with identification by naming. But consider (10).

(10) [I have an appointment with the chair of the linguistics department at a café on campus. I have never met him before. A friend asks me who I am waiting for.]

I am meeting some professor here. His name is Richard Larson. / He’s the department chair for linguistics.
In (10), both continuations are perfectly acceptable; it seems that *some* can be paired with both description and naming. Upon closer inspection, however, it is clear that in this case what appears to be naming is actually another form of description. The continuation [His name is Richard Larson] serves only to provide additional information about the referent; it does not signify “knowing” on the part of the speaker. Knowledge of the name is derived from an outside source, not from acquaintance with the individual. Likewise, we could use naming in a descriptive sense in the Scenario 1, if an alternative source supplied the information.

(11)  

S: Some girl just took your lunch. Her name is Jessica.  
H: How do you know?  
S: She was wearing a name tag.

*Some*, then, is compatible with description—it is possible for the speaker to know information about the referent of a *some* NP, possibly even his or her name, if the referent is human. It is also compatible with ostension—*some* may be used felicitously in a scenario in which the speaker can point to a referent that is in the field of view of both speaker and hearer. But *some* is not compatible with naming as a mode of identification; that is, it cannot be used in a scenario in which by naming the referent, the speaker indicates that he knows the identity of the individual. Here, the boundaries of what constitutes “knowing” lack a clear definition. For clarification, let us consult Russell (1905) and his Theory of Description.

Russell proposes two types of knowledge, which Neale (1990) succinctly terms “knowing that” and “knowing which” (16). Knowing *which* refers to knowledge by acquaintance, the kind of knowledge required for a genuine referring expression, such as a proper name. Russell affirms,
To understand a name you must be acquainted with the particular of which it is a name, and you must know that it is the name of that particular (1918: 205, cited in Neale 1990:16).

The use of a referring expression $b$ creates an object-dependent proposition, one that is dependent upon the identity of the referent of $b$. If the object referred to by $b$ does not exist, then no proposition can be expressed.

Knowing *that* is a kind of knowledge by description, the knowledge we have of “the Queen of England$^1$” or “that man in the corner.” Knowledge of something by description, as Neale points out, “is not really knowledge *about* an individual at all” (17). According to Russell,

> An object is “known by description” when we know that it is “the so-and-so,” i.e. when we know that there is one object, and no more, having a certain property (1911:156, cited in Neale 1990:17).

A descriptive, or object-independent, proposition is one which is not dependent upon the existence of any individual in particular. Paired with a monadic predicate, of the type ‘—is G’, a definite description expresses a perfectly determinate proposition, regardless of whether there is any individual that satisfies the description. Furthermore, that proposition can be understood by a hearer who does not know who or what is denoted by the description. For illustration, consider (12).

\begin{equation}
\text{(12) This morning my father had breakfast with [the King of France].}
\end{equation}

\text{(Neale 1990: 27)}

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$^1$ Assuming her highness is not a personal friend.
The hearer need not be acquainted with the King of France to understand the proposition expressed by (12). And, given that there is no King of France, it remains evident that a speaker of (12) at this moment in time will have expressed a determinate proposition, one that is clearly false.

Russell groups quantified noun phrases with descriptions, in a category he calls “denoting phrases.” This classification is suitable for quantificational readings of a determiner like *some*. Suppose that \( a, b, \ldots, z \) are all students who attend a particular high school. A friend, who is reading the newspaper, says to me:

(13) Some student who goes to Ward Melville won the Intel science competition.

It is clear that I can understand the proposition expressed by this statement and, upon hearing it, come to have the belief that a student at Ward Melville was the winner of the Intel competition, without knowing of any of \( a, b, \ldots, z \) that they are students who attend Ward Melville High School. Not knowing which individual is denoted by [some student who goes to Ward Melville] does not impede my ability to understand the proposition expressed by the utterance of (13).

But what about specific readings of *some*? As we will see in Section 3, some theories hold that specific indefinites act like referring expressions, and most acknowledge that they are semantically distinct from quantificational interpretations. In the stolen lunch example, *some* could be easily replaced by the demonstrative *that* if the girl in question remained available for ostension.

(14) Some girl took your lunch.

(15) That girl took your lunch. (pointing to the culprit)
The referent is an individual with whom the speaker has had recent epistemic contact, a feature which Russell claims qualifies as a mode of acquaintance. Furthermore, Russell classifies demonstratives as genuine referring expressions, and it seems that *some* is acting in much the same way. However, according to Russell’s definitions, in order to understand an object-dependent proposition, the hearer must be acquainted with the referent. For (14), it is clearly not the case that the hearer’s ability to understand the proposition is contingent upon his knowledge of which girl the speaker is referring to.

Furthermore, if an utterance contains a referring expression which lacks a referent, then, according to Russell, no proposition has been expressed. Conversely, an utterance which contains a definite description expresses a determinate proposition regardless of whether or not there is any individual that satisfies that description. Consider a scenario in which the referent is in the field of view of both speaker and hearer.

**SCENARIO 2**

James and Christine are talking in the lounge of the linguistics department late at night.

Suddenly, a familiar song begins playing in a neighboring office. James and Christine see a man in a suit climb onto the desk and begin to dance.\(^2\)

In this context, Christine could felicitously utter (16).

(16) **Look! Some professor is dancing the Macarena on the table.**

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\(^2\) This context is a simplified version of the lambada-professor example presented in Alonso-Ovalle and Menéndez-Benito (2003: 4).
In summarizing Russell’s views, Neale (1990) suggests that objects in our perceptual fields are entities with which we can be directly acquainted; thus, we would expect that since the referent in (16) is plain to both interlocutors, *some* could be interpreted as a referring expression. But here it is clear that in the absence of a dancing professor, the speaker will still have expressed a proposition; he will have said something false. In Russelian terms, then, *some* NP denotes a description rather than a genuine referring expression, knowing *that* rather than knowing *which*.

Then, the question becomes, how is *some* distinct from other denoting expressions, such as existential *α*? Neale (1990) notes that to know something by description, it is not necessary to have any kind of epistemic contact with the object, but this does not “preclude the possibility that something that is the unique satisfier of some definite description or other is also known to us by acquaintance” (51).

Quoting Russell,

> We shall say that we have ‘merely descriptive’ knowledge of the so-an-so when, although we know that the so-and-so exists, and although we may possibly be acquainted with the object which is, in fact, the so-and-so, we do not know any proposition ‘*α* is the so-an-so’, where *α* is something with which we are acquainted (1911: 156, cited in Neale 1990: 51).

*Some*, however, seems to presuppose the speaker’s ignorance—in the “knowing *which*” sense—to the identity of the referent. This feature of *some* is unlikely to be an implicature, since it is not easily cancelled. Furthermore, it persists under negation and other downward-entailing operators. How to characterize this feature pragmatically is a matter addressed in Section 4.

So *some*, like other existential determiners, can have specific and non-specific readings. When paired with a singular NP, it conveys ignorance on the part of the speaker with respect to the identity of the referent. On the Russelian view, *some* conveys knowledge by description, and the speaker ignorance component implies a lack of direct acquaintance with the referent. Nonetheless, *some* is
compatible with ostension: it is felicitous in scenarios in which the referent is in the field of view of both
the speaker and the hearer.

While it seems likely that a pragmatic account will be necessary for the speaker-ignorance
component of some, it will be useful to consider some competing theories on the semantics of
indefinites, particularly with respect to the distinction between specific and non-specific uses. This
framework, laid out in the next section, will support a later discussion of the pragmatic character of the
epistemic component observed for some and other indefinites crosslinguistically.

3 Modern analyses of specific indefinites

This section presents a number of theories which are, in one aspect or another, in competition.
They are presented here chronologically by year of publication\(^3\), which reveals a degree of evolution;
each successive theory draws on one or more strengths from the earlier models and employs new
strategies and modifications to account for inconsistent data. In the process, these authors catalogue a
number of important observations about specific indefinites.

3.1 Referential and quantificational indefinites?

In opposition to Russell’s Theory of Description (1905) are those models which classify specific
indefinites as referring expressions, among them, Fodor and Sag’s (1982) paper: Referential and
quantificational indefinites. Although we have already considered that such an analysis is flawed, and
additional observations about the scoping behavior of specific indefinites will confirm this supposition,

\(^3\) This organization does not necessarily intend to highlight one theory as better or more feasible than another;
each, as I note throughout this section, has strengths and weaknesses. I have selected these works in an attempt
to provide a concise yet complete framework for the pragmatic consideration of some and other epistemic
indefinites, which follows in Section 4.
Fodor and Sag’s theory nonetheless makes a principal contribution to the discussion of indefinites: the binary distinction between quantificational and specific interpretations.

Fodor and Sag observed that existential indefinites exhibit unusual scoping behavior. Indefinites are traditionally considered to be quantifiers, which are scoped elements subject to constraints on syntactic movement. But specific readings of existential determiners like some show a strong preference for maximal wide scope. To illustrate, consider (17). On the non-specific reading in (a), the indefinite NP [a teacher] has narrow scope with respect to many. On the specific reading in (b) the indefinite has wide scope over many, construing that there is one particular teacher that many students despise.

(17) Many students despise a teacher in our school.
   a. (many y student(y))[(∃x teacher-in-our-school(x)) [despise(y, x)]]
   b. (∃x teacher-in-our-school(x))[(many y student(y)) [despise(y, x)]]

Fodor and Sag note that “when a sentence contains two quantified noun phrases at the same clausal level, the preferred interpretation is generally the one on which the first quantifier in the syntactic structure takes wide scope over the second (unless the first is more deeply embedded than the second (1982:11). The fact that indefinites readily receive wide scope over quantifiers which precede them is unexpected.

Indefinites also take wide scope over negation. In (18), [a painting] scopes over the negative; the sentence is interpreted to mean that there is a specific painting which Amy dislikes. In the same position, many is unable to get a wide scope reading; (19) is much more naturally construed to mean
that it is not the case that Amy likes many of my Parisian paintings, rather than that she dislikes many of them.

(18) Amy does not like a painting of mine from Paris.
(19) Amy does not like many paintings of mine from Paris.

Fodor and Sag count among their critical facts the observation that indefinites can escape from scope islands. A scope island is a constituent within which the scope of a quantifier is restricted according to normal constraints (Fodor & Sag 1982:15). Relative clauses and if-clauses both act as scope islands, blocking the syntactic movement of elements within them. Even the quantifier each, which exhibits a preference for wide scope in many constructions, cannot escape a scope island. In (20), wide scope for each would mean that for each of my students, John heard a different rumor that he or she had been called before the dean. If I have 31 students, then John must have heard 31 rumors. This reading is not available to native speakers.

(20) John overheard the rumor that each of my students had been called before the dean.

(Fodor and Sag 1982: 369)

Yet, indefinites can scope over the highest clause, even when contained in a scope island. Thus, unlike (20), (21) receives two readings, one quantificational, in which the indefinite NP [a student of mine] scopes inside the relative clause, and one specific, in which it scopes above.
(21) John overheard the rumor that a student of mine had been called before the dean.

(Fodor and Sag 1982: 369)

Indefinites contained within the if-clause of a conditional show a similar pattern of island-escaping behavior. In (22), it seems clear that the NP refers to a particular friend of the speaker, not all the Texans he calls friends. This reading is only possible if the indefinite is able to escape the scope of the if-clause.

(22) If a friend of mine from Texas had died in the fire, I would have inherited a fortune.

(Fodor and Sag 1982: 369)

In contrast, (23) cannot mean that for each friend of the speaker, it is the case that if that friend died, the speaker would have received the inheritance.

(23) If each friend of mine from Texas had died in the fire, I would have inherited a fortune.

(Fodor and Sag 1982: 370)

In fact, the fortune would only have been collected if all of the speaker’s Texan friends had died. Thus, for other quantifiers, the island-escaping behavior observed with indefinites is impossible.

Based on the anomalous scoping behavior observed, Fodor and Sag conclude that an indefinite on its specific reading cannot be treated as a quantifier. They argue that to modify the theory of quantifier interpretation in such a way as to accommodate this unusual scoping behavior would require
a series of ad hoc rules, including a special classification for quantifiers that favor wide scope over other quantifiers and negation. A theory which considers indefinites to be quantifiers that are simply unconstrained by scope islands is too general, since it predicts intermediate-scope readings—in which the indefinite scopes out of the scope island, but under another operator higher in the phrase structure—for sentences in which they are not available. If indefinites can escape all kinds of scope islands, then three readings are expected for (24): the narrow-scope reading in (a), the wide-scope reading in (c), and the intermediate-scope reading in (b).

(24) Each teacher overheard the rumor that a student of mine had been called before the dean.
   a. (∀x teacher(x))[x overheard the rumor that [(∃y student-of-mine(y))[y had been called before the dean]]]
   b. (∀x teacher(x))[ (∃y student-of-mine(y))[x overheard the rumor that [y had been called before the dean]]]
   c. (∃y student-of-mine(y))[ (∀x teacher(x))[x overheard the rumor that [y had been called before the dean]]]

(Fodor and Sag 1982: 374)

According to Fodor and Sag, the intermediate-scope reading in (b) is not available. This data renders clear the need for an alternative analysis to account for the behavior of specific indefinites. However, the non-specific, narrow scope reading is easily handled by a quantifier interpretation. Thus, Fodor and Sag propose that the two readings be treated separately by the semantics. With respect to specific indefinites, this is the greatest contribution of the Fodor and Sag model; though the proposal that
follows has been countered with contradictory data, the semantic distinction between specific and quantificational interpretations has been maintained by most subsequent theories.

Fodor and Sag propose that a narrow-scope reading can be derived from interpreting the indefinite as a generalized quantifier; fittingly, the authors call this a quantificational interpretation. On specific, or wide-scope, readings, Fodor and Sag suggest that the specific reading of an indefinite acts as a referring expression, similarly to a proper name or demonstrative phrase. They call this a referential reading. The Fodor and Sag model does not predict intermediate-scope readings. The putative referential meaning is logically equivalent to a wide scope quantifier reading; theoretically, there are two semantic analyses associated with just one set of truth conditions. However, treating the indefinite NP as a referential NP explains the uncharacteristic scoping behavior observed for indefinites. Unlike quantifiers, referring expressions do not enter into scope interactions; therefore, the indefinite is allowed maximal scope without violating movement constraints.

As further evidence for this proposal, Fodor and Sag note that indefinites bear some important similarities to referential definites. In (25), the indefinite NP [a student in the syntax class] could be effectively replaced, on its specific reading, with the referential NP [this student], as in (26), and still construe the same meaning.

(25) If a student in the syntax class cheats on the exam, every professor will be fired.

(26) If this student cheats on the exam, every professor will be fired.

(Fodor and Sag 1982: 375)

The difference between (25) and (26) has to do with the shared knowledge of the speaker and the hearer. Referential indefinites fill a gap in the language by allowing the speaker to make an assertion
about a particular individual in a scenario in which a definite determiner or a demonstrative cannot be used appropriately, whether because of the absence of that individual for the purposes of ostension or a lack of sufficient descriptive content.

While the theory of indefinites as referring expressions is appealing on some fronts, much of the work that follows demonstrates that this analysis is fundamentally flawed. As Ludlow and Neale (1991) point out, specific indefinites “admit of referential uses...but it is far from clear that referential uses of [indefinites] are reflexes of semantically referential interpretations” (171).

It is worth noting that although they do not narrow the class of indefinites under discussion, Fodor and Sag call attention to the fact that a wide scope reading is not available for all indefinites; *someone*, as shown in (27), does not lend itself naturally to a referential use. Instead, the interpretation in which *many* has wide scope over *a* is strongly preferred.

(27) Many students despise someone.

More attention is given to the question of which indefinites require an alternative analysis in later discussions.

3.2 Some challenges for the referential model

Fodor and Sag conclude that the example in (24) cannot receive an intermediate scope reading, but later work, including Abusch (1994) and Kratzer (1998), presents a series of examples in which the intermediate scope reading for the indefinite is legitimate. These examples typically contain both a scope island and a quantified NP in subject position; the island-escaping indefinite may scope inside or
outside the subject NP. In (28), for example, [a woman] has three scope options: narrow-scope, which generates a quantificational reading; maximal wide-scope, which generates a specific reading; and intermediate scope, in which the indefinite scopes out of the island but inside every.

(28) Every one of them moved to Stuttgart because a woman lived there.

(Abusch 1994: 94)

On the quantificational reading in (29), every member of the contextually determined group X moved because Stuttgart is not womanless. On the wide scope reading in (30), all of them were attracted to one particular woman. The intermediate reading in (31) implies that each individual was compelled by a different woman to relocate.

(29) \( \text{BECAUSE}(\forall x [x \in X \rightarrow \text{moved-to}(x, \text{Stuttgart})], \exists y [\text{woman}(y) \& \text{lived-in}(y, \text{Stuttgart})] \)

(30) \( \exists y [\text{woman}(y) \& \text{BECAUSE}(\forall x [x \in X \rightarrow \text{moved-to}(x, \text{Stuttgart})], \exists \text{lived-in}(y, \text{Stuttgart}))] \)

(31) \( \forall x [x \in X \rightarrow \exists y [\text{woman}(y) \& \text{BECAUSE}(\exists \text{moved-to}(x, \text{Stuttgart}), \exists \text{lived-in}(y, \text{Stuttgart}))] \)

Since Fodor and Sag assume that indefinites with intermediate scope are quantificational, their model cannot account for intermediate readings such as (31), in which the indefinite escapes a scope island. To explain this data, Abusch proposes a modified version of theory presented in Heim (1982), which treats indefinites as free variables that may be bound at different levels in the phrase structure by a variable-binding operator, thereby generating different scope readings. This hypothesis maintains that indefinites, unlike genuine quantifiers, do not contribute their own quantificational force. Instead,
Abusch posits that an indefinite contributes a variable and a restriction on that variable which is “carried up in the course of semantic interpretation and used at the level where the variable is quantified” (1994: 84).

Abusch notes that this model cannot explain the lack of intermediate reading for initial if-clause islands containing an indefinite NP as in (32).

(32) If we invite a philosopher to the party, every guest will be upset.

A maximal wide-scope reading, on which the invitation of a particular philosopher will cause outrage among the party guests, is possible, in addition to the quantificational reading. However, an intermediate scope reading, on which each guest will be incited by the presence of a different philosopher, is not available. Abusch concedes that Fodor and Sag’s idea of a referential indefinites might be useful to explain such an example. Other literature on specific indefinites points to this weakness, among others, to discount Abusch’s proposal.

3.3 Choice Functions

The semantic distinction between quantificational and specific readings proposed by Fodor and Sag is preserved in much of the literature that has followed. Variation among different theories typically centers on how the specific reading should be analyzed. Reinhart (1997) and Kratzer (1998) reject the analysis of specific indefinites as referential and instead propose a choice function.
3.3.1 Choice-function analysis for specific indefinites

Reinhart (1997) observes many of the same problems with the referential model which are raised by Abusch (1994). Sentences containing two quantifiers and a bound pronoun, as in (33), show an intermediate reading in which the indefinite appears to scope out of the clause in which they are contained, but maintain narrow-scope with respect the preceding quantifier. Accordingly, the sentence in (33) has two possible interpretations: the narrow-scope reading in (a) and the intermediate reading in (b).

(33) Every professor will rejoice if a student of his cheats on the exam.

a. \( \forall x \text{ professor}(x)[(\text{student-of}(y, x) \& \text{cheats}(y)) \rightarrow \text{rejoice}(x)] \)

\textit{For every professor }x\textit{, if there is some student }y\textit{ of }x\textit{ such that }y\textit{ cheats on the exam, }x\textit{ will rejoice.}

b. \( \forall x \text{ professor}(x)[\exists y \text{ student-of}(y, x) [\text{cheats}(y) \rightarrow \text{rejoice}(x)]] \)

\textit{For every professor }x\textit{, there is some student }y\textit{ of }x\textit{ such that if }y\textit{ cheats on the exam, }x\textit{ will rejoice.}


(33) may be true even if a student cheats and no professor rejoices, since the intermediate interpretation in (33) assigns different students to each professor. For example, if Professor Larson has two students, Janine and Ava, he may not rejoice if Janine cheats, but would have if Ava had cheated.

The presence of the bound pronoun [his] in (33) rules out a maximal-wide scope or referential reading: there cannot be a single student whose cheating will cause rejoicing among all the professors. Since one of the possible interpretations is eliminated, it is easier to pick out the intermediate reading.
However, intermediate interpretations are possible in the absence of a bound pronoun as well, as Reinhart shows with the example in (34).

(34) Most linguists have looked at every analysis that solves some problem.

a. \((\text{most } x \text{ linguist}(x))[[\text{problem}(y) \land \text{analysis}(z) \land \text{solve}(z, y) \rightarrow \text{looked-at}(x, z)]\]

   \text{For most linguists } x, \text{ if } y \text{ is a problem and } z \text{ is an analysis and } z \text{ solves } y, \text{ then } x \text{ has looked at } z.

b. \((\text{most } x \text{ linguist}(x)) [\exists y \text{ problem}(y) [\text{analysis}(z) \land \text{solve}(z, y) \rightarrow \text{looked-at}(x, z)]]\]

   \text{For most linguists } x, \text{ there is a problem } y \text{ such that if } z \text{ is an analysis and } z \text{ solves } y, \text{ then } x \text{ has looked at } z.

c. \((\exists y \text{ problem}(y)) [(\text{most } x \text{ linguist}(x)) [\text{analysis}(z) \land \text{solve}(z, y) \rightarrow \text{looked-at}(x, z)]\]

   \text{There is a problem } y \text{ such that for most linguists } x, \text{ if } z \text{ is an analysis and } z \text{ solves } y, \text{ then } x \text{ has looked at } z.

(Reinhart 1997: 346)

The possibility that wide scope existentials may be interpreted in-situ is, syntactically and conceptually, an attractive theory. But Reinhart shows that an unselective binding theory, in the vein of Heim (1982), generates the wrong truth conditions for conditionals containing an indefinite NP, the same type of sentence which posed problems for Abusch’s (1994) proposal. In (35), the wide scope reading conveys that there exists some philosopher such that if that philosopher is invited, Max will be offended. The truth conditions obtained by unselective binding, given in (36), convey something quite different.
The formula in (36) states that there exists an individual such that if he were a philosopher and invited, Max will be offended. Accordingly, if (35) is construed as in (36), then in any world in which there are non-philosophers, (35) will be necessarily true. But the actual wide scope reading of (35) is not a necessary truth. A model of unselective binding generates a meaning that the sentence cannot have, and fails to produce the meaning which it does have.

Reinhart proposes an alternative method by which existential indefinites can get a wide-scope interpretation without movement: via choice function. Reinhart maintains, as do Fodor and Sag, that the non-specific, or narrow scope, reading of existential indefinites is derived from a quantifier interpretation. However, she does not consider specific indefinites to be referential; instead she interprets them as pronominal elements which denote a choice-function (from Reinhart 1997: 372):

**Choice function**

A function $f$ is a choice function ($\text{CH}(f)$) if it applies to any non-empty set and yields a member of that set.

Reinhart identifies a specific group of indefinites which may be interpreted via choice function in order to derive the wide-scope interpretation without movement. The relevant group consists only of existentials with unmodified numerals ($a$, *some*, *three*, etc.). On the choice function model, an indefinite determiner which is a member of this group introduces a variable which ranges over choice functions.
Such a variable is bound by an existential operator, which can appear at any level in the phrase structure\(^4\). This process of existential closure can only apply to function variables, not to individual variables. Other generalized quantifiers not included in this group can also generate non-overt scope, but they are governed by movement constraints.

The choice-function model proposed by Reinhart successfully predicts three readings for a sentence like (34), repeated below in (37). The truth conditions for each reading given by the choice-function model are shown in (a-c). The narrow scope reading in (a) does not contain a choice function variable, since it is strictly a quantificational interpretation. The intermediate and wide scope readings are given in (b) and (c), respectively.

(37) Most linguists have looked at every analysis that solves some problem.

a. \((\text{most } x \ \text{linguist}(x))[\text{problem}(y) \ \& \ \text{analysis}(z) \ \& \ \text{solve}(z, y) \ \rightarrow \ \text{looked-at}(x, z)]\)

b. \((\text{most } x \ \text{linguist}(x))[\exists f (\text{CH}(f) \ \& \ \forall y ( (\text{analysis}(y) \ \& \ \text{solves}(y, f(\text{problem}))) \ \rightarrow \ \text{looked-at}(x, y))\]

c. \((\exists y \ \text{problem}(y)) [(\text{most } x \ \text{linguist}(x))[\text{analysis}(z) \ \& \ \text{solve}(z, y) \ \rightarrow \ \text{looked-at}(x, z)]\]

Reinhart’s proposal does not distinguish between a sentence like (33), which contains a bound variable pronoun, and one like (34) which lacks a bound variable but still has three possible readings. However, the anaphoric relationship between a bound variable pronoun is worthy of consideration. Kratzer (1998) builds this relationship into her parameterized choice function.

\(^4\) following Heim (1982) rule of Existential Closure
3.3.2 Parameterized choice functions

Kratzer also proposes a choice function to account for the specific reading of indefinites; this model diverges from the one presented in Reinhart (1997) in terms of how the choice function is determined. Kratzer interprets choice-functions as free variables whose values are derived from context, “often intended by the speaker, but not revealed to the audience” (1998:6). Since they are not bound by an operator in the phrase structure, choice-function variables always demonstrate maximal wide scope; therefore, the model does not generate intermediate scope readings. Instead, Kratzer argues that equivalent interpretations may be derived via “pseudo-scope” (Partee 2005).

Drawing on an analysis of perspectival adjectives from Mitchell (1986), Kratzer proposes that a choice function variable takes an implicit argument, which can receive either a bound variable interpretation or a referential interpretation (1982: 8). These two interpretations induce an intermediate scope reading and a wide scope reading, respectively. On the specific reading of (38), the bound variable pronoun [he] acts as the implicit argument of the choice function $f$, creating a parameterized choice function $f_x$ which selects from the set of all books. For each professor $x$, the function selects a particular book from that set.

(38) [Every professor] rewarded every student who read some book he had recommended.

(39) $(\forall x \text{ professor}(x)) \left[ (\exists f ((\text{CH}(f) \land (\text{student}(y) \land \text{read}(y, f_x(book)))) \rightarrow \text{reward}(x, y))) \right]$

Kratzer (1998: 10)

---

5 This specification echoes the observation made by Fodor & Sag (1982) that the specific, wide-scope (in their terms, referential) reading of an indefinite fills a semantic gap, for an instance in which a speaker wants to “make an assertion about the individual he has in mind, without ostension, and without providing a full description, but also without rendering himself culpable [of using a proper name or singular definite description in an improper context] (380). Indeed, Kratzer herself characterizes the parameterized choice function analysis as only “a slight modification of the Fodor and Sag proposal” (1998:6).
With no parameter for the choice-function, the Reinhart (1997) model cannot account for this type of anaphoric relationship.

Kratzer suggests that if no bound variable pronoun is present, the referent for the implicit argument of the indefinite is the speaker. She calls this a referential reading. In the examples below, I represent the speaker parameter as a subscript $S$. On the reading for (40) given in (41), the choice function selects a certain woman that the speaker has in mind.

(40) Richard is dating some woman.
(41) $\exists f \text{CH}(f)[\text{date}(\text{Richard}, f_s(\text{woman})]

It is clear that (40) cannot receive a bound variable interpretation, since there is no available variable in the denotation to serve as an implicit argument for $f$. However, as Reinhart points out, a sentence like (34), repeated in (42), can still receive an intermediate scope reading, even in the absence of a bound variable pronoun. Kratzer does not address this type of sentence in her paper, but it seems reasonable that the choice function for the proposition expressed by (42) can still be parameterized by [most linguists], even in the absence of a pronoun.

(42) Most linguists have looked at every analysis that solves some problem.
(43) $(\exists f \text{CH}(f)) [(\text{most x linguist}(x)) [\text{analysis}(y) \& \text{solves}(y, f(\text{problem})) \rightarrow \text{looked-at}(x, y)]]$
(44) $(\exists f \text{CH}(f)) [(\text{most x linguist}(x)) [\text{analysis}(y) \& \text{solves}(y, f_s(\text{problem})) \rightarrow \text{looked-at}(x, y)]$
For the wide scope reading of (42), the choice function proposed by Reinhart, given in (43) looks nearly identical to the Kratzer version in (44), with one small exception: Kratzer includes an implicit argument for the choice function. When we consider the wide-scope readings in (45) and (46), the fundamental difference between the two models becomes clear.

(45)  (most x linguist(x)) [∃f (CH(f) ∧ ∀y[analysis(y) & solves(y, f(problem)) → looked-at(x, y)])]

(46)  (∃f CH(f)) [(most x linguist(x)) [analysis(y) & solves(y, f_{S}problem)) → looked-at(x, y)]]

According to Reinhart’s model, illustrated in (45), the choice function variable must be bound by an existential operator; it moves within the semantic denotation in order to generate an intermediate-scope reading. On Kratzer’s model, in (46), the choice function is a free variable which maintains maximal wide scope, so no movement is required; simply changing the implicit argument of the choice-function changes the individual it selects. Thus, (44) and (46) have identical denotations, with the exception of the subscripted variable on \( f \).

In a later joint work with Shimoyama, Kratzer proposes a new semantics for indefinites which departs almost entirely from the choice-function analysis. Though the original proposal focuses primarily on non-specific wh-\( \kappa \) indefinites found in Japanese, the authors extend the theory to Indo-European indefinites. Though an adaptation of this theory for English indefinites does not offer any clear advantages over the choice-function model, the semantic framework developed in Kratzer and Shimoyama (2002) provides the basis for some pragmatic analyses of epistemic indefinites in Section 3, and is therefore worth considering here.
3.4 A Hamblin semantics for indefinites

The Japanese analog of indefinites, which scholars of Japanese typically refer to as “indeterminate phrases,” exhibit some singular properties which seem to demand an alternative analysis. Japanese indeterminate phrases can take on existential, universal, interrogative, negative polarity, or free choice interpretations, depending on which operator they associate with. The typological survey of indefinites presented by Haspelmath (1997) suggests that Japanese-style indeterminate pronouns exist in other languages, including Latvian, and thus may constitute a unified class crosslinguistically. Still, the indeterminate phrases of Japanese appear to behave quite differently from Indo-European style indefinites.

Kratzer and Shimoyama (2002) argue that the apparent dissimilarity between these two types is the result of uninterpretable features which are carried on the selective indefinites of Indo-European languages, and that both Japanese indeterminate pronouns and Indo-European indefinites are semantically interpreted via the same mechanism. The authors propose a Hamblin-style semantics in which indefinites introduce sets of alternatives that expand until they reach a matching operator. Hamblin’s original model tackled the semantics of English wh-questions; Hamblin (1973) proposed that the semantic interpretation of a wh-question consists of the set of all possible answers to that question. In a Hamblin semantics, all expressions denote sets of alternatives; most lexical items denote a singleton set. Kratzer and Shimoyama suggest that indefinites are amenable to a similar analysis, on which each indeterminate phrase denotes a set of individuals.

On this analysis, the semantics of the sentence in (47) can be modeled as in (48), with the Japanese universal quantifier *mo* interpreted as a generalized quantifier.
The Hamblin analysis allows for long-distance association between indeterminate phrases and particles, since alternatives can expand across relative clause boundaries. In Japanese, indeterminate phrases are unselective, and can bind to any operator, thereby allowing them to take on different meanings. Unlike Japanese indeterminate phrases, Indo-European indefinites appear to be selective; German *irgendein*, for example, can only have an existential interpretation. Kratzer and Shimoyama suppose that the selective indefinites like *irgendein* carry uninterpretable, but pronounceable features \([\exists], [\forall], [\text{Neg}], \text{or } [\text{Q}]\) that give them their distinctive look. These uninterpretable features must be checked against their interpretable counterparts, which are introduced by an operator higher in the phrase structure.

Moving toward a unified theory, Kratzer and Shimoyama apply this analysis to *irgendein*, which has a free-choice reading under a deontic modal.
Mary musste irgendeinen Mann heiraten.

Mary had to IRGEND-one man marry.

‘Mary had to marry some man, any man was a permitted option.’

(Kratzer and Shimoyama 2002: 10)

In German, a DP headed by *e*in denotes a subset of its common noun set; [ein Mann], for example, refers to a subset of the set of all men. This subset may be a singleton set—in such a case, the indefinite has a specific reading. The *irgend*- prefix widens the domain, so that [irgendein Mann] must denote the set of all men. In (49), the set of alternatives for the indefinite begins as a set of individuals—the set of all men—and grows into a set of propositions of the form [Mary marry x], as in (50). The authors assume that the existential operator [∃] is introduced in conjunction with the modal, blocking the set from expanding beyond this point.

(50) {Mary marry John, Mary marry James, Mary marry Jack...}

The modal *must* requires that one of those propositions be true in every accessible world. However, this does not rule out a scenario in which Mary marries the same man in every world. To account for the free-choice reading, the authors introduce a distribution requirement, which is derived as a conversational implicature. The complete derivation of this implicature is discussed in Section 4.2.

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6 (50) has a second reading, which implies speaker ignorance rather than free-choice: ‘There was some man Mary had to marry, the speaker doesn’t know or care who it was’ (Kratzer and Shimoyama 2002: 10). This ambiguity is discussed in Section 4.1.

7 In assertions which do not contain a modal, an unpronounced existential operator is assumed to reside in the left periphery.
Kratzer and Shimoyama suggest that the relation between an indeterminate phrase and its operator can be characterized syntactically as feature movement. For selective indefinites, such as *irgendein*, feature movement is stopped by non-matching operators; if the Hamblin set reaches a non-matching feature, its interpretation will be blocked and the sentence will be ungrammatical. In (51), the movement of the [Q] feature on [wem] to the [Q] operator is blocked by the negative [nicht], producing an ungrammatical sentence. In (52), there are no intervening operators, so the sentence is grammatical.

(51) *Was hat sie nicht WEM gezeigt?

What has she not to-whom shown

‘What didn’t she show to whom?’

(52) Was hat der Hans WEM gezeigt?

What has the Hans to-whom shown

‘What did Hans show to whom?’

(Kratzer and Shimoyama 2002: 27)

Though the Hamblin analysis is well-suited to the distinct patterns of Japanese indefinites, the extension of this analysis to Indo-European forms does not offer any clear advantages over the choice-function model proposed in Kratzer (1998). With respect to English *some*, the Hamblin model could account for wide-scope readings by limiting the noun subset to a single individual, and narrow-scope readings by widening the domain. However, it is not clear that Kratzer and Shimoyama’s proposal can account for sentences containing multiple quantifiers, which also generate intermediate-scope readings. On the wide-scope reading of (53), there is one particular guidebook such that every traveler has read it.
The Hamblin set would only contain a single individual, as in (54), which would combine with a contextually relevant set of travelers to produce the set of propositions in (55).

(53) Every traveler read some guidebook.

(54) {guidebook A}

(55) {John read guidebook A, James read guidebook A, Jack read guidebook A...}

On the narrow scope reading, a set of contextually relevant guidebooks, as in (56), would combine with a contextually relevant set of travelers in any number of ways, producing a set of propositions like that in (57).

(56) {guidebook A, guidebook B, guidebook C, ..., guidebook Z}

(57) {John read guidebook A, James read guidebook B, Jack read guidebook C, ...}

Since the narrow-scope interpretation is existential, it does not require a particular book to be assigned to each individual in order to be satisfied; in theory, there are multiple Hamblin sets which could satisfy the truth conditions. For an intermediate-scope interpretation, however, it is the case that a particular guidebook maps to each traveler. The mechanism which generates guidebook-traveler pairs must be able to assign the matching guidebook to each individual. It seems that such a mechanism would bear much in common with a choice-function, but I will not attempt to model it here.
In spite of its weaknesses, the model presented by Kratzer and Shimoyama (2002) will be relevant to the pragmatic discussion of epistemic indefinites which I undertake in Section 4.

4 Crosslinguistic work on epistemic indefinites

Having sufficiently laid out the semantic background for a discussion of indefinites, I now turn to pragmatic analysis. An evaluation of the speaker-ignorance component of some necessarily overlaps with a discussion of epistemic indefinites, a crosslinguistic subclass of indefinites which convey information about the knowledge state of the speaker. Marked forms of this classification have been discussed in an array of languages; these include German irgendein\(^8\), Spanish algún\(^9\), Italian un qualche\(^10\) and uno qualsiasi\(^11\), Romanian vreun\(^12\), the Japanese wh- ka indeterminates\(^13\) and others. Though these indefinites have in common a general implication of speaker ignorance, there exists much variation in their functions and the conditions for their felicitous use. Section 4.1 outlines some functions of epistemic indefinites, as well as parameters of variation across the subclass.

4.1 Epistemic indefinites: parameters of variation

Aloni and Port (2010) identify four functions for epistemic indefinites which capture some generalizations about when the epistemic reading is derived.

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\(^8\) Kratzer & Shimoyama (2002); Aloni & Port (2010)
\(^10\) Zamparelli (2007); Aloni & Port (2011)
\(^11\) Chierchia (2006)
\(^12\) Fălăuş (2009)
\(^13\) Alonso-Ovalle & Shimoyama (2012)
The ignorance reading, which Aloni and Port, following Alonso-Ovalle & Menéndez-Benito (2003), call the Modal Variation effect, requires that, from the point of view of the speaker, the set of individuals to which the indefinite NP may refer is greater than one. Alonso-Ovalle (2012) equates this with “partial ignorance: it is not the case that the domain must be maximally wide, as would be required for a total ignorance scenario (such as with English any); instead, the domain must simply be larger than a singleton set. However, this definition of ignorance seems to pose a problem for indefinites like some and irgendein, which are compatible with ostension. Consider again the dancing professor scenario introduced in Section 2:

SCENARIO 2

James and Christine are talking in the lounge of the linguistics department late at night.

Suddenly, a familiar song begins playing in a neighboring office. James and Christine see a man in a suit climb onto the desk and begin to dance.

---

14 Alonso-Ovalle (2012) identifies degree of ignorance as a parameter of variation among epistemic indefinites, citing the total ignorance requirement of irgendein. Aloni and Port (2010) provide conflicting data that irgendein derives a modal variation reading under epistemic modals and on specific readings. I can only speculate that the discrepancies in the literature may correspond to uncertainties in the judgments of native speakers. Certainly, it is not difficult to imagine that intuitions about the speaker-ignorance component may be difficult to extract in certain environments.
Both *irgendein* and *some* may be used felicitously in this scenario, as in (58).

(58)   Look! Some/*irgendein* professor is dancing the Macarena on the table.

(Aloni and Port 2010: 9)

In this context only one individual may satisfy the existential claim: that professor which the speaker and hearer witness dancing on the table. Nonetheless, the use of an epistemic indefinite signals that the speaker does not know the identity of the referent—in Russellian terms, the speaker knows that there exists a professor such that he is dancing on table, but she doesn’t know which professor it is.

In different languages, epistemic indefinites may fulfill all or only some of the functions outlined above. Table 2 summarizes the properties of several forms.

<table>
<thead>
<tr>
<th>Language</th>
<th>spMV</th>
<th>epiMV</th>
<th>NPI</th>
<th>deoFC</th>
</tr>
</thead>
<tbody>
<tr>
<td>German <em>irgendein</em></td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Spanish <em>algún</em></td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Italian <em>un qualche</em></td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Romanian <em>vreun</em></td>
<td>no(^\text{15})</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>

\(^{15}\) Romanian *vreun* has a restricted distribution, discussed in detail in Farkas (2002). It is not licensed in regular affirmative sentences or affirmative existential statements, and therefore cannot derive a spMV reading.
Crosslinguistically, the speaker-ignorance implication is derived most readily under an epistemic modal.

(59) Juan tiene que estar en alguna habitación de la casa.
Juan has to be in ALGUNA room of the house
‘Juan must be in some room of the house.’

In response to (59), it would be infelicitous for the hearer to ask which room Juan is in; by choosing algún, the speaker has signaled that he or she does not know. Similar effects derive for the other epistemic indefinites under consideration. Most epistemic indefinites also derive an ignorance reading in a specific use, as in (60).

(60) Maria ha sposato un qualche professore, [cioè Vito].
Maria has marries a some professor [namely Vito].
‘Maria married some professor, I don’t know who.

(Aloni and Port 2010: 2)

In deontic contexts, much greater variation is seen in the behavior of epistemic indefinites. Of the forms included in Table 2, only irgendein derives a free-choice reading under a deontic modal. The free-choice interpretation does not preclude the ignorance reading, so the sentence in (61) has two possible interpretations, given in (a) and (b).
Mary musste irgendeinen Mann heiraten.

Mary had to IRGEND-one man marry.

a. There was some man Mary had to marry, the speaker doesn’t know or care who it was.

b. Mary had to marry a man; any man was a permitted marriage option for her.

(Kratzer and Shimoyama 2002: 10-11)

Other epistemic indefinites, including Romanian *vreun* and Italian *un qualche*, are infelicitous in deontic contexts. However, Alonso-Ovalle (2012) notes that Spanish *algún* can occur under deontic modals, but does not trigger obligatory domain widening. In this context, *algún* has a modal variation reading: (62) is true even if there are candidates that the department cannot hire, as long as there are at least two possibilities.

(62) El departamento puede contratar a alguno de los candidatos que han solicitado el puesto.

‘The department can hire ALGUNO candidate who has applied for the position’

(Alonso-Ovalle and Menéndez-Benito 2010: 10)

Negative contexts produce additional variation among epistemic indefinites. Aloni and Port (2010) identify an NPI function for epistemic indefinites under negation. This interpretation is derived for three of the four forms considered in Table 2. *Irgendein* derives a narrow scope existential meaning
in negative contexts, as in (63):

(63) Niemand hat irgendeine Frage beantwortet.
Nobody has some question answered.
‘Nobody answered any question.’

(Aloni and Port 2010: 4)

Spanish algún, is infelicitous under sentential negation, but can occur under no es verdad que ‘it is not true that’.

(64) No es verdad que Juan salga con alguna chica del departamento de lingüística.
not is true that Juan goes-out with ALGUNA girl from the department of linguistics.
‘Juan is not dating any of the girls in the linguistics department.’

(Alonso-Ovalle 2010: 12)

In contrast, un qualche is not licensed under negation.

(65) ??Non ho risposto a una qualche domanda.
Not I-have answered to a some question.
# ‘I didn’t answer any question.’

(Aloni and Port 2010: 4)
In addition to varying functions, epistemic indefinites are sensitive to different modes of identification; this parameter of variation Alonso-Ovalle (2012) calls “type of ignorance.” We have already observed that *some* is compatible with both description and ostension, but not naming; *irgendein* shows a similar pattern. Conversely, *algún* and *un qualche* are infelicitous in scenarios in which the referent is in the perceptual field of the speaker. Thus, in the dancing professor scenario, while a speaker of English could single out the referent by ostension and still appropriately use *some* to indicate a lack of acquaintance, *algún* and *un qualche* are ruled out.

(66)  

¡Mira! Algún profesor está bailando encima de la mesa.  

Look! ALGÚN professor is dancing on of the table.  

‘Look! Some professor is dancing on the table!’  

(Alonso-Ovalle & Menéndez-Benito 2003: 4)

On a modal variation definition of ignorance, all epistemic indefinites should be compatible with some type of description, since the domain may be narrowed as long as it remains larger than a singleton set. However, we expect that a uniquely identifying description, one which limits the domain to a particular individual, would be infelicitous with an epistemic indefinite. Indeed, this is the case with *algún*:  

*algún*:  

(67) Juan está saliendo con una chica en el departamento de lingüística. #Es la que tiene el pelo rojo rizado.
‘Juan is dating some girl from the linguistics department. It’s the one with red curly hair.’

A closer look at some reveals that the English indefinite deviates from this expectation. Some is compatible with a description that uniquely identifies the referent. In the stolen lunch scenario, if, after the details of the theft have been relayed, my friend expresses his intentions to seek out the bandit, I might offer:

(68) Check the hallways, she’s the one in the yellow rain jacket.

This sort of description implies that no other contextually relevant individual is donning a brightly-colored rain coat; I am referring to a particular individual. Nonetheless, the continuation in (68) is felicitous with my observation that [some girl] has stolen my friend’s lunch.

The degree of variation among the members of the class of epistemic indefinites poses great challenges for any pragmatic theory. In the next sections, I will present two different theories which posit a unified model for epistemic indefinites crosslinguistically. The two proposals are rooted in fundamentally different semantic models. Alonso-Ovalle and Menéndez-Benito (2010) draw on the Hamblin-style semantics outlined in Kratzer and Shimoyama (2002) to derive the epistemic component as a conversational implicature. Aloni and Port (2010) use a dynamic semantic framework to develop a
theory of conceptual-cover shifts that modify knowledge states by changing modes of identification. Interestingly, no existing proposal for epistemic indefinites makes use of the choice-function model presented in Reinhart (1997) and Kratzer (1998); I consider this observation in more detail in Section 5.

4.2 The free-choice component of *irgendein*

As we saw in Section 3.4, Kratzer and Shimoyama develop a Hamblin-style semantics, based on expanding alternatives, which they apply to both Japanese indeterminate phrases and Indo-European indefinites. The authors select German *irgendein* as a test case for their model. Under a deontic modal, as in (68), *irgendein* derives a free-choice reading.

(69) Mary musste *irgendeinen* Mann heiraten.
    Mary had-to IRGEND-one man marry.
    ‘Mary had to marry some man, any man was a permitted option.’

(Kratzer and Shimoyama 2002: 10)

Similarly to *any* in English, *irgendein* is a domain widener. In (69), the Hamblin set must include a propositional alternative of the form ‘Mary marry x’ for every man x that exists in the world of evaluation. The deontic modal *must* requires that in every accessible world, one of those propositions is true. However, the domain-widening aspect of *irgendein* does not rule out scenarios in which Mary marries the same man in every world. To derive the free choice effect, the Kratzer and Shimoyama add a distribution requirement, which is derived as a conversational implicature.
An analysis of the free-choice component as a conversational implicature based on Gricean reasoning is motivated by two important observations. The first is that the free choice implicature on *irgendein* can be cancelled, as illustrated by (70).

(70) Du musst irgendeinen Arzt heiraten, und das darf niemand anders sein als Dr. Heintz.

“You must marry some doctor or other, and it can’t be anybody but Dr. Heintz.”

(Kratzer and Shimoyama 2002: 14)

In addition, the free choice meaning also disappears in downward-entailing environments, such as under negation.

(71) Niemand musste irgendetemand einladen.

“Nobody had to invite anybody.”

(Kratzer and Shimoyama 2002: 15)

These characteristics offer reliable evidence that the free-choice effect is a pragmatic implicature, and is not part of the semantic meaning of *must*. 

42
Deriving the conversational implicature involves reasoning why the speaker chose the widest possible domain. Following the work of Kadmon & Landman (1993), Kratzer and Shimoyama assume that the use of a domain widener must be justified; in this case, the most relevant justification is avoidance of a false claim. If the speaker utters (69), the hearer will wonder why he or she did not make a stronger claim by limiting the domain. The propositional alternatives generated by the semantics act as competitors for the proposition in (68). Assuming, according to Gricean principles, that the speaker intended speak truthfully, the hearer will conclude that all of these competitors, in which the domain of men is limited to a subset or even a singleton set, are false.

It is important to note that *irgendein* only derives a free-choice reading under a deontic modal. In non-modal contexts, the use of *irgendein* implies that the speaker does not know the identity of the referent, or does not deem it relevant to the conversation. This epistemic effect bears resemblance to the speaker-knowledge component observed with *some*. To extend the analysis presented for free-choice *irgendein* to sentences which do not contain a modal requires the presence of a covert assertoric operator which selects from the set of Hamblin alternatives. Kratzer and Shimoyama make mention of such an operator, assuming “that declarative sentences have assertoric operators that might trigger implicatures relating to the common ground of the conversation” (Kratzer and Shimoyama 2002: 10). Alonso-Ovalle and Menéndez-Benito (2010) and Chierchia (2006), who apply the implicature account to epistemic indefinites in Spanish and Italian, respectively, assume that a covert epistemic modal resides in the left periphery of declarative sentences like (72).

(72) Maria hat irgendeinen Arzt geheiratet.
Maria has IRGEND-one doctor married.

‘Maria married some doctor or other.’

(Alonso-Ovalle 2012: 7)
Kratzer and Shimoyama do not expound their proposal beyond the free-choice effect on *irgendein*, but they predict that their analysis should hold for the epistemic cases. Alonso-Ovalle and Menéndez-Benito (2010) develop Kratzer and Shimoyama’s proposal to account for the epistemic component of Spanish *algún*, drawing crosslinguistic connections which point to a unified theory for epistemic indefinites.

4.3 The modal variation effect

Alonso-Ovalle and Menéndez-Benito take the next step to apply Kratzer and Shimoyama’s proposal to epistemic ignorance readings. Focusing primarily on Spanish *algún*, the authors propose a domain constraint on the indefinite which is modeled as a subset-selection function. The function dictates the type of subset that may be selected as the domain of the indefinite. Operating within an alternative-based semantics, the propositions generated by subsets which are blocked from selection act as pragmatic competitors for the intended proposition, generating a conversational implicature.

As noted in Section 4.1, *algún*, unlike *irgendein*, does not derive a free-choice reading under a deontic modal. Under epistemic modals and in specific uses, *algún* gets a modal-variation, or partial ignorance reading. To illustrate, consider the following scenario:

**Scenario 3**

The speaker and Juan are playing a game of hide-and-seek in a house which contains three rooms: the bedroom, the bathroom and the living room.

The modal variation effect requires only that the domain of *algún* contain more than one epistemic possibility. Since the house has three possible locations in which Juan could be hidden, the sentence in
(73) could be uttered felicitously even if the speaker is certain that Juan is not in the living room.

(73)  

Juan está en alguna habitación de la casa.  

Juan is in ALGUNA room of the house  

‘Juan must be in some room of the house.’  

(Alonso-Ovalle and Menéndez-Benito 2010: 4)

However, if the speaker is certain that Juan is hiding in the living room, the use of algún would be inappropriate.

The authors argue that to derive a modal variation reading, algún imposes an antisingleton constraint on its domain. In the framework of an alternative-based semantics, this constraint requires the selecting operator to choose a subset containing more than one individual. Alonso-Ovalle and Menéndez-Benito model domain restrictions as subset-selection functions, functions which take a set and return one of its non-empty subsets. All quantifiers, including indefinites like algún, are assumed to introduce a covert element $f$, which is interpreted as a variable over subset-selection functions. This variable selects a subset of the set denoted by the noun phrase. In this framework, the free-choice component of irgendein and the anti-singleton constraint on algún are constraints on the value of the selection function: for free-choice irgendein, the selection function must be that which selects the largest possible subset from the noun set; for algún, the subset selection function must be one which chooses subsets containing more than one individual. Similarly, we would expect a cardinal quantifier, like three, to require a function that only selects subsets with a cardinality of 3.
On this model, the sentence in (73) has the following truth conditions, where \( f \) is the subset selection function for \( \text{algún} \).

\[
\square_w \exists x [x \in f \{\text{bedroom, living room, bathroom}\} \& \text{in}_w(x)(j)]
\]

\(|f \{\text{bedroom, living room, bathroom}\}| > 1

Given the anti-singleton constraint on \( \text{algún} \), (73) can express four possible propositions, given in (75).

\[
P_1 \quad \square_w \exists x [x \in \{\text{bedroom, living room, bathroom}\} \& \text{in}_w(x)(\text{Juan})]
\]

\( ( = \square_w [\text{in}_w(\text{bedroom})(\text{Juan}) \lor \text{in}_w(\text{living room})(\text{Juan}) \lor \text{in}_w(\text{bathroom})(\text{Juan})] )
\]

\[
P_2 \quad \square_w \exists x [x \in \{\text{bedroom, living room, bathroom}\} \& \text{in}_w(x)(\text{Juan})]
\]

\( ( = \square_w [\text{in}_w(\text{bedroom})(\text{Juan}) \lor \text{in}_w(\text{living room})(\text{Juan})])
\]

\[
P_3 \quad \square_w \exists x [x \in \{\text{bedroom, living room, bathroom}\} \& \text{in}_w(x)(\text{Juan})]
\]

\( ( = \square_w [\text{in}_w(\text{living room})(\text{Juan}) \lor \text{in}_w(\text{bathroom})(\text{Juan})])
\]

\[
P_4 \quad \square_w \exists x [x \in \{\text{bedroom, living room, bathroom}\} \& \text{in}_w(x)(\text{Juan})]
\]

\( ( = \square_w [\text{in}_w(\text{bedroom})(\text{Juan}) \lor \text{in}_w(\text{bathroom})(\text{Juan})])
\]

Alonso-Ovalle and Menéndez-Benito (2011: 219)

As Kratzer and Shimoyama posited for free-choice \emph{irgendein}, the use of an antisingleton indefinite triggers a competition with the alternative assertions that would result from restricting the domain to a singleton. Upon hearing (73), the hearer will wonder why the speaker did not make any of the stronger
assertions in (76). The hearer will assume that the speaker intended to avoid a false claim, and will conclude that the competitors in (76) are false.

\[(76)\]  
\[\Box_w \exists x [x \in \{\text{bedroom}\} \land \text{in}_w(x)(\text{Juan})] \]

\[(= \Box_w (\text{Juan is in the bedroom in } w))\]

\[\Box_w \exists x [x \in \{\text{bedroom}\} \land \text{in}_w(x)(\text{Juan})] \]

\[(= \Box_w (\text{Juan is in the bedroom in } w))\]

\[\Box_w \exists x [x \in \{\text{bedroom}\} \land \text{in}_w(x)(\text{Juan})] \]

\[(= \Box_w (\text{Juan is in the bedroom in } w))\]

Alonso-Ovalle and Menéndez-Benito (2011: 219)

Since the singleton sets are ruled out by the antisingleton constraint, the propositions in (75) are strengthened, resulting in a modal variation effect. Scenarios in which the speaker knows which room Juan is in are ruled out, but algún does not require all rooms to be epistemic possibilities.

Since every epistemic indefinite under consideration conveys ignorance in epistemic and specific contexts, we can posit an anti-singleton constraint on all members of the epistemic indefinite class. However, this constraint is only licensed in certain contexts. It is not clear how the authors account for the variation among forms with respect to when the epistemic effect is derived.

The conversational implicature model poses additional problems for an analysis of some. First, the speaker ignorance component of some is not cancellable. The use of some implies that the speaker does not know the identity of the referent; adding a continuation which indicates that the speaker does, in reality, know the individual to which she is referring, produces a rather odd-sounding statement.
Maria married some linguistics student. # In fact, I know exactly who she is!

Upon hearing (77), the hearer might wonder why the speaker chose to use *some*, when she did not intend to imply her unfamiliarity with the girl in question.

In the same context, the ignorance implicature of Spanish *algún* is easily cancelled\(^{16}\).

(78) María se casó con algún estudiante de lingüística.

María SE marry-3S-PST with ALGÚN student of linguistics.

De hecho, sé exactamente con quién.

In fact, I know exactly with whom

‘Maria married a linguistics student. In fact, I know exactly who!’

(Alonso-Ovalle and Menéndez-Benito 2010: 14)

However, recent literature has suggested that there are other cases in which the epistemic component may not be easily cancelled. Data supporting this point is offered by Fălăuş (2009) and Port (2010) for Romanian *vreun* and German *irgendein*, respectively.

An additional anomaly of *some* is its behavior under negation. *Some* is licensed in certain cases of sentential negation and maintains an ignorance reading in this environment.

(79) She isn’t allowed to invite some boy to her party, because her mother doesn’t trust him.

\(^{16}\) It is not clear from Kratzer and Shimoyama’s data whether the ignorance effect on *irgendein* can be cancelled, as the detailed analysis is limited to the free-choice implicature.
It is clear that (79) refers to a particular untrustworthy boy, but one who the speaker does not know. In other downward-entailing contexts, the specific reading of *some* is ruled out.

(80) Pedro doubts that Juan is dating some girl in the linguistics department.

An interpretation of (80) in which there is a particular girl in the linguistics department such that Pedro doubts that Juan is dating her is difficult to derive. Since the ignorance component of *some* is only available on the specific reading, if a specific reading is not possible, then the ignorance implication is lost. In contrast, the implicatures of *algún* and *irgendein* consistently disappear in downward-entailing contexts, including under negation. As observed in Section 4.1, *irgendein* takes on an NPI interpretation under sentential negation and *algún* derives a similar interpretation when paired with *no es verdad que*.

Perhaps most pressingly, Alonso-Ovalle and Menéndez-Benito do not account for the sensitivity of epistemic indefinites to different modes of identification, specifically, the felicity of *some* and *irgendein* in contexts in which the referent can be identified by ostension. It seems that the conversational implicature model, as presented by Alonso-Ovalle and Menéndez-Benito (2010), cannot account for the epistemic component of *some*, because a domain restriction cannot distinguish between identifiability and knowledge. However, that particular distinction is the goal of the conceptual cover model presented in Aloni and Port (2010).

4.4 Conceptual cover shifts

Aloni and Port (2010) develop an interpretation of indefinites which seeks to account for the sensitivity of knowledge to modes of identification. Building on a model of quantification in dynamic
semantics outlined in Aloni (2001), the authors relate methods of identification to conceptual covers, “sets of individual concepts which represent different ways of perceiving one and the same domain” (Aloni 2001: 15). To illustrate how conceptual covers allow the same domain to be understood in different ways, consider the following scenario:

**Scenario 4**

In front of you lie two face-down cards. One is the ace of spades, the other is the ace of hearts. You know that the card on the left is the winning card, but you don’t know which card it is.\(^\text{17}\)

Given this knowledge, you can truthfully utter (81).

\[(81) \quad \text{One of these cards is the winning card.}\]

However, whether or not this statement is supported by your knowledge state depends on how the cards are understood. We can think of the two cards in terms of suit, as in (82) or in terms of position, as in (83).

\[(82) \quad \{\text{ace of spades, ace of hearts}\}\]

\[(83) \quad \{\text{left, right}\}\]

\(^{17}\) Modified from Aloni (2001: 16)
The notion of support can be used to characterize when a speaker is licensed to utter a certain proposition. A speaker is licensed to utter a proposition $\varphi$ if his or her own information state supports $\varphi$. In the given context, the speaker’s information state only supports the statement in (81) if the cards are identified by position, and not if they are identified by suit. Assuming a model of dynamic semantics in which an utterance updates the initial information state to produce one or more output states, the formal definitions of truth and support are as follows.

**TRUTH**  A formula $\phi$ is true in a state $\sigma$ iff each member of $\sigma$ survives in at least one of the states that result from updating $\sigma$ with $\phi$.

**SUPPORT**  A state $\sigma$ supports a formula $\phi$ iff all members of $\sigma$ survive in at least one of the states in the output state.

In the conceptual covers theory, an individual concept is a function from a set of possible worlds to a set of individuals. A conceptual cover is a set of individual concepts which must meet two conditions: the existential condition requires that within a conceptual cover, each individual must be identified by at least one concept in each world; and the uniqueness condition states that in no world is an individual counted twice. Thus, a conceptual cover is a set of individual concepts such that in each world, every individual instantiates exactly one concept in that conceptual cover.

In this model, a specific indefinite introduces discourse referents as elements of a contextually salient conceptual cover. In a rigid cover, each individual concept maps all possible worlds to the same individual, as illustrated in (84).
A non-rigid cover can map a different individual to each world, as in (85).

Following previous literature, Aloni and Port (2010) consider epistemic indefinites to be existentials which induce domain shifts; in addition to widening or narrowing the domain, the authors propose that epistemic indefinites can induce a shift between conceptual covers. In accordance with much related work, the authors assume that domain shifts must be motivated: conceptual cover shifts are justified in...
cases where the speaker’s information state would otherwise not have supported the statement. For most affirmative statements, the hearer will assume that the proposition is supported by the speaker’s information state; deriving the particular conceptual cover becomes important when the speaker explicitly signals ignorance with the use of an epistemic indefinite.

Assuming the same card-game scenario presented above, consider a similar assertion with the epistemic indefinite some.

\[(86) \quad \text{Some card is the winning card.}\]

This sentence has the truth conditions in (87), in which \(x\) represents an individual concept, and \(c\) represents a conceptual cover.

\[(87) \quad \exists x_c [\text{card}(x_c) \& \text{winner}(x_c)]\]

In a given world, \(w\), there exists some individual concept \(x_c\) such that the individual identified by \(x_c\) in \(w\) is a card in \(w\) and is the winner in \(w\). It is important to note that in this denotation, the existential ranges over individual concepts, rather than individuals.

In this scenario, there are only two cards in the game, so there are only two possible worlds under consideration: \(w_1\) in which the ace-of-spades is the winning card, and \(w_2\) in which the ace-of-hearts is the winning card. These two scenarios make up the speaker’s initial information state, represented in (88).
Now consider the conceptual cover “Suit,” in (89). This cover consists of two individual concepts: one which maps every world to the ace-of-spades and one which maps every world to the ace-of hearts.

\[(89) \{\lambda w.\text{ace-of-spades}_w(x), \lambda w.\text{ace-of-hearts}_w(x)\}\]

Updating the initial state with the formula in (87) results in two output states with a rigid mapping, as illustrated in (90).

An additional step consolidates the output states by eliminating those worlds in which the individual picked up by the individual concept is not the winning card. Assuming that in \(w_1\), the ace-of-spades is the winning card and in \(w_2\) the ace-of-hearts is the winning card, any world-to-individual mappings which do not match that designation can be removed, resulting in the consolidated output states in (91).
In contrast, the conceptual cover “Position,” in (92), consists of two individual concepts which can map different worlds to different individuals.

\[(92) \quad \{\lambda w.\text{ix.on-the-left}_w(x), \lambda w.\text{ix.on-the-right}_w(x)\}\]

Since the winner knows that the winning card is the card-on-the-left, updating the initial information state under the conceptual cover “Position” results in just one output state, corresponding to the single individual concept one-the-left. This concept has a non-rigid mapping, as illustrated in (93). In \(w_1\) the card on the left is the ace-of-spades; in \(w_2\) it is the ace-of-hearts.

\[(93) \quad \begin{align*}
&\quad \text{\lambda w.on-the-left} \\
&w_1 \quad \text{ace-of-spades} \\
&w_2 \quad \text{ace-of-hearts}
\end{align*}\]

Here we see how the modal variation effect can be derived even when the speaker has a particular individual in mind. Under this conceptual cover, there is only one possible individual concept which the
existential can range over, which accounts for the specific reading. However, there are two possible
individuals which may instantiate that concept in different worlds, which satisfies the requirements of
modal variation.

Recalling the definitions of truth and support, the output states under the two conceptual
covers can be compared. Under both covers, the statement is true, since all of the possible worlds from
the initial state are preserved in the output states. However, the proposition in (86) is only supported
under the conceptual cover “Position,” since this cover maintains both possible worlds in a single output
state. Under “Suit,” the worlds are split across two output states, so the requirements for support are
not met. By shifting from “Suit” to “Position,” the proposition goes from unsupported to supported;
thus, this shift is justified.

The authors make a number of classifications in order to explain the broad variation in behavior
among epistemic indefinites. First, they group epistemic indefinites in two categories: those which
induce a conceptual cover shift plus domain widening, like irgendein; and those which induce only a
conceptual cover shift, like un qualche. This categorization results in predictions about which functions,
of the four outlined in Section 4.1, each type of epistemic indefinite will qualify for; these predictions are
summarized in Table 3.

<table>
<thead>
<tr>
<th></th>
<th>spMV</th>
<th>epiMV</th>
<th>NPI</th>
<th>deoFC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>irgendein</strong></td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>no*</td>
</tr>
<tr>
<td><strong>un qualche</strong></td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

*incorrect

**TABLE 3 Predictions of the CC-shift model**

(Aloni and Port 2010: 10)
Conceptual covers shifts account for the ignorance effect in specific interpretations (spMV) and under epistemic modals (epiMV). All epistemic indefinites are assumed to induce conceptual cover shifts, so both these functions are correctly predicted for both *irgendein* and *un qualche*. Since conceptual cover shifts are trivial under negation\(^\text{18}\), epistemic indefinites which do not induce domain widening are predicted to be infelicitous in negative contexts, thereby lacking the NPI function. A comparison to the observed functions of epistemic indefinites outlined in Table 2 shows that this prediction is accurate for *un qualche*. In contrast, domain widening acts to strengthen a statement under negation, so an epistemic indefinite which induces domain widening derives an NPI reading in negative contexts, much like English *any*. Across all four functions, *algún* patterns with *un qualche*, and the authors identify *algún* as an epistemic indefinite which induces CC-shifts, but not domain widening. However, Alonso-Ovalle (2012) notes that although *algún* can derive an NPI function in certain negative contexts\(^\text{19}\). In addition, this model fails to predict the free-choice reading of *irgendein* under a deontic modal\(^\text{20}\).

With respect to compatibility with different modes of identification, Aloni and Port (2010) propose another classification, this one a crosslinguistic parameter. Assuming the hierarchy in (94), in which order increases from right to left, the authors posit the hypothesis in (95).

\begin{align*}
\text{(94)} & \quad \text{description} < \text{naming} < \text{ostension} \\
\text{(95)} & \quad \text{In Romance, but not in Germanic, the identification method required for knowledge must be higher in order than the identification method required for specific EIs.}
\end{align*}

\(^{18}\) See Alonso-Ovalle (2010) for a full derivation

\(^{19}\) *Algún* is not allowed under sentential negation, but it can be used felicitously with *no es verdad que* ‘it is not true that’

\(^{20}\) Aloni and Port adopt a dynamic semantics for epistemic modals which is aligned with Veltman (1997); they assume that epistemic modals simply check whether the assertion in their scope is consistent with the input state. On this view, the predictions for epistemic indefinites embedded under an epistemic modal are exactly the same as for non-modal sentences, and the ignorance effect is derived for both. Deontic modals are treated classically, so neither domain-widening nor CC-shifts are justified in their scope.
This parameter accurately predicts that epistemic indefinites in Romance languages will be infelicitous in a scenario in which the referent can be identified by ostension. This was observed with algún in (66), repeated below.

(66)  # ¡Mira!  Algún profesor está bailando encima de la mesa.
      Look!  ALGÚN professor is dancing on of the table.
      ‘Look! Some professor is dancing on the table!’

Here, the identification method required for knowledge is naming; since ostension is more-highly ranked, it cannot be felicitous with the epistemic indefinite. Italian un qualche is also ruled out in this context, while some and irgendein are perfectly acceptable. However, this hierarchy does not follow intuitively when we consider how modes of identification relate to varying degrees of knowledge.

The patterns observed for some, and other epistemic indefinites, with respect to modes of identification suggests that these modes are ranked differently in terms of how much the speaker knows. Ostension requires only enough information to point out the individual in a crowd. Unique description requires more knowledge than regular description. And naming seems to be the strongest form of knowing, signaling knowledge by acquaintance, in Russelian terms. Thus, I propose a different hierarchy, which ranks modes of identification in a scalar fashion according to strength of knowledge. Much like the Horn scale for predicates of knowing, this scale, given in (96), represents knowledge of individuals ranking Description as the weakest form, and Naming as the strongest.

(96)  description < ostension < unique description < naming
Conceptual covers correlate directly to the modes of identification in this scale. In the card-game scenario, the conceptual cover “Suit” correlates to Naming, since it produces a rigid mapping. “Position” correlates to Unique Description; there is only one card on the left, but it may be instantiated by either the ace-of-spades or the ace-of-hearts, depending on which possible world is considered. The use of an epistemic indefinite, like some, instead of an ordinary indefinite, like a, signals to the hearer that the speaker is not prepared to identify the referent via the most highly-ranked mode of identification. The epistemic indefinite motivates a sort of down-shift in mode of identification, and accordingly, a shift in conceptual cover. Other indefinites are certainly compatible with a scenario in which the speaker lacks the ability to identify the referent by one or more of these modes; however, an epistemic indefinite explicitly signals the speaker’s knowledge is limited.

With this hierarchy in mind, the crosslinguistic trends we observed among epistemic indefinites with respect to modes of identification still suggest parametric difference between Germanic and Romance languages. Epistemic indefinites in English and German are compatible with description and ostension, while those in Spanish and Italian only allow description. Epistemic indefinites in Romance languages place a stronger restriction on speaker knowledge, limiting the possible modes of identification more strictly than do epistemic indefinites in Germanic languages.

With two parameters for categorizing epistemic indefinites, the conceptual cover shift theory is better equipped than the implicature model to explain the variation among epistemic indefinites with respect to both function and compatibility with different modes of identification. Nonetheless, this model makes some unattested predictions about the felicity of non-domain widening epistemic indefinites in negative and deontic contexts, and fails to predict the free-choice reading of irgendein under deontic modals. With respect to some, the ability of the conceptual cover shift model to account for the seemingly contradictory compatibility of the speaker-ignorance component with identification by
ostension by drawing a crosslinguistic parameter makes this model particularly attractive. However, it seems that the four functions identified by Aloni and Port are insufficient to account for the range of environments in which *some* derives an epistemic effect. Since *some* does not induce domain widening, it is predicted to be infelicitous in negative contexts; in fact, *some* can be used in certain negative constructions, and can even derive a modal variation reading in these contexts. In addition, I am wary of the way in which Aloni and Port classify naming as a mode of identification. In (97), the authors maintain that the speaker is able to name the referent, but cannot identify by ostension.

(97) Devo incontrare un qualche professore. Si chiama John Smith, ma non soche aspetto abbia.

‘I have to meet some professor. His name is John Smith, but I don’t know what he looks like.’

(Aloni and Port 2010: 7)

In this usage, what Aloni and Port call naming looks to be simply a type of description; as discussed in Section 2, a similar use may be observed with *some*:

(98) Some girl emailed me to ask for my notes. Her name is Janine, but I don’t remember her from class.

Here, the speaker’s knowledge of the name of the referent is derived from an outside source: in (97), some kind of faculty directory; in (98), the signature on the email. This type of knowledge seems
intuitively different from the type of knowledge derived from acquaintance. If naming is to be classified separately from description, then the former must involve a distinct type of knowledge that allows one to refer to an individual by name.

5 Conclusion

This investigation renders clear the point that *some* is unique among English indefinites and among epistemic indefinites crosslinguistically. The epistemic properties of English *some* remain curiously anomalous in the view of many more standard analyses of indefinites. Contrary to the predictions of the Theory of Description, *some* can be used in scenarios in which the referent is in the perceptual field of both speaker and hearer. *Some* retains its epistemic reading in certain negative contexts, while in others, only the narrow-scope existential reading is available. Nonetheless, in specific interpretations the epistemic component is not easily cancellable; unlike *a*, *some* is not compatible with continuations that indicate speaker knowledge of the referent.

Given the functions and parameters of variation presented in Section 4.1, it seems appropriate to situate *some* in the spectrum of epistemic indefinites. *Some* shares the primary defining feature of epistemic indefinites: its use imparts explicit information about the knowledge state of the speaker. Like the other forms under consideration, *some* derives an epistemic effect under epistemic modals and on specific readings, and compatibility with ostension is a feature *some* shares with German *irgendein*. It seems clear that the neither of the pragmatic analyses of epistemic indefinites presented here can fully account for the crosslinguistic variation which has been observed in this class. The implicature model accounts for the disappearance of the epistemic reading in downward-entailing contexts, but it does not predict different readings under different types of modals, a property which is observed for German *irgendein*. The conceptual cover shift model is also unable to capture this distinction, and
makes some unattested predictions about non-free-choice indefinites in negative contexts. With respect to English some, the conceptual covers analysis has the advantage of being able to explain sensitivity to different modes of identification. However, in order to account for all the scenarios in which some can have an epistemic reading, this model will have to recast the possible conceptual covers and the modes of identification with which they are associated.

The volume of existing research on epistemic indefinites is far from exhaustive—there are many topics still to be discussed. It is interesting to note that the modal variation effect, as defined in Alonso-Ovalle (2003), seems conceptually incompatible with a choice-function explanation of specific indefinites, or even with the very notion of a specific reading. A specific indefinite indicates that the speaker has a particular referent in mind; modal variation requires that more than one individual be an epistemic possibility for the speaker. It would be interesting to consider how a choice-function semantic model could be integrated with the conceptual-cover theory. Future discussions of a pragmatic account for indefinites would benefit from a closer examination of the interface between semantics and pragmatics.

In addition, the divergence of some from the four functions identified by Aloni and Port (2010) raises questions about additional variation among epistemic indefinites in other languages. Limited research on this topic likely has not teased apart all the functions of these indefinites, and it seems that speaker judgments are not clear-cut. Further crosslinguistic research on epistemic indefinites would benefit greatly from additional empirical data on the behavior of epistemic indefinites in a broader variety of contexts, with special consideration for the way different forms interact with different modes of identification.

In this discussion, I have only considered the epistemic component of some in conjunction with a singular NP. Alonso-Ovalle (2011) demonstrates that the epistemic effect of algún disappears in the
plural form\textsuperscript{21}. Future research may consider the interaction of some with plurality. It will also be necessary to determine how the conceptual cover model given by Aloni and Port (2010) could account for this interaction, as the authors have not addressed plurality within this framework.

\textsuperscript{21} \textit{Algún}, like all determiners in Spanish, is inflected for gender and number and must have agreement with the noun.
References


Aloni, Maria. 2001. Quantification under conceptual covers: University of Amsterdam Ph.D. dissertation


